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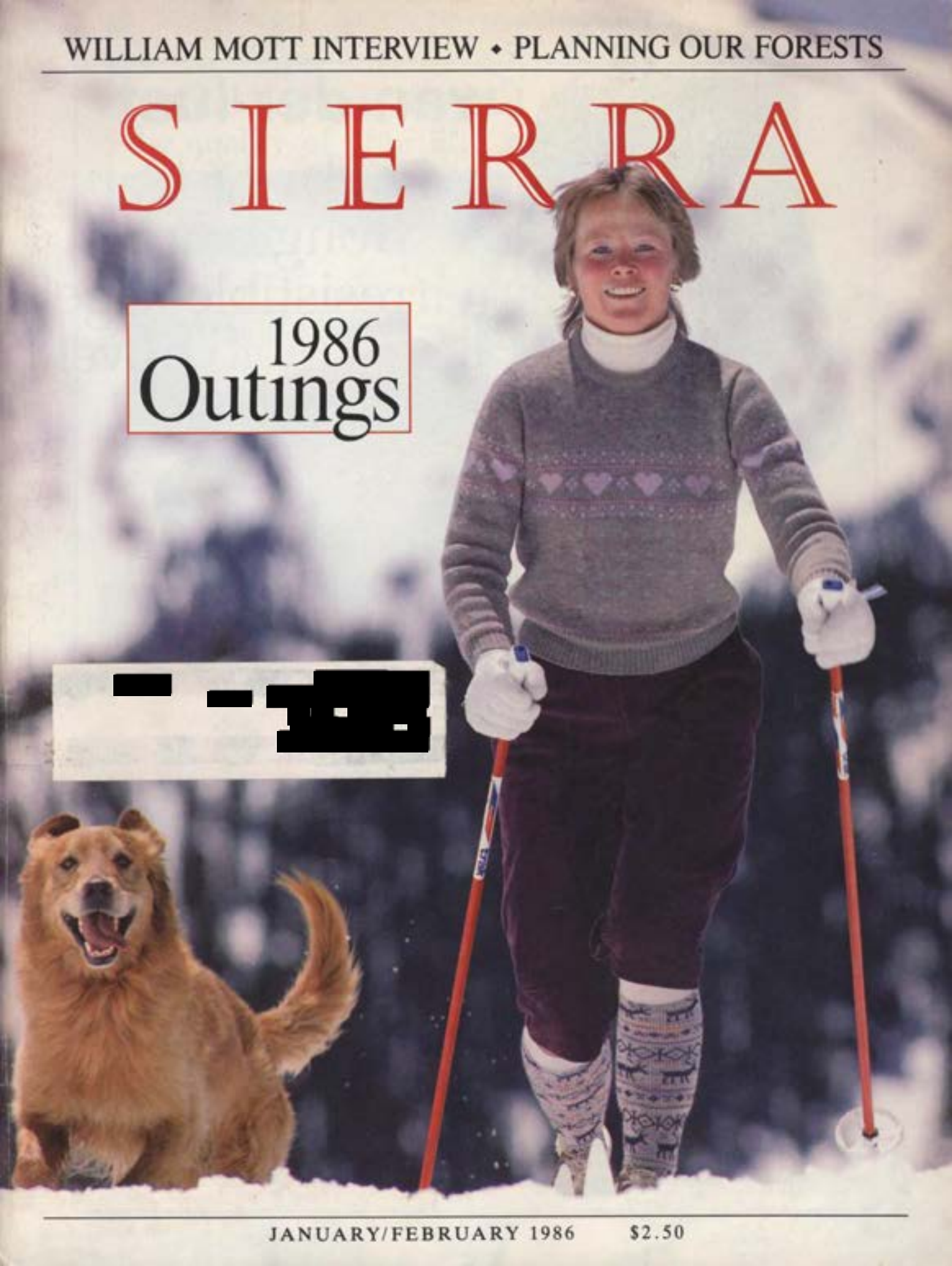
SIERRA

1986 Outings



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SIERRA

THE SIERRA CLUB BULLETIN JANUARY/FEBRUARY 1986 VOLUME 71/NUMBER 1

FEATURES

POLITICS

DEPARTMENTS

COVER: 'Tis the season to stride out, best paw forward, enjoying the brisk pleasures of winter. *Sierra*'s annual photo contest features a category for cold snaps like this; see page 167 for contest rules and prizes. Photo © Ken Gallard.

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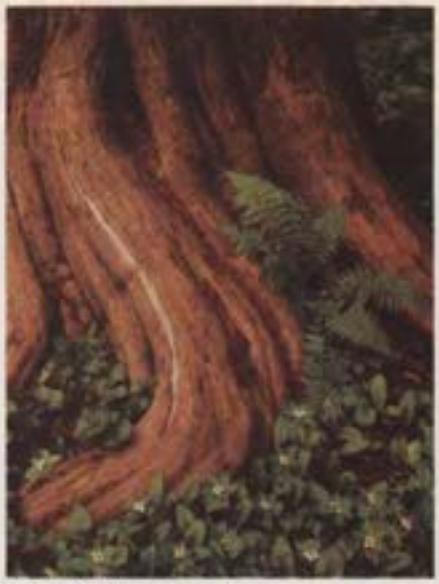

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331488-391482. Bach: Brandenburg Concertos, 1 to 6 (complete)—Kapp, cond. (Counts as 2—Digital—CBS Masterworks)

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317081. Bach: Goldberg Variations—Glenn Gould (Digital—CBS Masterworks)

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329714. Bartok: Concerto for Orchestra; Dance Suite—Solti conducts Chicago Sym. (Digital—London)

338004-398008. Beethoven: Piano Sonatas—Moonlight, Appassionata, Tempest, 3 more. A. Brendel (Counts as 2—Vox Cum Laude)

335075. Beethoven: Overtures—Coriolan, Egmont, Fidelio, Leonore, etc. Tennstedt, London Phil. (Digital—Angel)

232496. Beethoven: Symphony No. 3 (Eroica)—Bernstein and New York Philharmonic (Columbia)

321570. Beethoven: Symphony No. 5; Schubert: Symph. No. 8 (Unfinished)—Maazel, Vienna Philhar. (Digital—CBS Masterworks)

252874. Beethoven: Symphony No. 9 (Choral)—Ormandy and the Philadelphia Orch. (Columbia)

331595. Bizet: Carmen Suite; L'Arlesienne Suites 1, 2—Ozawa, Orch. National (Digital—Angel)

263293. Boiling: Suite For Flute and Jazz Piano—Rampal, Boiling (Columbia)

332668. Brahms: Symphony No. 1—Tennstedt cond. London Philharmonic Orch. (Digital—Angel)

334243. Brahms: Piano Concerto No. 1—Weissenberg, Muti, Philadelphia Orch. (Digital—Angel)

328039. Brahms: Symphony No. 3; Haydn Variations—Mehta, New York Phil. (CBS Masterworks)

333518. Bruckner: Symphony No. 7—Chailly, RSO Berlin (Digital—London)

325183. Dvorak: Symphony No. 9 (New World)—Solti, Chicago Symph. Orch. (Digital—London)

333575. Elgar: Enigma Variations; Pomp And Circumstance Marches—A. Davis, Philharmonia Or. (Digital—CBS Masterworks)

331314. Gershwin: An American In Paris—plus Grainger's Fantasy on *Porgy & Bess*—Labeque sisters (Digital—Angel)

323543. Handel: Royal Fireworks Music; Oboe Concertos 1-3—Karl Munchinger Stuttgart Chamber Orch. (Digital—London)

332569. Haydn: Symphony No. 94 (Surprise), **No. 100** (Military)—Solti, London Phil. (Digital—London)

321190. Liszt: Hungarian Rhapsodies 1 & 4, more—Boskovsky cond. (Angel)

330613. Mozart: Greatest Hits—Gould, Previn, Szell, others (CBS Masterworks)

321224. Mozart: Overtures—Don Giovanni; Cosi fan tutte; Marriage of Figaro; etc. Marriner, Academy of St. Martin (Digital—Angel)

338228. Offenbach: Gaite Parisienne; Gounod: "Faust" Ballet Music—Dutoit, Orch. symphonique Montreal (Digital—London)

318691. Prokofiev: Love For Three Oranges Suite; Lt. Kije Suite—Michael Tilson Thomas, Los Angeles Phil. (CBS Masterworks)

245043. Rachmaninoff: Piano Concertos Nos. 1 & 2—Ashkenazy; Previn, London Sym. (London)

334565. Rachmaninoff: Symphony No. 2 (complete version)—Rattle and L.A. Phil. (Digital—Angel)

321729. Schubert: The Impromptus, Op. 90 & 142—Murray Perahia, piano (Digital—CBS Masterworks)

334771. Sibelius: Symphonies No. 4 and **7**—Berglund, Helsinki Philharmonic Or. (Digital—Angel)

326405. Stravinsky: The Firebird (complete ballet)—Dohnanyi, Vienna Philharmonic (Digital—London)

338244. Stravinsky: Rite Of Spring—Dutoit cond. Orchestre symphonique de Montreal (Digital—London)

318444. Tchaikovsky: 1812 Overture; Serenade For Strings—Muti, Phila. Orch. (Digital—Angel)

336461. Tchaikovsky: Violin Concerto; Serenade—Pinchas Zukerman, Zubin Mehta, Israel Philharmonic (Digital—CBS Masterworks)

329144. Chopin: Waltzes, Mazurkas, Polonaises—Ivan Moravec, piano (Digital—Vox Cum Laude)

330100. Chopin: Piano Concerto No. 2; Saint-Saens: Concerto No. 2—Licad, Previn, London Phil. (Digital—CBS Masterworks)

326439. Copland: Rodeo; Dance Symphony; El Salon Mexico; Fanfare for Common Man—Dorati, Detroit Sym. (Digital—London)

335679. Debussy: La Mer; Nocturnes—Andre Previn, cond. London Symphony (Digital—Angel)

304931. Debussy: Images For Orchestra; Prelude To An Afternoon Of A Faun—Previn, London Sym. (Digital—Angel)

333526-393520. Dvorak: Slavonic Dances (Op. 46, 72); **American Suite**—Dorati, Royal Phil. (Counts as 2—Digital—London)

334508. Mahler: Symphony No. 1 (Titan)—Muti cond. Philadelphia Orch. (Digital—Angel)

329094-399097. Mahler: Symphony No. 2 (Resurrection)—Lorin Maazel, Vienna Phil. (Counts as 2—Digital—CBS Masterworks)

318824. Mendelssohn: Symphony No. 4 (Italian); **Schumann: Symphony No. 4**—Tennstedt, Berlin Phil. (Digital—Angel)

330142. Mendelssohn: Violin Concerto; Saint-Saens: Concerto No. 3—Cho-Liang Lin; Thomas con. (Digital—CBS Masterworks)

328740. Mozart: Piano Concerto 26 (Coronation); **Rondos**—Murray Perahia, English Chamber Orchestra (Digital—CBS Masterworks)

337782. Mozart: Divertimento, K. 563—Kremer, Kashkashian, Yo-Yo Ma (Digital—CBS Masterworks)

318451. Ravel: Bolero; Pavane; Daphnis Et Chloe (Suite No. 2)—Andre Previn, London Symphony (Angel)

331447. Ravel: Ma Mere L'Oye (Mother Goose), etc.—Dutoit, Montreal Sym. (Digital—London)

324533. Respighi: Feste Romane; Pines & Fountains Of Rome—Dutoit, Orch. de Montreal (Digital—London)

318436. Rimsky-Korsakov: Scheherazade—Svetlanov, London Symphony (Angel)

325100. Saint-Saens: Carnival of the Animals—also works by Debussy, Satie. Philip Jones Brass Ensemble (Digital—London)

331082. Saint-Saens: Symphony No. 3 (Organ)—Hurford, Dutoit, Montreal Sym. (Digital—London)

322487. Schubert: "Death and the Maiden"; "Quartettsatz"—Tokyo String Quartet (Digital—Vox Cum Laude)

329169. Tchaikovsky: Symphony No. 4—Lorin Maazel, Cleveland Orch. (CBS Masterworks)

324897. Vivaldi: Four Seasons. Maazel, members Orch. National de France (Digital—CBS Masterworks)

323147. Wagner: Orchestral Music from "The Ring"—Sir Georg Solti, Chicago Sym. (Digital—London)

331942. The Academy—By Request. N. Marriner cond. works by Schubert, Bach, etc. (Digital—Angel)

328013. Nancy Allen—virtuoso harpist in music by Ravel and Debussy. With Rampal, Tokyo String Quartet (Digital—Angel)

328146. Willi Boskovsky cond. Symphonic Waltzes by R. Strauss, Tchaikovsky, Weber, etc. (Digital—Angel)

334276. Canadian Brass & Berlin Phil. Brass—Brass in Berlin. Bach, Pachelbel, Gabrieli, etc. (Digital—CBS Masterworks)

337279. Placido Domingo—Save Your Nights For Me. Love Came For Me, Maria, etc. (CBS)

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327551. Luciano Pavarotti—Mamma. Popular Italian songs arranged by Henry Mancini (Digital—London)

337444. Eugene Ormandy—In Memoriam. Works by Sibelius, R. Strauss, Barber, etc. (Digital—Angel)

326397. Sutherland/Horne/Pavarotti—Live From Lincoln Center. A truly grand program (Digital—London)

320887. Kiri Te Kanawa—Verdi and Puccini Arias. (Digital—CBS Masterworks)

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Investment Portfolio

In "Clean and Green" (November/December 1985) Robin Irwin declares it "proven" that "you don't have to ignore your conscience to make a profit." As a long-time environmentalist who is also a socialist, I'd just like to say that Irwin does not speak for my conscience. However, I feel that the environmental dilemmas raised by "ethical investing" actually go beyond questions of conscience.

As Irwin correctly observes, profit-oriented investing is a powerful source for social change in our nation. Yet this extremely important process usually occurs with what E. F. Schumacher once called a "terrifying simplicity" of purpose, because most investors are narrowly focused on earning the highest rate of return and don't care about larger social and economic issues. Irwin and others who advocate "ethical" investing are surely to be applauded for injecting a note of conscience into this important yet frequently amoral process.

However, can even the most "ethical" investor ever overcome the inherent anti-environmental bias of investment itself? We all know from reading Malthus that no population of living creatures can grow at an exponential rate, at what mathematicians call a "compound rate of interest," without eventually pushing the underlying ecosystem past its carrying capacity. But unfortunately, what any capitalist investor does by trying to earn a certain rate of return each year is count on the capital involved growing at a compound interest rate—i.e., exponentially. In a real sense, then, all investors in our economy are betting on a "population explosion" of money in the world. We are often surprised when the resulting buildup of investment in business and industry suddenly starts to push the ecosystem toward collapse. But if each of our investment dollars were a human child or even a tiny, living bacterium, we'd recognize the ecological folly of hoping for it to multiply with its companions indefinitely.

A second, entirely predictable problem with our investments is that after several years of growing exponentially (much as a lemming population might during a series of favorable Arctic winters), they always collapse. When the inevitable crash comes, society suddenly finds itself suffering from high unemployment, widespread business bankruptcies, growing numbers of farm failures, and persistently high unemployment—which is exactly what's happening today in the Farm Belt and many of the central cities. So far, it has always been possible to get the "population" of investment dollars growing again with new technologies and new kinds of business products. But no technology yet has changed the arithmetic of compound interest rates or their unsustainability over time.

All of this suggests that while "ethical investing" may be an admirable method for changing our society's current technologies and thereby arriving in some kind of Ecotopia, it offers us no way to remain there on a sustainable basis. Eventually, any economy that is based on a given rate of profit and a constantly growing quantity of investment capital will have to collapse or radically change the surrounding society and the natural environment that sustains it. Only a capitalist society in which just as many individuals lose money on their investments as gain it could ever be ecologically stable. Irwin and other ethical-investment advocates would be more credible if they acknowledged this fact.

John Andrews
Washington, D.C.

Robin Irwin's excellent article omitted the whole field of municipal bonds, which has three important attractions.

First, while the market value of these bonds goes up as interest rates decline and goes down as interest rates go up, if held to maturity they *guarantee* you the face value of the bond (shaky enterprises such as the recently bankrupt Washington Public Power Supply System excepted).

Second, the return is very good, particularly in light of the low risk, and it is tax free.

The third and possibly most attractive feature of municipal bonds is that you have an excellent idea of how the money is being used. A description of the bond is part of the information a broker can give you; for those wanting more detail, a copy of the prospectus provides complete information on the use of the money.

S. Ted Isaacs
Cincinnati, Ohio

I would like to add an important name to Robin Irwin's list of valuable resources. The Council on Economic Priorities was one of the first organizations to offer dependable information to people interested in social investment, long before the idea was even remotely fashionable.

We are currently at work on a buying guide that will enable folks to incorporate their ethical beliefs into such everyday decisions as where to invest, what to buy, and where to seek employment. A sample newsletter may be obtained by sending a self-addressed, stamped envelope marked "Social Investment" to CEP, 30 Irving Place, New York, NY 10003.

Marylou Gavin
Development Associate
Council on Economic Priorities
New York, N.Y.

While we at *Good Money* certainly appreciate having our newsletters listed as resources for social investors, we can no longer be reached at the address you listed. Readers should write to us at 28 Main St., Montpelier, VT 05602, or call us toll free at 1-800-535-3551. Our subscription rates have also changed, and are now $49/year ($26 for six months). The corporate and low-income rates have been discontinued.

Larry Lewack
Marketing Director
Good Money
Montpelier, Vt.

Editor's note: *We've also received an updated address for the Social Investment Forum: 711 Atlantic Ave., Boston, MA 02110; phone (617) 423-6655.*

Burned and Afraid of Fire

In John Berger's otherwise fascinating and informative article "The Prairie Makers"

HOW LESS LEAD IN GASOLINE WILL AFFECT YOUR CAR

USE OF ALCOHOL-GASOLINE BLENDS REQUIRES YOUR CAREFUL SELECTION

The Environmental Protection Agency is reducing the amount of lead allowed in leaded gasoline by more than 90%. General Motors supports this effort to reduce lead in the atmosphere. But our customers need to know how this action may affect their vehicles.

In simple terms, continue with the same gasoline you've been using. You probably won't notice any difference at your service station. Just be sure your gasoline meets the requirements below.

For post-1974 model cars and light trucks (less than 6,000 lbs.). Continue to use *unleaded* gasoline only. The new lower-lead limits for leaded gasoline *are still too high:* lead in gasoline will harm the emission-control system.

For 1971-74 model cars and light trucks. Use either unleaded or the new lower-lead gasoline. These vehicles were designed to run on either one.

For all pre-1971 model cars and trucks. Use the new lower-lead gasolines. These vehicles need leaded gas to lubricate exhaust valves. The lead raises octane ratings and helps to avoid "knocking" and "pinging." The lead is most important during continuous high-speed, high-load conditions such as towing a heavy trailer or large boat over a long distance. In a pinch, you can even use unleaded gas for normal driving.

Tip: Use only enough octane to avoid frequent knocking. An occasional "ping" won't harm the engine.

The new lower-lead gasolines should *always* be used in:

- 1971-78 trucks over 6,000 lbs.
- post-1978 trucks over 8,500 lbs.

The effect of alcohol blends. To meet the new regulations, oil refiners will turn to other methods to maintain or increase octane ratings. Some will elect to refine gasoline more intensively. Others may add octane enhancers such as ethanol and methanol (more informally known as grain alcohol and wood alcohol).

General Motors supports the use of such alternative fuels to lessen our nation's dependence on imported oil. But to avoid operating and other problems, don't use gasoline containing more than 10 percent ethanol or 5 percent methanol. And in the case of methanol, be sure it contains cosolvents (to prevent separation of the alcohol from the gasoline) and corrosion inhibitors.

General Motors is taking steps to ensure that its future vehicles can operate problem-free with gasoline containing alcohol. For now, you should know the contents of the fuel going into your gas tank. That's why we support the requirement that gas pumps show the alcohol content of the fuel. Such labels are being used in some states, but they are needed nationwide.

To get the efficiency, driveability and performance we design into your GM vehicles, be sure you use the right fuel. The proper identification and use of gasoline is good for both GM customers and GM cars and trucks.

This advertisement is part of our continuing effort to give customers useful information about their cars and trucks and the company that builds them.

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(November/December 1985), I was dismayed to find approval given to the so-called "prairie burns," in which great swaths of grass and stubble are artificially fired at the end of the summer.

This practice has been growing in Europe for the last 25 years, with devastating effect on the ecology. One cannot begin to number the animals that are killed. Some of them are pests, no doubt—but not spiders, not butterflies, not the beautiful little dormouse, which is now almost extinct.

Paul Roche
Notre Dame, Ind.

Camera Caveat

The trick of keeping a camera in clean, fresh water after it has been dropped overboard is an old one ("Focus on Winter," November/December 1985). It has undoubtedly saved many cameras and reduced many repair bills over the years. In these days of electronic cameras, however, one more point must be added: *Get the battery out of the camera as soon as you can!*

If the camera has been dropped in salt water, seconds count. Delicate switch contacts begin to deteriorate the instant that water hits them, and continue to do so as long as the battery remains in place. The process may be slowed with freshwater immersion, but that depends a lot on what is in the water.

Nelson G. Highley
Charlotte, N.C.

Bob Marshall's Heritage

One would gather from the article on Bob Marshall (November/December 1985) that he was the leader in preserving wilderness areas. He was the principal leader in forming The Wilderness Society (he gave me membership along with several other Forest Service people in January 1938), but there was a spirit of preserving certain areas within the national forests years before Marshall.

It was in 1910 that Walter Huber initiated the move that established the Devil's Postpile and Lava Beds as national monuments. It was in 1916 that the Forest Service first proposed that the Kings River watershed be a national park, and in 1923 the Secretary of Agriculture approved a regulation to set aside and preserve certain areas within national forests. It was under this regulation that Aldo Leopold recommended and the Secretary of Agriculture established the Gila Primitive Area in 1924.

In January 1938 the chief of the Forest Service called a meeting of regional foresters and most assistant regional foresters in the Division of Recreation and Lands. It was at that meeting that Marshall recommended changing the name "primitive" to "wilderness." It was approved, and that year the Secretary of Agriculture issued regulations for wilderness areas. Those regulations were used to review, inventory, and reclassify primitive areas prior to the passage of the Wilderness Act. So Marshall did not start the movement, but he was influential in getting the name "wilderness" established.

Earl E. Bachman
San Mateo, Calif.

Halley's Variable Comet

The second time I read your article "A Comet's Tale" (September/October 1985), I realized the arithmetic of the years does not check out.

At 76-year intervals, Halley's Comet would have appeared in 1226, not 1222 (Genghis Khan reference), and in 1074, not 1066 (Battle of Hastings reference). The comet would not have been visible at either of these two events, so how could it have influenced them? Also, it seems the comet would have been visible during the year of Christ's birth, although probably not at the latitude of Bethlehem.

Lloyd Ryland
El Cerrito, Calif.

Editor's note: *According to the folks at Morrison Planetarium in San Francisco, the orbit of Halley's Comet is not 76 but 75.5 years; the figure is usually rounded off for simplicity. In figuring out when the comet has been visible, one must also take into account the change from the Julian to the Gregorian calendar in Europe in the 17th century, and in England and America in 1752.*

Author! Author!

The "Staff Report" on the need for a nuclear test ban treaty ("At Least Ban the Test," November/December 1985) makes a compelling case for refocusing U.S. arms-control efforts. I understand from friends that the case as presented is scientifically sound.

My purpose in writing is to ask those who wrote this article to identify themselves so a public dialogue may begin.

Robert A. Lemire
Lincoln, Mass.

Editor's note: *The basic information for the article was provided by a research associate at the Center for International Security and Arms Control at Stanford University who preferred to remain anonymous. The article as published was rewritten by Associate Editor Annie Stine.*

Cache La Poudre Goes Wild

High in the northern Rockies are the headwaters of a river that flows down the eastern slope for some 80 miles into the Colorado town of Greeley. A hundred years ago French trappers in the area concealed their gunpowder along the banks of the river, which they referred to as *où on cache la poudre*, or "where one hides the powder." The French left their legacy, and the river was eventually given the name Cache La Poudre.

Generations later the river was still explosive, but this time with the political forces of the 20th century. Water providers, who saw the river as a source of irrigation and power, faced off against water protectors, who saw it as a source of beauty. For more than a decade the opposing sides battled over the fate of the Cache La Poudre.

The hostility was laid to rest last fall when the traditional enemies shook hands over a compromise that environmentalists consider a significant victory. Under legislation pending in both the House of Representatives and the Senate, 75 miles of the Cache La Poudre will be protected in the federal Wild and Scenic Rivers System.

The developers agreed to abandon their hopes for three dams on the upper portion of the river, while environmentalists agreed to exclude from the legislation a lower stretch of the river with two potential dam sites.

"I don't know if you know how unusual this is," Rep. Hank Brown (R-Colo.), who sponsored the bill, told the House National Parks and Recreation Subcommittee in late October. "These are folks who don't ordinarily work closely together."

"Colorado water development interests have recognized the Poudre's historic and wild values," says Maggie Fox, the Sierra Club's Southwest Representative. "We hope this is the beginning of a new era."

Of the 12 Colorado rivers studied for Wild and Scenic designation, the Cache La Poudre is the first to be included in the federal system.

© R. Barnay

At the Peace Summits

Exhausted and numb from the freezing cold, Troy Shortell of the United States reached the fog-shrouded 18,841-foot summit of Mt. Elbrus, Europe's highest peak. A few minutes later he was joined by Alexei Khokhlov of the Soviet Union. The rest of the team that had left base camp at 2 a.m. that August morning would soon follow.

The climbers pulled their national flags from their packs. Shortell, 17, tied his family's American flag to his ice axe, and the 19-year old Khokhlov did the same with his Soviet flag.

The moment both flags were dug into the snow, "the fog cleared," Shortell remembers. "It was the meaning of the trip for me, it really was." It was also the successful climax to a 26-day mountain trek sponsored by the San Francisco-

based U.S.–U.S.S.R. Youth Exchange Program.

For the Soviet and American youth atop Mt. Elbrus, the shared achievement was a call to greater things. "Everybody had the mutual goal of achieving world peace," says Shortell. "There was an understanding that we're the generation that's got to do it."

Weeks later, Americans William Garner, 36, Randy Starrett, 43, and a Soviet team commemorated the Allied victory in World War II by reaching the 24,406-foot summit of Pik Pobedy (Victory Peak) in Soviet Central Asia. Organized in cooperation with the Kremlin and the Soviet Sports Committee, the expedition was the first successful Soviet/American climb of that mountain.

Both expeditions faced life-threatening dangers. One young American climber remembers passing "cracks in the ice that were so deep they were black" on the way up Elbrus. The day before the climb to the summit, Joel Mahuke, 17, fell on an ice axe and broke his sternum, an injury he had suffered the previous spring playing baseball. "I just sat there and watched them go," he recalls. "Then I cried."

The Pik Pobedy team braved 80-mile-per-hour gusts of swirling snow and ice in the oxygen-rare region above 23,100 feet, known to veteran climbers as the "death zone."

"We were all the same people up there," Starrett says of the cooperation the group needed to survive.

The Pik Pobedy expedition also had a statement to make. The climbers brought a World War II Soviet artillery shell to the summit. Inside the shell casing was a message written in English and Russian:

"We, the [American] team on the first joint Soviet/American expedition up Pik Pobedy, have climbed this mountain to illustrate for the people of our two countries how much greater value there is in our learning to take risks together than in our continuing to put the world at risk through mutual confrontation."

The Real Thing in Plastic

Unable to sell the public on a new version of its beverage, the Coca-Cola Corp. has decided to try a new version of its can. Pending evaluation of an ongoing test market in Columbus, Ga., Coca-Cola may be the first soft drink company in the United States to serve its product in a plastic can.

The plan has environmentalists worried. The soft drink industry uses 35 billion cans annually; failing an ambitious plastics recycling effort, landfill problems and roadside litter could increase.

Not to worry, soothes Steve Babinchak, president of St. Jude Polymer, a Pennsylvania-based plant (and supplier to Coca-Cola) that recovers, processes, and sells 8 million pounds of material a year. "It's the biggest myth in this country that plastics can't be recycled," he asserts, noting that Italy, England, and Japan already use the plastic can and that the machinery for plastics recycling is "being put in place in the U.S. now."

But old Coke dressed in new plastic could fall as flat as New Coke clothed in aluminum. "There is too much infiltration of air in the plastic can that Coke is test marketing now," says Jonathan Puth of Environmental Action. "To ensure that some of the plastic containers will be recycled, Coca-Cola left out a basic coating called PVDC. But they will use PVDC if they go mass-market, and it will be much more difficult to recycle." Babinchak agrees that PVDC would be "a little harder to recycle," adding 5 percent to the cost of processing.

Indeed, the feasibility of recycling the plastic can will become a major issue if it is ever mass-marketed. In an October 17, 1985, memo to the Society of the Plastics Industry, an attorney with the Washington, D.C., firm of Keller and Heckman noted that "the aluminum can is clearly the darling of the environmentalists," and went on to warn: "We think you should be aware that additional recycling efforts may become necessary to meet the opposition that may be mobilized by the plastic can."

George Wuerthner

Pass the Chips, Hold the Dip

Planning a picnic but tired of the same old spots? Jim Clawson, extension range specialist for the University of California–Davis, has an idea. Speaking at a meeting of the American Society of Animal Science last summer, Clawson suggested that the overgrazing controversy may be just a misunderstanding, and that responsible range usage may actually improve an area for recreational uses. "Grazing keeps underbrush controlled and helps maintain the open, park-like atmosphere many people expect for picnicking and hiking," he said.

One, Two, Many Bhopals

The title of the report—"Acute Hazardous Events Database"—borders on the soporific, but the contents are eye-opening: In the last five years at least 6,928 toxic chemical accidents have occurred in the U.S. As a result of these "events" more than 135 people have been killed, nearly 1,500 injured, and at least 217,000 evacuated.

The inch-thick report, commissioned by the EPA after the Bhopal tragedy, will be used to help develop policy or legislation to reduce the risk of toxic chemical accidents.

Nearly three quarters of the mishaps, which have numbered about five per day since early 1980, took place at chemical facilities, with the rest occurring during transportation. Thirty-six percent of the deaths and injuries were caused by storage-tank failure, 16.8 percent by valve and pipe problems, 12.6 percent involved production problems, and 12.8 percent were the result of human error.

The spills and emissions totaled 420 million pounds of chemicals, with chlorine being responsible for 9.6 percent of the deaths and injuries—more than any other chemical. Most of the deaths appear to have been among plant workers, while the injuries have been more evenly split between workers and the public.

And that's not all: Data for the report were gathered from only a select portion of the country. Had the entire nation been considered, according to one of the consulting firms that prepared the study, the number of accidents would be two and a half to three times higher. □

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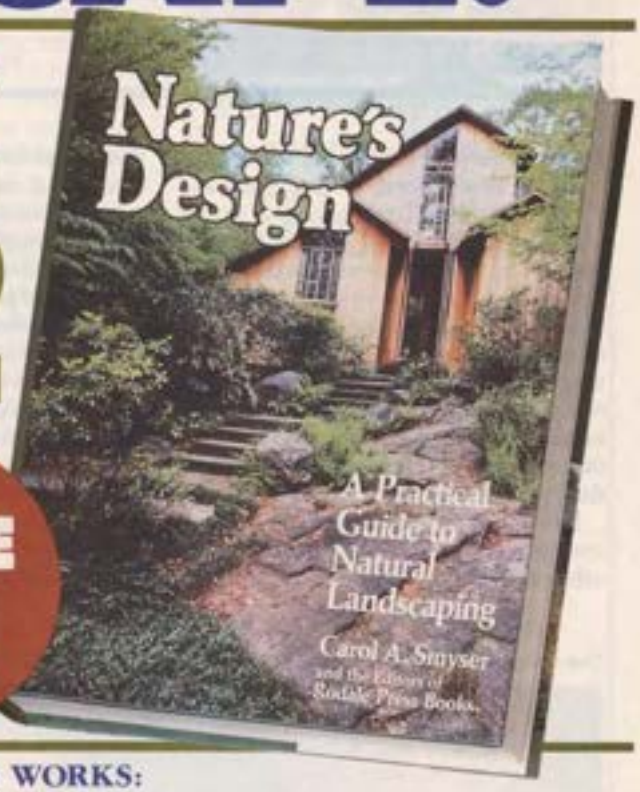

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POLITICS

No Fungus Among Us?

In the Pacific Northwest, a mushrooming controversy is pitting amateur collectors against growing demand here and abroad. Species extinction may turn out to be the story to these morels.

PHILIP WHITE

THE WET coniferous forests between Northern California and British Columbia may be the world's finest habitat for wild mushrooms. Fungi fanciers here take to the woods in springtime to harvest morels, thought by many to be the most delicious of all edible specimens. In summer and fall they search for many other species: the oyster, meadow, and pine mushrooms, the matsutake and king boletes, and above all the firm, tasty chanterelles that grow abundantly in this region.

For years, Northwest collectors, their eyes peeled for yellow chanterelles and other edible mushrooms, have roamed their secret foraging grounds in confidence after good rains. Because there always seemed to be enough for everyone, the supply was thought to be inexhaustible. Conservation-conscious collectors were assured by their field guides that removing the fruiting bodies would not harm the mycelium, which exists below ground. "Take all you can use," the experts said. "It's like taking apples from a tree or clipping your toenails. Overpicking is impossible."

But about six years ago, recreational collectors began to see people in the woods harvesting mushrooms for money. They took note of the station wagons parked along roadsides, their owners offering to buy fresh wild mushrooms in quantity. These dealers were selling some of their purchases to fancy restaurants and specialty grocery stores, mostly on the West Coast, but more and more wild chanterelles were being sold to companies that treat them for export through Canada to Europe, where wild mushrooms have been relished for centuries. Relished so well, in fact, that they have been in short supply there for years, a consequence (some say) of excessive harvesting in conjunction with poor forest management and highly acidic rain.

In April 1985 the Washington Department of Commerce and Economic Development announced that the West German

This handful of delectable morels, ready to be stewed à la crème *or folded into an omelette, represents a natural bounty that may be lost to overpicking.*

company Alber Pilzkonservenfabrik planned to open a processing facility in Seattle. The company would employ up to 800 pickers a season and export 800,000 pounds of chanterelles annually, much to the dismay of academic and amateur mycologists alike, who suspect (but cannot prove) that rampant picking for profit will lead to depletion or extinction of prized edible mushroom species.

Two months later the scientific advisor to the Puget Sound Mycological Society, botanist Joe Ammirati, wrote to the Washington Department of Natural Resources (DNR) expressing concern that the recent upsurge in mushroom harvest for export could bring unforseeable problems. "Overcropping worries us," he wrote, "because it will most likely influence, in a negative way, the sizes of our mushroom crops in the future. We also believe that removal of large numbers of edible mushrooms, which are associated with the roots of forest trees, will have a detrimental effect on the growth and development of the forests."

Ammirati suggested that commercial harvesting on public lands be delayed until scientific studies can answer a number of important questions: "Can our mushroom population withstand commercial harvesting? If so, how much, how frequently, and in which areas? How does cropping of individual species influence their abundance over a long period of time? How does the removal of mushrooms from the forests and fields affect the overall ecology and structure of these environments?" Clearly, the questions in this mysterious realm are many. In the absence of reliable scientific studies, Ammirati warned, "we could destroy a valuable natural resource in a short period of time."

In an interview Ammirati indicated that the recent development of a huge export market for Washington mushrooms puts the question of commercial collecting in an entirely new light. "We've always had a limited sale of chanterelles at farmers' markets and to gourmet restaurants," he says, "and it's had little effect on the mushroom crop. But the exportation of large amounts to foreign countries is entirely different."

That difference is now becoming generally recognized. DNR biologist Ken Russell estimated in one memorandum that the annual harvest of mushrooms from Washington state forests alone has grown to a million pounds. The U.S. Department of Agriculture estimates that 7 million pounds of chanterelles were exported from the country at large in 1983. "Until recently, most mushroom-picking operations were small family affairs," said Russell's memo. "[But] there is a major change with the bigger and often foreign interests sending hundreds of harvesters to the woods. No one knows the impact of high-volume harvesting. . . . [My] gut feeling is that any resource can be overused. We should proceed carefully."

The DNR has responded to the warnings of Ammirati and others by appointing a task force to study the issue. The panel is composed of recreational pickers, commercial processors, mycologists, state and federal land managers, private forest landowners, and representatives from the state's economic development and natural resource agencies. One task-force member, Margaret Dilly of the Puget Sound Mycological Society, suspects that some DNR officials might be more concerned with possible state revenues to be collected from commercial pickers than with the ecological effects of overharvesting. "But overall I think they're being fair so far and responding to our concerns," she says.

A natural resource committee of the Washington legislature also heard from both sides of the controversy at an October 1985 hearing. Some activist mycologists expect the 1986 legislature to consider whether some interim controls should be imposed on commercial collecting pending a thorough study of the problem.

Despite early indications of official concern, the situation remains worrisome to mushroom fanciers. For one thing, no studies have been done to determine whether intensive picking over several years reduces production, either by overcropping selected species or because careless pickers damage the fragile environment in which mushrooms reproduce. (Ammirati hopes to undertake such a study at Mt. Rainier National Park.) Trampling of the forest floor by large numbers of people could damage or kill mushroom mycelia as well as rare or unique vascular plants; so could massive habitat destruction through logging, road-building, off-road motoring, and other impacts.

In addition, everyone is fearful that large-scale collecting by unlicensed, profit-motivated, part-time pickers could lead to human poisonings from toxic mushrooms. Even experienced mushroomers make mistakes; experts insist that the only reliable test of edibility is absolute identification of a species based on its specific characteristics. For this reason they say strict inspections should be required of all mushrooms sold by commercial gatherers.

Meanwhile, the harvesting of wild mushrooms continues virtually uncontrolled. Only rarely is any training required of commercial pickers. Knowledgeable harvesters will take care to leave as much of the mycelium behind as possible, cutting the mushroom caps like asparagus rather than

ripping the entire fungus away from its bed. But those working for wages tied to the size of their take will probably not be so fastidious. And few state or federal agencies impose licensing or fee charges on harvesters or regulate the amount of collecting that can be done on public land.

Many believe land managers should err on the side of caution until more is known about the effects of overharvesting. "Even the most expert of experts cannot say absolutely that overharvesting will or will not cause depletion," says Marilyn Shaw, education chair of the Colorado Mycological Society. "But we must assume that nature does not provide all these fruiting bodies and spores without a need to do so." In other words, because so few spores fall on favorable growth sites, nature may respond by producing spores in profusion.

The overpick issue is not unique to the Northwest. At a North American Mycological Association (NAMA) meeting in West Virginia last July, a Committee on Mushroom Conservation was appointed after delegates from Colorado, Wisconsin, the Northwest, and Toronto expressed fears that commercial picking could deplete mushroom beds. The committee chair, Maggie Rogers, is librarian of the Oregon Mycological Society and co-editor of *Mushroom, the Journal of Wild Mushrooming* (Box 3156, University Station, Moscow ID 83843). Rogers notes that NAMA has for several years coordinated a wild-mushroom watch, whereby all members are encouraged to record data on weather conditions and the kinds, numbers, and locations of mushrooms found—information that over time may help mycologists determine whether mushrooms are declining in number or disappearing altogether in heavily picked areas.

Experts have suggested various ways to protect wild mushrooms, including control of commercial collecting, "sport-picking" licenses and seasonal limits on recreational pickers (similar to programs long in place for hunters and anglers), banning the export of wild mushrooms, and commercially cultivating desirable wild species that myculturists have been unable to domesticate, such as chanterelles. (Cultivation of some species, such as oyster and shiitake mushrooms, is already taking place.)

With careful study, much could be learned about a valuable natural resource that in many significant ways remains mysterious. But without some near-term control strategy to prevent overpicking, the answers, when they are finally found, may be of purely academic interest.

PHILIP WHITE *is a staff writer for the Laramie bureau of the* Casper (Wyo.) Star-Tribune.

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POLITICS

BOOTH GUNTER and MIKE WILLIAMS

The Cadillac of Dumps

Alabama boasts the nation's biggest and perhaps best toxic waste landfill. But worries about groundwater pollution could turn this Eldorado into an Edsel.

TUCKED AWAY in the rolling hills of west Alabama is the Emelle hazardous waste landfill, a sprawling, 2,400-acre operation that for eight years has swallowed everything from furnace dust and paint sludge to heavy metals, industrial solvents, and PCBs.

The 17,000 people who live in rural Sumter County have become accustomed to the sight of large trucks barreling down the narrow highway that runs past the landfill. In the 12 months preceding May 1985 the site accepted some 347,000 tons of toxic waste, making it one of the world's largest industrial waste burial grounds.

Chemical Waste Management, Inc., which runs the facility, boasts that it is the nation's Cadillac of toxic waste landfills—a claim confirmed by some geologists familiar with the site. Much of central and west Alabama is underlain by a layer of limestone called Selma chalk, which here averages 700 feet in thickness. This chalk is highly impermeable: The company calculates that it would take 10,000 years for waste escaping from the landfill's trenches to penetrate to the aquifer below the site. But for people living in the area, the aquifer, which provides drinking water for much of western Alabama, is the primary concern.

"I'm scared of [the waste]," says an elderly woman whose tar-papered shack sits atop a slight rise about a mile from the landfill's shiny metal fence. "I'm scared of it gettin' in the water. My two sisters are scared, too—they live right around here. But I don't guess they're fixin' to move."

"Our concern is that toxic wastes will leak into the groundwater," says Eric Loftis, a piano teacher and president of Alabamians for a Clean Environment, a local citizens' group started last spring. "We're opposed to landfills as a whole. We feel they sweep the problem under the rug. It isn't right for one generation to create a problem for many generations to come."

In the face of recent opposition to the Emelle operation, ChemWaste has worked aggressively to win local support and establish itself as a responsible corporate citizen. Taxes paid by the company have supported everything from the local library to the Boy Scouts, and company employees serve on the boards of local charities. Gordon Kenna, the firm's community relations manager, has held meetings in the small towns around the landfill to answer questions and reassure its neighbors.

Some locals say the landfill is vital to Sumter County, which has recently suffered from 20 percent unemployment. In 1980, 32 percent of the county's population was below the official poverty line. In this bleak economic setting, the landfill is the county's largest employer.

"Why is there all the interest in this place?" asks a heavy-equipment operator making $8 an hour working at the landfill. "How can you worry about something that's never happened? We have to provide for our families."

Kenna says landfill employees want to make Emelle not only a boon to the county but the nation's showcase for toxic waste disposal. "It's our largest operation," he says, "and from a corporate perspective it makes sense to make it the best."

The landfill has not been free of controversy, however. In June 1983 the Alabama Department of Environmental Management fined ChemWaste $150,000 for failing to complete a lining system for one of Emelle's trenches designed to catch leaking wastes.

In May 1984, samples taken by local citizens from drainage ditches and a stream near the landfill showed small concentrations of PCBs. Regulators traced the contamination to surface runoff from the landfill. Although the amount of contamination was not high enough to be illegal, the company spent $500,000 on an extensive landscaping and grass-seeding project to stop the runoff.

In December 1984, state and federal officials fined the company $600,000 for poor management procedures and PCB disposal problems at the site. Among other violations, regulators cited ChemWaste for an inadequate groundwater monitoring system and required the company to install 35 new groundwater monitoring wells.

Perhaps most disturbing to local residents was the EPA's March 1985 announce-

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ment that samples taken from Emelle's groundwater monitoring wells showed the possibility of low-level contamination of the aquifer by industrial solvents. Agency officials said the contamination most likely resulted from problems in testing procedures or equipment, but they temporarily suspended shipments to the landfill of hazardous waste collected from Superfund cleanup sites.

"Nothing led us to believe we had contamination from the waste disposal cells," says Thomas Devine, director of waste management for the EPA's Region 4 office in Atlanta. "We were seeing only a couple of contaminants, and that wouldn't make sense if a cell was leaking." The EPA ordered more tests in the wells, and soon lifted the Superfund ban.

Some observers continue to insist that Emelle has not earned a clean bill of health, however. William Sanjour, one of the EPA's policy analysts, says the agency continued to allow Superfund wastes to be buried at Emelle even after officials found that one of the site's groundwater monitoring systems did not meet federal regulations and was incapable of detecting leaks. "How can they determine that the site is okay if the groundwater monitoring system is not even working?" Sanjour asks. "The EPA is not only violating its own regulations, it's looking the other way to keep the Superfund wastes flowing."

Sanjour believes the agency may be creating future hazardous waste headaches by sending Superfund wastes to landfills that may eventually leak—if they are not already leaking. Congressional and EPA studies and Sanjour's criticisms of the agency's Superfund policy have led to a flurry of congressional interest in the problems caused by land disposal.

"Land-disposal technology is fundamentally flawed, and the historical record provides ample evidence of this," Office of Technology Assessment researcher Joel S. Hirschhorn said in testimony to a House subcommittee in 1984. "While the most toxic wastes will remain dangerous for many decades—perhaps forever—the critical elements of land-disposal facilities cannot be assured to function effectively for such long times."

Whatever the problems at the national level, ChemWaste continues to bury waste at a rapid pace in Alabama's rolling countryside, and to claim that Emelle is part of the solution to the nation's hazardous waste problem. The company has also made improvements at the site recently, perhaps in response to increased attention and to fines imposed by regulators.

Company officials have now drawn up a new groundwater monitoring plan that

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must be approved by the EPA as part of the site's final operating permit. Agency officials say they want to limit the number of wells drilled into the aquifer, because each new well is another potential conduit for contamination.

Meanwhile, state officials have ordered more shallow wells installed at the site, and have requested that wells be drilled at an angle that extends below the disposal trenches so contamination can be detected before it reaches the aquifer.

Responding to a congressional mandate in the November 1984 reauthorization of the Resource Conservation and Recovery Act (RCRA), ChemWaste has also begun installing double synthetic liners in its disposal trenches. The plastic liners are supposed to last for a few decades. Many observers believe that if Emelle is going to leak, the evidence—and damage to the aquifer—won't be conclusive any sooner than that.

"In my opinion, the site is sound geologically and hydrologically, but I'm not a big advocate of landfills," says Bernard E. Cox, hazardous waste chief at the Alabama Department of Environmental Management. "I hope we will soon get chemical treatment, biological treatment, and incineration technologies that will take care of this waste. But for the time being, landfills are necessary, and if we have to have one—for now—that one is the best site there is."

Congress, too, seems to be moving away from land disposal of hazardous waste—a move that may one day make Emelle an obsolete relic, or at least cut down the size of the operation. Under the reauthorized RCRA, Congress established a 32-month deadline for the EPA to prove that land disposal is safe for a long list of hazardous wastes. If the agency does not prove that a substance can be safely buried, it will automatically be banned from land disposal.

The problem with even the best of landfills is that no one can guarantee that buried wastes will not leak and come back to haunt future generations with contaminated groundwater. "We became aware of the problem of hazardous waste a decade ago, but we have squandered that decade moving waste from one hole in the ground to another," says Carl Pope, the Sierra Club's Political Director and co-author of *Hazardous Waste in America* (Sierra Club Books, 1983). "Over the next decade or two, I think we stand to lose very significant amounts of agricultural land and groundwater to contamination."

Pope and others believe the nation must move toward reducing the amount of hazardous waste produced, but that industry will be reluctant until stronger laws force it to give up cheap disposal methods such as burial. If Congress continues to move to-

Newly lined trenches will help keep the dangerous poisons in Emelle's wastes from leaking into groundwater—for a short while. The black plastic lining is guaranteed for only a few decades.

Chemical Waste Management

ward banning burial and strengthens laws such as the Superfund that hold waste generators responsible for the costs of cleanup, industry will have to move toward safer disposal methods.

Alternative methods might include recycling wastes (such as solvents), changing the chemical structure of waste to render it harmless, or fixing it in a stable matrix of cement or other substances. Researchers have also developed microscopic organisms that "eat" highly toxic wastes, but these technologies are still too expensive and have not been adequately tested. For chemicals that cannot be cheaply stabilized, recycled, or chemically treated, incineration is an increasingly popular disposal method, chiefly because proper burning can completely destroy wastes and thus relieve companies of long-term liability.

"We pushed very hard for provisions in the reauthorization of RCRA to discourage land disposal in favor of treatment, incineration, and waste reduction," says Sierra Club Washington representative A. Blakeman Early. "Landfills are the least desirable alternative."

BOOTH GUNTER *and* MIKE WILLIAMS *received the 1985 Scripps Howard Foundation award for outstanding environmental reporting in their coverage of toxic waste disposal in Alabama.*

POLITICS

JAMES KEOUGH

Sins of Emission

Wood stoves may be warm, attractive, and efficient, but they're also this country's largest unregulated source of air pollution. Even industry and the EPA are concerned.

NOW THAT THE OIL embargoes have assumed mythic proportions, it's fashionable to talk about all the good things they brought us. Clearly one of these has been the re-emergence of wood stoves as a serious alternative to either oil or electric heat. The Wood Heating Alliance (WHA), an industry association, estimates that heating with wood eliminates the need for about 100 million barrels of oil a year. It's also estimated that the 10-million-plus wood-burning appliances in the country generate as much energy as all the nation's nuclear power plants.

That, as they say, is the good news. The bad news is that these stoves also generate a tremendous amount of air pollution. On days when temperature inversions and windless conditions prevail, wood smoke hangs over many communities in a decidedly unromantic and quite unhealthy pall.

Wood smoke has always had this sinister side. The substance that makes noses tingle and minds wax nostalgic on crisp winter mornings is also a choking mixture of carbon monoxide, volatile organic gases, and small particles. It is these latter components, called polycyclic organic matter (POM), that are the root of the problem. One of them is benzo-a-pyrene, a carcinogen also found in cigarette smoke. Others appear to be just as hazardous. Concern over the particulates is threefold: They are small enough to be breathed deeply into the lungs; the total annual amount of them is high; and, unlike most other air pollutants, they are distributed almost at ground level

Winter brings smoke to the skies of Vermont, where almost half the households are heated with wood. Air-quality activists in New England hope that public education will help to keep the region free of the wood-stove pollution problems that beset other parts of the country.

over residential neighborhoods. As a result, people who are not normally exposed to industrial emissions are receiving prolonged exposure to heavy levels of hazardous pollutants daily.

The problem has reached serious proportions not only because of the increasing popularity of wood stoves and fireplace inserts, but because of a fairly new development in wood-stove design: the airtight stove. Early units, such as the Franklin or the potbelly parlor stove, kept their owners warm but did so inefficiently because they lacked controls. With them it was often feast or famine—lots of heat (using lots of wood) or no fire at all. The newer airtight stoves can be regulated to produce a slower-burning, longer-lasting fire that releases more of a log's thermal energy. Unfortunately, the fire is controlled by cutting down on the stove's oxygen supply, and that in turn produces a smokier fire. It also produces a cooler fire, which means that many more particles and volatile gases escape up the chimney before they can burn.

Concern over rising levels of air pollution in this country has caused two states and numerous municipalities to take action, either by developing emission standards for new stoves or by banning wood-burning under certain weather conditions. In Juneau, Alaska, stove use is restricted when-

ever city officials deem the smoke too thick. And at least one town, Great Neck Plaza, N.Y., has taken the draconian step of banning wood stoves altogether.

Oregon was the first state to adopt standards for the amount of particulates emitted from wood stoves. It has established a certification program, administered by the Department of Environmental Quality, that will require all new stoves to be tested by state-certified labs. To date, 15 stove models have been approved under the now-voluntary standards. (This July the program becomes mandatory, and in July 1988 still tougher restrictions will go into effect.) Colorado recently followed Oregon's lead with a two-step program of its own that goes into effect July 1, 1987, and a year later calls for a further reduction in emissions of 50 percent. Montana has instituted a tax credit for anyone who buys a clean-burning stove (as defined by Oregon standards), and several towns in Nevada and Washington allow only Oregon-certified stoves to be sold.

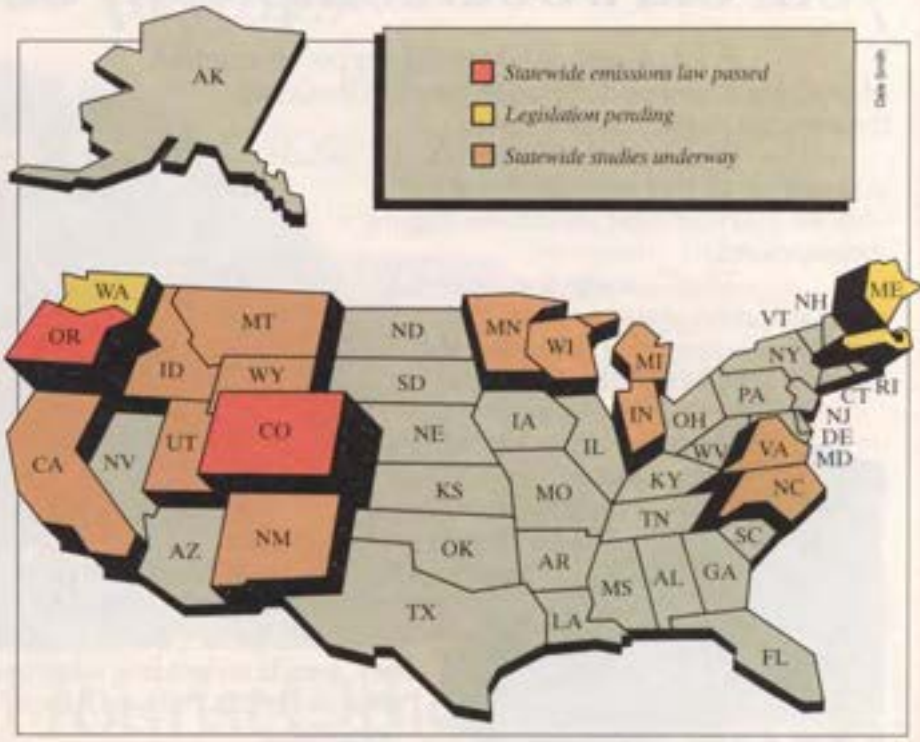
The EPA's involvement in establishing regulations for wood-stove emissions stems from the 1977 amendments to the Clean Air Act. Under those amendments the agency was to decide by August 1978 whether or not POM is hazardous, but it failed to make that decision until forced to in 1984 by a lawsuit brought by the state of New York. The agency then decided that, yes, the compounds in POM were hazardous but that it would neither list nor regulate them as a group. Instead, the EPA proposed to control POM source by source.

The Natural Resources Defense Council (NRDC) then joined with the state of New York in a second suit to force the agency to establish standards and regulations. Faced with what the NRDC's David Doniger calls "a loser," and fearing that the courts would impose a hard-to-meet timetable for action, the government offered to negotiate a settlement. Discussions are still going on.

Perhaps coincidentally, the EPA pushed forward in July 1985 with an announcement in the *Federal Register* of an accelerated timetable for proposing emission rules for new wood stoves and fireplace inserts. The agency plans to propose national emission standards during January 1987 and promulgate final rules by January 1988. When the standards will actually take effect, though, is still undecided.

Charles Elkins, acting head of the EPA's Air Quality Program, explained that the agency is taking action because residential wood stoves expose large numbers of people to harmful pollutants. If sales continue at the current million units a year, the EPA estimates, by the year 2005 wood stoves could be pouring 7 million tons of particulate matter—including 52,000 tons of POM, 19 million tons of carbon monoxide, and

Concern about wood-stove emissions has led to the passage of statewide laws in only Oregon and Colorado, but Washington, Maine, and Massachusetts have legislation pending, and a number of other states have undertaken studies. Local ordinances also govern emissions in parts of the West.



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About the Author

Psycholinguist Suzette Haden Elgin has presented her innovative self-defense principles in a variety of formats. She has given workshops and seminars all over the U.S., including verbal self-defense sessions for doctors, lawyers, and other professionals. Dr. Elgin has also created a self-defense tape and a training manual for people who teach her self-defense techniques.

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159,000 tons of hydrocarbons—into the atmosphere annually.

According to the *EPA Journal*, residential wood combustion causes "almost as much airborne particulate matter as all U.S. coal-fired power plants, and more particulate matter than the coal mining, metallic ore mining, iron and steel, cement and pulpwood industries combined." The *Journal* also notes that wood stoves and fireplaces generate more carbon monoxide than all U.S. industry, and are responsible for about 40 percent of the cancer-causing POM. A number of studies estimate that POM and other particulates from wood smoke cause anywhere from 600 to 800 cases of cancer a year nationwide. Statistics such as these lead Tom Super, an analyst with the EPA, to describe wood-stove emissions as "gram for gram some of the nastiest stuff there is."

The EPA has a number of reasons for moving more rapidly than usual to establish emission standards. Foremost is the threat of an NRDC lawsuit. Second is the seriousness of the problem. The agency claims that wood stoves are causing some areas in the country—most notably Medford, Ore.; Missoula, Mont.; Reno, Nev.; and Albuquerque, N.M.—to violate national ambient air quality standards during heating season. There's no doubt that wood stoves contribute greatly to local air pollution, even in towns that don't come close to violating national standards. One study of seven towns in Oregon, Washington, and Idaho found that wood stoves were responsible for 66 to 84 percent of the small respirable particles measured during the winter of 1980–81. Studies that measured Bangor, Maine; Chattanooga, Tenn.; and the state of New Hampshire produced similar results.

The ready availability of a technological solution is another cause for the accelerated timetable. Catalytic combustors, near relations to the catalytic converters found in car exhaust systems, have been incorporated in wood stoves with remarkable results. *Canadian Consumer* tested five catalytic wood stoves and found that particulate emissions were reduced by as much as 86 percent. Because the combustors cause the smoke to burn, thermal efficiency is increased by 20 to 30 percent. The combustors also eliminate 85 to 90 percent of the creosote accumulation in the flue, reducing the potential for chimney fires.

Combustor-equipped stoves cost $200 to $300 more than conventional units, but according to the EPA that investment is easily recouped over the life of the stove in wood saved and the need for fewer chimney sweepings. The only remaining question for the EPA concerns the durability of the com-

bustors. While some manufacturers guarantee their combustors for six years or 12,000 hours of use, the agency feels that more information is needed before catalytic combustors can be designated the "best available technology" for controlling woodstove emissions.

To complicate that question further, stove designers have developed a number of noncatalytic stoves that meet the Oregon emission standards. Many of these units rely on secondary combustion chambers in which the smoke is ignited by introducing additional oxygen at high temperatures. The EPA cautions that these stoves can produce highly variable results—certainly more so than catalytic units—and that catalyst-equipped stoves "appear to control [particulate matter] over all burn rates," not just the medium to high rates of the noncatalytics. The NRDC's Doniger is more direct: He says the best secondary combustion stoves will never be as good as the best catalytic-equipped units, and that the EPA has no real choice but to make catalytic combustors part of its standards.

Those regulations are likely to be fairly stringent, in part because the agency finds itself promoting both lower pollution *and* energy efficiency—something it was not able to do with automobiles. But enforcing the regulations once the stoves are installed may prove difficult. States can require regular inspections for auto emissions systems; checking up on wood stoves is another story. "It's easy to get support for controlling a smelter or power plant," says the EPA's Super, "but I'm not sure how much we'll get for going into people's homes."

Even if excellent standards are put into effect for new stoves and provisions are made for enforcing them, the remaining question is what to do with all the unregulated stoves already in use. Kits are available to add catalytic combustors to existing stoves at a cost of $150 to $300, but little is known about their overall efficiency. Doniger thinks the EPA will eventually need to establish performance standards and test procedures for these retrofits as well. The problem will be getting stove owners to buy and install the units.

Industry reaction to the EPA's proposals has been fairly positive. In fact, the board of the Wood Heating Alliance voted unanimously some three months prior to the agency's *Federal Register* announcement to support the adoption of national standards. In part this was an attempt to head off a spate of separate state regulations, which would create a certification nightmare for any manufacturer hoping to market stoves nationally.

But while it has lent support and even supplied money for research, the woodstove industry has voiced some concerns. "The WHA has given conditional support for the current EPA process," says industry spokesperson Mike Sciacca. "Basically, we're not opposing the general trend if the details are such that they don't slay the industry with administrative costs." To ensure that its voice is heard, the alliance has joined with the NRDC in asking the EPA to establish regulatory negotiations, an innovative process in which all the parties involved—in this case the EPA, NRDC, WHA, the states of Oregon and Colorado, several stove manufacturers, and others—meet to hammer out differences before regulations are proposed.

Industry's biggest concern is with the EPA's schedule for developing regulations. "The federal government wants every new stove sold in this country to be clean burning in less than two years," says Steve Maviglio, editor of *Wood'n Energy*. "In comparison, the mighty automotive industry with its billion-dollar research budget had more than a decade to comply with EPA rules." Sciacca says the WHA would prefer that the agency follow normal rule-making procedures—usually a four- to six-year process.

"This is an area where there is significant risk to the economy," says Sciacca. "You're talking 50,000 jobs and a billion-dollar industry once you include manufacturing, sales, installation, fuel supply, and maintenance." Sciacca also points out that the industry contains a substantial number of small businesses, which magnifies the impact of fast-track regulation. Small businesses lack the capital, he says, to dump inventory, design new products, retool quickly, and market new stoves.

In the final analysis, though, the WHA knows that some regulations will be forthcoming, and it also knows that national regulations are preferable to a number of different state versions. Still, the substance of the federal standards is a major concern to manufacturers. "The worst case from an industry perspective," says Sciacca, "is a regulatory program that is ineffective. If we get regulated and the air doesn't improve, then the screws will be tightened again. We're not against regulations; we just want them to be clear and simple so we can identify the target and hit it."

Some would argue that what the industry wants is a target that's all bull's-eye and moves at the EPA's usual glacial speed. But others would side with environmentalist Doniger, who feels that the industry "wants a federal standard so badly, they may even accept a good one."

James Keough *is the editor of* Sierra.

GARY FERGUSON

Roadside Attractions

If a tree is stolen from the forest and no one is there to see it, did the tree ever really exist? Just ask that guy in the pickup, the one who's counting his millions . . . .

An "unauthorized removal" of young trees takes place in Colorado's Rio Grande National Forest. Officials there estimate that the forest loses more than 20,000 of its trees to thieves every year.

DURING THE PAST ten years, a new crop of swindlers has found a fast lane to fortune along the remote roadways of America's western public lands. The sale of stolen prehistoric Indian artifacts is now a multimillion-dollar business. In many areas firewood theft has reached an all-time high. And now a relatively new hustle is hitting the national forests of the Rocky Mountain states.

"It's known as transplant tree theft," says a special investigator for the Forest Service in eastern Colorado. "The scheme consists of stealing young pine and aspen trees—usually anywhere from four to twenty feet tall—and selling them to developers for use in landscaping projects." To say that such operations are on the increase is an understatement. "Five years ago we were working on two or three cases each season," the investigator remarks. "Today we have five or six times that number, and I think the problem is just beginning to roll."

Transplant tree-theft operations range from two workers with shovels and a pickup to highly organized professionals armed with police-scanning networks and tractor-trailer transport. All transplant thieves enter the forest in spring behind the mud zone, plucking as many young trees as possible before they begin to bud. The season may last five weeks, although veteran thieves usually know of sheltered pockets in the high country where dormancy breaks later, allowing them to extend their digs another two weeks. Aspens are hit again for two or three weeks in the fall after their leaves have dropped.

The typical large operator will send three or four teams of five workers (often illegal aliens) into a national forest, each group armed with a powerful mechanical digger. Because the actual digging may last for several days, root balls are wrapped in burlap and the trees placed back in their original holes to escape the notice of passers-by. Once all the digging is completed, the transplants are collected with pickup trucks during the night and delivered to a central receiving area along a more accessible roadway. Here they are immediately loaded into large trucks—a highly organized process that only takes about two minutes for every hundred trees.

"Besides the loss of certain kinds of trees and wildlife from along the road corridors," laments a Forest Service official, "there's always a dismal collection of gaping holes and eroded soil that gets left behind."

Thieves are almost always working to fill specific orders landscapers placed months before. A large shopping-center development might call for a thousand 10- to 15-foot aspen, 600 five-foot blue spruce, and 200 bristlecone pine of various sizes. Because there are few areas of the country where individual trees must be tagged for sale, most landscapers have no way of knowing they are buying stolen property.

A relatively small-scale thief might make off with one or two hundred transplants per day, whereas big operators deal with closer to a thousand. If big operators wholesale the trees at $10 per foot (a conservative estimate for most conifers), they can easily take in more than a million dollars each in a single season. One Colorado agent notes that "it's kind of ironic that this kind of money is being made on illegal transplants while the government is selling its saw timber at a deficit."

With such handsome payoffs at hand, one might assume that every forested state in the West would be overrun with transplant snatchers. While the problem does exist over a wide geographical area, by far the largest den of thieves is found in Colorado. In fact, Forest Service special investigators there recently estimated that 20 to 30 percent of their working hours are spent investigating transplant-related thefts. "For every legal tree supplier in this state," says one agent, "there are probably ten illegal ones." The staggering amount of unchecked tree pilfering here is due not nearly so much to the East Slope development boom—the most obvious assumption—as to the fact that the state has made the tree-theft game nearly impossible to lose.

With all its vast forest resources, Colorado has virtually no regulations for the transport of timber products (with the exception of Christmas trees) on its roadways. Essentially this means that an investigator must either happen across a digging operation or spend an enormous amount of time and

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money on a stake-out. To be prosecuted, the theft must either be photographed or witnessed by someone other than the investigator, so it's absolutely worthless to catch someone hauling a dozen trees in a pickup trailing tire tracks from a dozen fresh holes: The driver can simply claim that the trees were taken from somewhere else.

To reduce Colorado's pillaging problem is nonetheless an easy task, as the states of Idaho and Washington can attest. Legislators in these states passed simple statutes long ago requiring all transported timber products, whether public or private, to be accompanied by proof of ownership (a sales receipt or forest permit). This makes it easy for law-enforcement officers to set up check stations and confiscate the equipment and cargo of haulers lacking the proper paperwork until the matter can be checked into. Washington has even gone so far as to require a background investigation of all commercial timber harvesters before allowing them to operate in the state. "The effect of these laws," says a former Idaho special investigator, "was to reduce the number of transplant thefts to about a seventh of what it was previously."

Why have Colorado lawmakers been so slow to catch on? No one seems to know. "Unfortunately," says Tom Osterman, an administrator with the Colorado State Forestry Department, "no legislator has been willing to introduce an extension of the Christmas-tree law. I'm not at all sure why, since the only objection seems to be that operators might not like the inconvenience of having to carry around extra paperwork." State forestry officials say they will again look for a sponsor in the next legislative session.

One might conclude that Colorado lawmakers are a bit ambivalent when it comes to confronting a problem they see happening primarily on federal lands. It's unlikely that they're counting on the feds to take care of the situation; the typical national forest in the state has one full-time agent to control illicit activities on 2 million acres of land. But although the incidence of transplant theft may still be fairly minor in the state forests, most experts agree that it's increasing in Front Range reserves. Transport laws would also help control firewood theft, a significant problem on state lands.

The passage of transport regulations will certainly not eliminate tree theft in Colorado. But state lawmakers could do their public lands a favor by at least closing the barn door.

GARY FERGUSON *has written for many publications, including* Outside, American Legion, *and* Travel Holiday. *He wrote "A Last, Fierce Paradise" for the July/August 1985* Sierra.

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MARK J. PALMER

Too Late for the Condor?

A multimillion-dollar campaign to save this endangered bird from extinction is having the opposite effect—and no one involved in the process can understand why.

WITH A WINGSPAN that can exceed nine feet, the California condor (*Gymnogyps californianus*) is one of North America's largest birds. These scavengers—a species of vulture that lives off the carcasses of deer, cattle, and sheep—were once widespread throughout California and the West. But their numbers have dwindled, for reasons that are still debated, and the few condors that remain in the wild now congregate in the rugged hills north of Los Angeles, feeding on private ranchlands of the Coast Range and Sierra Nevada while nesting on federal lands mostly within the Los Padres National Forest.

The condor population has continued to decline despite extensive research and protection efforts ongoing since the 1950s. About 60 condors survived in the wild when Carl Koford concluded his studies in 1953; estimates in 1964 suggested that the number had been reduced to about 40 birds. The U.S. Fish and Wildlife Service (FWS) and the National Audubon Society, reappraising the situation in 1977, proposed a program to capture and breed condors in captivity while trying to maintain the wild habitat into which the resulting offspring could be released.

This approach was widely criticized by some conservationists. Critics of the capture plans, most prominently the Sierra Club and Friends of the Earth, contended that too much emphasis was being placed on captive breeding of condors. Twenty-one birds taken from the wild as eggs, fledglings, or adults are currently in captivity at the Los Angeles and San Diego zoos. The result has been that no new birds have been added to the wild population—by either birth or release from captivity—for three years.

Susan Kruse Blake

One of California's captive condors. The debate continues over how many of the few remaining birds should be left in the wild.

Furthermore, the critics argued that FWS biologists were either directly or indirectly responsible for losses suffered by the wild population. One condor chick died in 1980 from stress suffered during handling by a FWS biologist. In late 1983 another condor was found dead; its demise was attributed to cyanide poisoning from an encounter with an M-44 (spring-loaded "coyote getter") device put out by the agency's own Animal Damage Control Program. While the emphasis, even after these deaths, remained on the capture of birds and radio-tracking of individuals, condor losses continued be-

cause of deteriorating habitat conditions and accidents, both of which went virtually unaddressed by the agencies involved.

Despite such criticisms, the Condor Recovery Program's prospects for success looked positively rosy in 1984, with a large number of condors in captivity at the Los Angeles and San Diego zoos and five breeding pairs identified out of a wild population of some 15 individuals.

All optimism died, however, when six of the estimated 15 wild condors disappeared between November 1984 and April 1985. One sickly bird reappeared but died shortly after capture, apparently a victim of lead poisoning suffered as a result of feeding on animals killed by hunters. (Lead poisoning probably caused the death of another bird early in 1984, and high lead levels have been detected in other wild condors.) Worse yet, many of the missing birds, now presumed dead, were part of breeding pairs. Just one pair of mated condors remains in the wild (near Santa Barbara); by early 1985 scientists had identified only seven other unmated wild condors, some of them former mates of missing individuals.

Reaction to these catastrophic losses was swift but uncoordinated. While FWS officials contend that the disappearances had nothing to do with their efforts to enter nests and remove eggs and chicks, critics of the program were not so sure. Most surprising was the reaction of officials from the two California zoos, who universally condemned the FWS for leaving *any* condors in the wild. They further opposed the planned release of captive birds to help maintain the wild flock, although they had originally supported the notion.

The California Fish and Game Commission (CFGC), an appointed body responsible for approving the capture and release of the birds, called for removal of all condors from the wild, apparently calculating that the captive breeding program's chance of success was proportional to the number of birds in the hand. The commission also recommended intensified research into the species' mortality problems.

"The genetic viability of the captive flock was at stake, and with it the future of the species," wrote CFGC member Brian Kahn in a *Sacramento Bee* opinion piece. "The commission recommended that all birds be brought in." Commission President William Burke went even further, charging that the FWS program was a "joke" and a "miserable failure." Burke issued a personal statement recommending that condor recovery efforts be turned over to the state of California and the zoos. Because no target date for release of the birds was established, critics of the captive breeding program fear that release might come—if it ever will—

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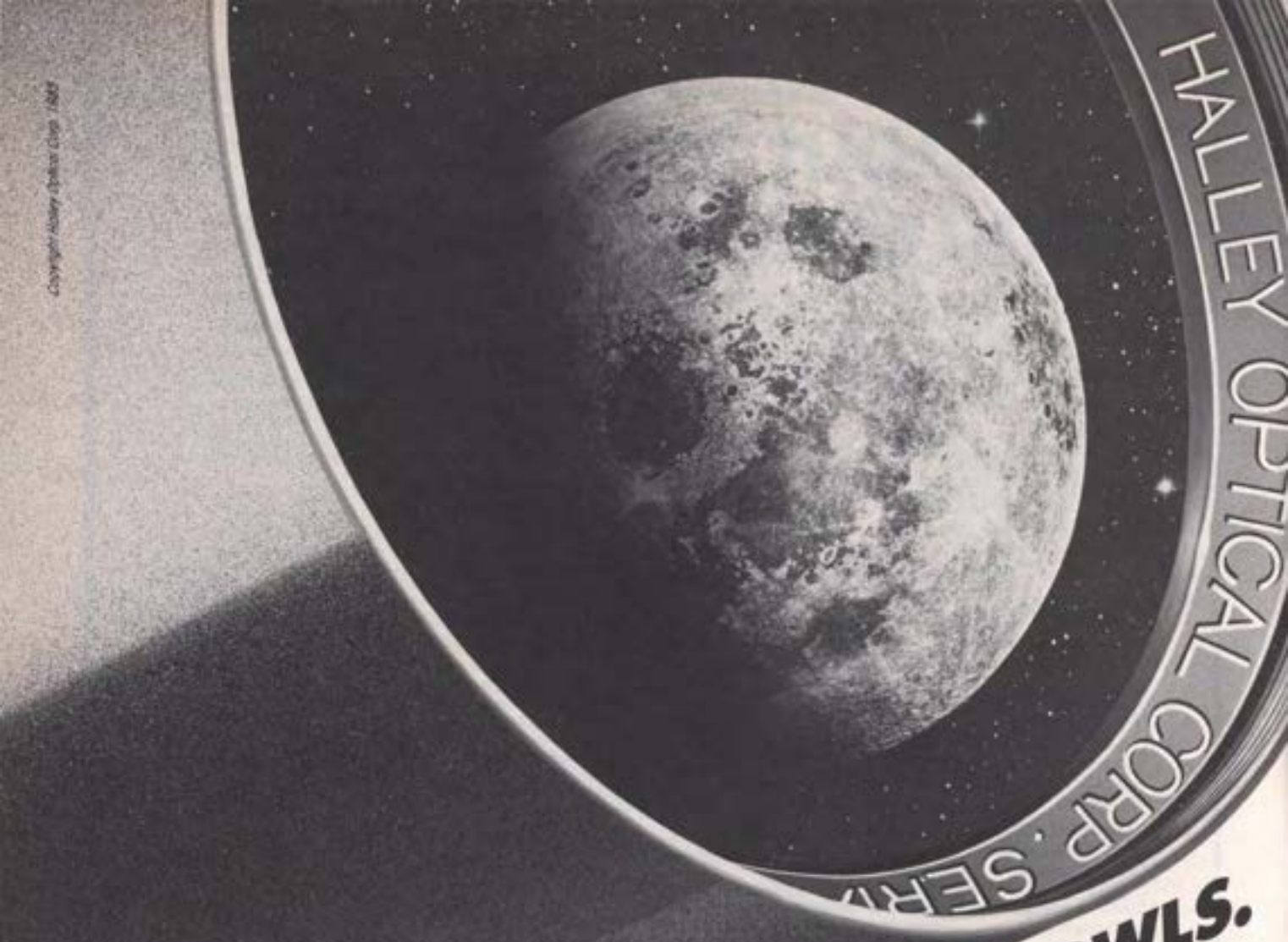

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only after the wild flock has become extinct.

Under pressure to remove all condors from the wild, the FWS proceeded to capture three of the remaining nine wild condors during the summer of 1985. But at the same time the agency—backed by the National Audubon Society, the Sierra Club, and Friends of the Earth—began arguing that some birds ought to be allowed to remain in the wild. While genetic diversity in the captive flock is important to the overall

A 45-day-old condor chick in its nest cave.

success of the captive breeding effort, conservationists insist that a program that requires keeping all birds in captivity would doom the birds' habitat to destruction in their absence, while making the survival of released birds problematic.

The FWS proposed capturing some of the older wild birds that are valuable to the captive breeding effort, releasing younger birds in their place. The CFGC recently approved a modified version of this plan, agreeing to retain three birds in the wild and to release three birds next spring. (The three birds to be left in the wild would include the mated Santa Barbara pair, which will, it is hoped, continue to produce eggs.) The release plan is contingent upon the FWS preventing any further deaths of wild condors.

But problems continue to crop up. Despite the best efforts of the FWS, the federal government has shown signs of balking at habitat protection efforts. Citing the lack of wild condors as an excuse, the Office of Management and Budget recently blocked purchase of the 13,820-acre Hudson Ranch by the FWS; the ranch is a key parcel of land 40 miles north of Ventura that now hosts all of the remaining wild condors for at least part of each year. Current owners of the ranch propose subdividing the property for homes and recreational facilities, and have rejected an Interior Department offer of $5.3 million for the land.

Faced with a measure of congressional support for the Hudson Ranch acquisition, as well as the CFGC's insistence that he approve the ranch purchase as a condition of continuing the condor program with state approval, Interior Secretary Donald Hodel announced a "compromise" late last fall: The FWS would lease the Hudson Ranch for a year and subsequently issue a report evaluating whether the condor releases scheduled for spring 1986 had been successful. Given the numerous threats to condor survival in the wild, conservationists worry about pegging purchase of the property to the fate of the three birds to be released this spring.

Another threat to condor habitat is the Peppermint Resort, a massive ski development in the Sierra National Forest. Despite use of the area by condors (one nest site used in 1984 is within a mile of a major access road to the resort), the Forest Service at first ignored consideration of this endangered species in their planning documents. But local conservationists, the Sierra Club, the Audubon Society, and the FWS pressured Forest Service planners to consider the project's impact on condors, and a separate supplement to the resort's environmental impact statement was eventually produced. Its conclusion, however, was that the resort will have no significant effect on the birds. The issue is still alive, however, and the project is being appealed by conservationists.

Because it is the zoos that control and maintain the captive condor population, their recent opposition to a wild condor reintroduction program is cause for alarm. The entire captive breeding effort has been predicated on the eventual release of birds that will bolster and renew the wild population. But several people involved in the recovery effort have stated that the goal of the program is to save the condor species, not condor habitat.

Further squabbles have been generated by the revelation at a CFGC hearing that all three birds could not be released in the spring of 1986 because only two captive birds were being held in sufficient isolation to ensure that they would not become so tame as to approach people in the wild. The FWS promptly undertook an inspection of the two California zoos' condor facilities; the resulting report revealed that five birds at the L.A. Zoo were removed from isolation pens in May 1985 to pens where "they were fed by a caretaker inside their cage. These birds are now judged too tame for release in 1986, but will be placed back into isolation pens in an effort to reverse the taming process." The earlier removal from isolation had occurred without zookeepers consulting either the state or federal

authorities, according to the FWS report.

Michael Scott, who is resigning as head of the FWS Condor Recovery Program, muses: "I think we can solve the problems and save the California condor, especially drawing on the expertise of the organizations involved—the Forest Service, the California Department of Fish and Game, the Audubon Society. But we have to work together, and we have to address the biological issues."

The importance of a wild condor population cannot be overemphasized. There are practical justifications. From a political perspective, protection of condor habitat—the fabric of animal and plant life upon which the large vultures depend—will be next to impossible if wild condors are not present. Development projects and practices within the condor's range include oil drilling, conversion of wildlands to crops or housing, excavation of reservoirs and quarries, sport hunting, road-building, use of off-road vehicles, erection of power lines and wind farms (which obstruct the condors' flight paths), and simple human intrusion.

"The endangered condor is holding back the dike on a number of devastating projects," notes Amos Eno of the National Audubon Society. "It will be extremely difficult, in our view, to maintain habitat in suitable form without wild condors."

There are other reasons to maintain a population of wild condors. Birds that mature out of captivity serve a vital function by showing released birds the choice places to roost and feed. Advocates of this "guide bird" theory point to similar efforts involving released whooping cranes reared in captivity, which seem to do better when released into wild flocks.

Yet another argument is that habitat threats, such as the incidence of lead shot in the birds' food supply, will be more easily identified and dealt with if a wild flock is still available for tracking and testing. And public support for the condor recovery effort (and similar efforts to assist in the recovery of endangered species elsewhere) may be sadly shaken by the loss of the wild condor flock.

Perhaps most important, the extinction of the wild California condor will represent a fundamental failure on the part of humankind to resolve environmental problems. A permanent captive population of birds is not a viable species from an ecological point of view. Indeed, if we are only interested in saving condors in cages, we are sweeping the problem of maintaining a habitable world under the proverbial rug—for condors and humans alike. □

MARK J. PALMER *is a zoologist and chair of the Sierra Club's Condor Task Force.*

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The turkey-size plans for each forest in the National Forest System were mandated by the National Forest Management Act (NFMA) of 1976. Stepchild of the Renewable Resources Planning Act of 1974, the NFMA promised a new generation of resource thinking. No more hassles over clearcutting, no more name-calling between wood-butchers on the one hand and doom-sayers on the other. Now national goals would be set and local plans made that looked at all the major products—water, aesthetics, wildlife, forage, minerals, recreation, and wood—of the forests.

"If you don't know where you're goin', you're goin' to wind up someplace else." Pre-NFMA forest planners could have taken Casey Stengel's adage as their own. Post-NFMA, the country knew where it was going. With a 50-year planning horizon the experienced, non-political Forest Service would for the first time consider the forest from ground to sky.

"It's a hell of a challenge to bring it all together at last," one Forest Service careerist said back then. "We expect that very few plans will get through the first time without being sued by one side or another. But the act lets the on-site foresters rather than the politicians in Washington make key decisions. And it lets the public have a chance to say how they want their forests managed."

That was two years ago. "It's disheartening," says Bruce Hamilton, director of the Sierra Club's field offices, today. "We're right back where we started. The Forest Service has not been responsible to the public." Peter Kirby of The Wilderness Society's resource planning and economics department regrets "the wonderful opportunity that's been squandered. Congress gave the Forest Service its day in the sun," he says, "and the agency blew it!"

At this point the story starts to sound like a tired rehash of the angry polemic you've read and I've written before, the kind of discord that has characterized the national forest drama from the outset: good guys versus bad guys, wilderness lovers versus timber beasts.

It might be easy to look at the current situation that way, but mere indignation is not enough. Long-term forest planning today is too big, cumbersome, and serious. The matrix of plans being framed for the next half century could be the last for some of America's most pristine forestlands—their big trees gone, their beauty and wildlife forever impaired by the time the agency gets a second chance.

To gauge this situation, which is not easily simplified and dramatized, one must first look at the National Forest System. It is principally trees—billions of them scattered from the rain-soaked coastal mountains of the Northwest to the piney hills of Tennessee and North Carolina.

The system is also land, an array of real estate half the size of Alaska. One hundred and fifty-five national forests and 19 grasslands make up 191 million acres of wilderness: primitive, scenic, historic, recreational, commercial, and experimental lands. The system embraces 40,000 lakes, 80,000 miles of rivers, and 101,000 miles of trails; it includes oil and gas wells, research stations, marinas, campgrounds, mines, and some 340,000 miles of road. Comprising 8 percent of the nation's land, national forests are found in every state except Connecticut, Delaware, Iowa, Massachusetts, New Jersey, and Rhode Island.

In bygone days Forest Service land planning was done unit by unit, with several units to a national forest. Plans were produced locally with little view to what was happening in the rest of the world.

Enter the NFMA with its forestwide plans and, months later, former Assistant Secretary of Agriculture John Crowell, Jr. Until he left the Reagan administration in January 1985, Crowell was charged with overseeing the management of the country's national forests.

Who knows how much of forest planning's failure can be attributed to Crowell himself? Some fear his mark on the landscape and on the planning process will

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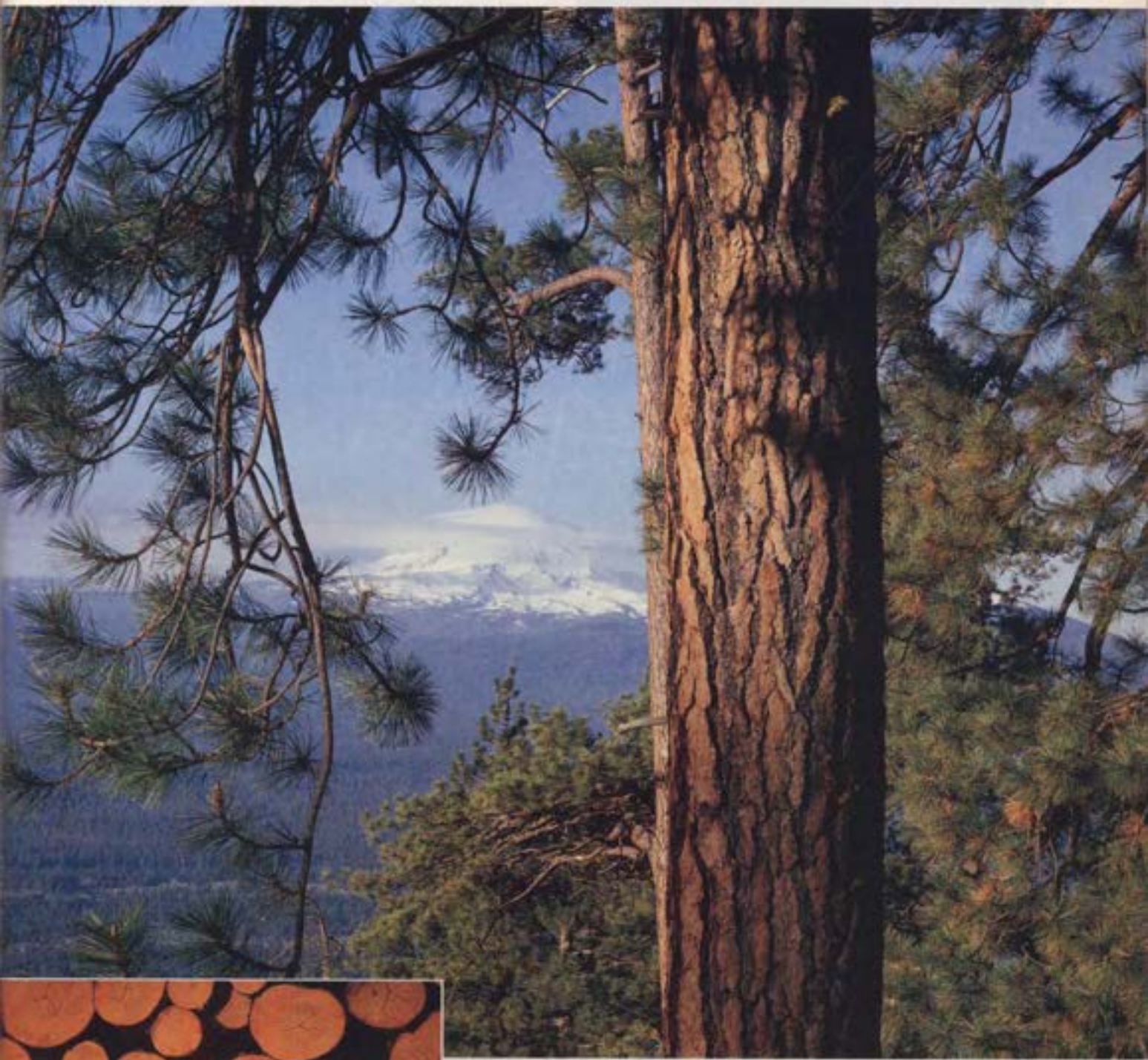


A ponderosa pine frames South Sister Peak in the Oregon Cascades. Majestic trees like this provide key habitat for many wildlife species. But the U.S. Forest Service's preliminary plans in the Northwest call for drastically reducing old-growth stands.

Mary L. Bear - Tom Stack & Associates

By encouraging development, roads can lead to ruin in forest wildlands. The most recent plan for the Pike–San Isabel National Forest in Colorado (below) suggests a doubling of the timber harvest over the next decade.

linger interminably. Crowell boasted that he wanted enormous increases in logging in national forests by the turn of the century, even though there was already a three-year backlog of public-land timber—wood sold but uncut because of high interest rates and a depressed housing market.

Crowell's boast was fleshed out in a 1984 Forest Service report that described the possible effects of various alternatives for commodity production on the national forests. Alternative nine, dubbed "Crowell's alternative" by insiders, proposed tripling federal timber sales—much to the chagrin of some professional foresters. According to the report, fully 65 percent of Pacific Northwest forests would have been "radically transformed" by the increased timber sales.

"Attractive mature or old-growth forests would be replaced by extensive clear-cutting along major highways, areas adjacent to National Parks and Monuments, Wilderness and National Recreation Areas," the report stated. "The forests would generally take on more of a tree farm appearance," and increased development would provoke "unavoidable adverse effects," including dwindling habitat for deer, elk, and spotted owls. The result: more sensitive fish and wildlife species listed as threatened or endangered. The report added that a drastic increase in logging and road-building would provoke landslides and leave rivers and streams choked with eroded soil.

The trend was clear. Crowell's philosophy set the tone for the nationwide plans now being circulated under his near-invisible successor, Peter Myers. "These are plans that John Crowell could be proud of," quips The Wilderness Society's Kirby. "His successor and most regional planners and foresters see their only mission as Crowell did—cutting more and more timber."

North to south, east to west, the plans now on the table run the range of development extremes:

- Klamath National Forest, California: Potential timber yields are exaggerated by claims that the volume of old-growth forest will double in 20 years.
- Cherokee National Forest, Tennessee: Taxpayers would lose 77 cents for every dollar spent to produce timber, and logging would disturb the steep, erodible terrain.
- Pike–San Isabel National Forest, Colorado: A doubling of the timber harvest is planned for the next ten years to coincide with an assumed doubling in timber values—although today's market is slumping and projections show more of the same.
- Medicine Bow National Forest, Wyoming: Half the 24 roadless areas that have not been designated as wilderness would be intensively logged, and oil and gas development could squeeze out hikers and elk.
- Chugach National Forest, Alaska: With a planned fivefold increase in logging, all clearcut, prime recreation sites and key wildlife habitat would be ravaged.
- Custer National Forest, North Dakota and Montana: Oil and gas development would open up new sections of the Little Missouri National Grasslands to vehicles, jeopardizing the area's status as the most road-free national grassland and prairie ecosystem in the country.

Other issues are raised in Manti–La Sal in Utah, where underground coal mining is causing a forest to subside by several feet; in Montana's Flathead, where the Forest Service overrode citizen opposition to clearcutting in grizzly habitat—only to have the sale go begging because of sagging markets; in Idaho's Targhee, where 160 applications to lease forestland for geothermal exploration have raised fears for Yellowstone's scenic geyser basin; and in California's Los Padres, which shelters the nearly extinct California condor.

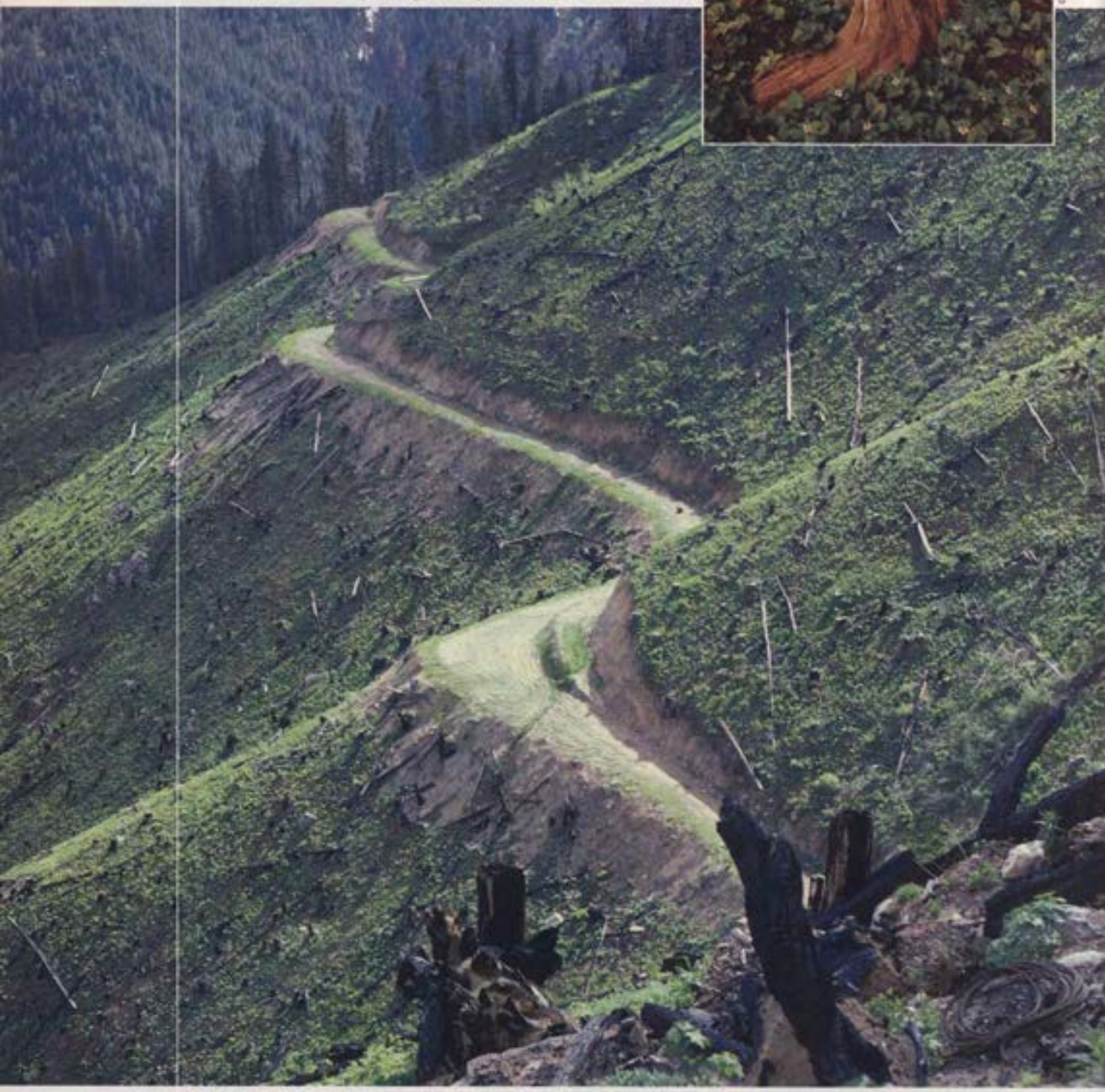
The list goes on and on. Eliminate the locale, and the issues become astonishingly similar. The common thread is a perverse overemphasis on commodities (read: timber, forage, and minerals) at the expense—and often the exclusion—of recreation and wildlife.

Usually this abuse does not axe the forest directly but takes an indirect route via road-building. In Idaho, for instance, the Nezperce National Forest proposes tripling its current road system of about 2,800 miles, and the Idaho Panhandle National Forest plans more than 7,000 miles of new road.

Roads are a problem in and of themselves. They can violently transform a forest or destroy a potential wilderness. Roads invite overharvesting to the detriment of nontimber values. Careless road construction erodes hillsides, clogs lakes and streams, and despoils scenery and wildlife habitat. In an area in western Oregon that had been clearcut without roads, sedimentation was three times that of a control area—but sedimentation in an area that had been logged with roads was a hundred times that of the control area.

Elk Summit in the Clearwater National Forest in northern Idaho is rich with fish and wildlife, including elk and moose. It lies just west of Lolo Pass, where Chief Joseph once led his Nez Percé people. Today nu-

The Clearwater National Forest in Idaho is logged at a huge loss to taxpayers. At the same time, clearcuts on steep slopes like the one below erode hillsides, muddy lakes and streams, and squeeze out wildlife. At right, one of the Clearwater's massive cedars.



merous recreationists and commercial outfitters use the area.

Timber here is of low quality at best, and hard to exploit. Large areas are boggy and wet; still more of the land lies on angled, erosive terrain. It does not require a Ph.D. in forestry to recognize that this is low-priority timber country, but one would never know it from the Forest Service's efforts to get at the skimpy logs.

Numerous timber-haul roads have been proposed for this area during the past decade and, save one, have been shot down by Idaho conservation groups. The sole exception, the Savage Ridge Road, was built in 1973 at a cost of more than $2 million—whereupon it promptly collapsed. Undaunted, the Forest Service asked for and received another $150,000 to repair it, and today it continually slumps.

Despite this experience, the Forest Service presses on. Its plan for the Clearwater forest recommends enough new road-building to eliminate half the roadless areas not protected as wilderness, including the construction of five more main roads and a set of collector roads. The price tag: $5,288,000—all to get at the meager larder of timber.

Idaho Sierra Club activist Dennis Baird recommends that the area be left alone, for both economic and environmental reasons. He says the very qualities that make the region unsuitable for development make it valuable for enjoyment. "In return for the taxpayer subsidy, we get loss of a profitable outfitting business, destruction of several miles of hiking trails, a serious reduction in a fine fishery, and a long-term commitment to reconstruct these roads, at some unknown cost, within the next 20 years."

"We're not in favor of locking it all up," says the Club's Hamilton. "What we want is a more realistic timber base. Let's remove the erosive, steep lands from timber harvesting, protect endangered species habitat, set aside areas for primitive recreation—then manage the remainder sensibly."

ABOUT HALF THE WOOD cut each year by America's logging companies comes from national forests. The Forest Service asks lumber companies to bid on a particular stand of trees, then sells the clump to the highest bidder. Yet the administrative and road-building costs associated with many timber sales are greater than their revenues.

Such below-cost sales, rife in two thirds of the national forests, cost taxpayers $199 million in 1984 alone—perhaps as much as $2.1 billion over the last decade, according to The Wilderness Society. The organization reports that in 1984 some regions recovered only 17 cents for every dollar spent on timber production, the worst return being in Alaska's Tongass National Forest, where taxpayers gained as little as one cent on the dollar.

Similar findings were published in a report from the General Accounting Office (GAO), Congress' research arm. After poring over more than 4,000 pages of computer printouts and examining more than 3,000 sales, the GAO concluded that certain regions were bleeding a steady stream of red ink. Only four of the Forest Service's nine regions broke even or made a profit. In fact, the GAO said, the Forest Service lacks an accounting system capable of indicating which sales make economic sense and which do not.

All critics of the timber giveaway are not wild-eyed tree-huggers. Fiscal conservatives, including members of the President's Private Sector Survey on Cost Control, headed by J. Peter Grace, have also hit hard at the federal timber subsidies handed out by the Forest Service.

But Forest Service Chief Max R. Peterson argues that "It's nonsense to say that the Forest Service is losing money when one looks at the big picture." One argument is that roads provide extensive benefits for recreation, wildlife, and forest-fire prevention, even if the wood is sold at a loss.

There is some logic to this. Roads do make it easier for everyone to reach the backcountry. But even a generous allocation of road costs charged to noncommodity programs would swing only a small number of unprofitable sales into the black.

"I love it when they say they need to cut a stand of timber on some remote mountainside for the good of wildlife," a Forest Service employee from Montana says sarcastically. "Does anybody mention the wildlife impact of hacking a big road right through the habitat and sending these 30-ton logging rigs back and forth?"

But there is a more substantial issue here, one that some critics say makes the agency's avowed need to get at the timber a first-rate red herring. Under the Wilderness Act of 1964, primitive areas of national forests are eligible for designation as wilderness only if they are roadless. Each new mile of logging road thus removes tens of thousands of acres from the pool of potential wilderness.

If construction proceeds at the current rate, new roads may total 100,000 miles or more in the next 15 years, a distance two and a half times the length of the Interstate Highway System. If left unchecked, the program would open up much of the 47 million acres of federal roadless land not yet designated as wilderness.

"With a few thousand dollars and a few bulldozers, they're deciding the wilderness question" before Congress or the courts have a chance, says National Wildlife Federation attorney Tom France.

It is clear what Crowell's reply to this criticism would have been. Before leaving Agriculture he complained that the nation's timber base was being "whittled away" by set-asides, including wilderness areas. He vowed that if he had his way, "eventually all unroaded multiple-use areas [would] become roaded."

LARRY MULLEN leads the planning team for the Deschutes National Forest in Bend, Ore. A wildlife biologist by training, Mullen has helped bring the forest's plan to completion after nine turbulent years of effort.

"We took it as serious business," he says. "If the Forest Service fails miserably, we may have lost the last chance to get it done right." He mentions management imposed by Congress as an abhorrent alternative.

In putting the plan together, "we went through a couple of years of chaos," he explains. "There was trouble getting at the intent of [the NFMA]. In the end we just tried to ignore the mixed signals we were getting from the rest of the world and go about our professional business."

Greg McClarren, the Deschutes' public information officer, notes that the Forest Service is undergoing some basic self-examination, partially as a result of the plan. "Our values are slowly catching up with the public's perception of multiple use," McClarren says. "There are some fundamental changes coming in the way our forests are managed. We're on the cutting edge, but we're leading from somewhere in the middle. Timber people say the Forest Service is too liberal; conservationists say our head is in the sand—and to some degree it is, because of our strong traditions in timber management."

McClarren cites as an example the story of a young Forest Service staffer who was defending the agency's plans to cut timber on land that had widespread recreational value for the community. To better understand the situation, a local citizen asked her, "Why are you going to cut those trees that are so important to us?" Without missing a

Dan L. Crawford

beat she said, "To increase production."

"She missed the whole point about a holistic, multiple-use view of the forest," says McClarren. "She had gotten some ideas so ingrained that it was hard for her to see trees as something more than timber." McClarren concludes: "If the agency doesn't change itself, it will not survive. Oh, it'll be there—but without the flexibility and respect from within and without."

The Forest Service is staffed by hundreds of bright, capable people such as Mullen and McClarren who genuinely care about the fate of our forests. But enlightened planners are sometimes caught in a bureaucratic squeeze, and employees' loyalty to paychecks often surpasses their stake in the survival of seedlings.

In the process of tilting toward timber and roads, the Forest Service has drastically slashed its budgets for recreation, wildlife management, and watershed protection. Trails have also taken a beating. National forest trails peaked in the 1940s at 144,000 miles. By 1980, the last year the Forest Service reported systemwide figures, only 101,000 miles remained. Meanwhile, use of the trail system jumped 132 percent between 1969 and 1983.

A look toward the future shows a worsening situation. In fiscal year 1984, the agency met only 24 percent of its goals for trail construction, 34 percent for wildlife habitat improvement, and 28 percent for soil- and water-resource improvement. Road and timber programs fared much better. Despite soft markets for timber over the past few years, the agency met 98 percent of its timber goals and 140 percent of its goals for road construction.

Put another way, while some programs scrimped along at a quarter of the Forest Service's assessment of their needs, road construction went 40 percent beyond what the agency claimed was necessary.

"By building roads faster than even the timber industry can use them, and not funding other items such as trails, the whole thing gets way out of whack," says Sierra Club Washington, D.C., representative Tim Mahoney. "Then the next year, when you go back to the Appropriations Committee, you're working from a skewed base. Noncommodity items never catch up."

A recent editorial in the *Portland Oregonian* said, "Multiple use has been the cloak in which the Forest Service has traditionally wrapped itself to answer critics, but the cloak has become tattered and threadbare. For other than commercial values, such as logging, multiple use of the nation's forests looks more like multiple neglect. Little money is available for wildlife, and the Forest Service still agonizes at any reduction of the commercial timber base for non-commercial purposes." The editor then shared the concern of former regional forester Jeff M. Sirmon, who was in charge of Forest Service activities in Oregon and Washington. Sirmon mused that "somewhere along the line, the Forest Service lost the trust of a lot of people."

George Wuerthner

A bald eagle takes refuge in a dead snag on Alaska's Chugach National Forest, where a fivefold increase in logging is planned.

And it is still losing. This was confirmed last summer during a tour of various Pacific Northwest national forests by a group of esteemed university forestry deans. One of the deans' parting observations was that the Forest Service "has not institutionalized public involvement as part of its day-to-day work." Rather, public involvement, if incorporated at all, is done in spurts—usually as a knee-jerk reaction.

"There are many times we say, 'Oh no! We've got to build in public involvement,'" says an Oregon Forest Service manager who prefers to remain anonymous. " 'It's going to slow us down!' "

"All the National Environmental Policy Act says is to analyze environmental alternatives and consequences and do it fairly," Mahoney says. "The agency can't quite bring itself to objectively analyze anything but its favorite option. Whatever it wants to do is the best case, and anything else is not worth looking at."

According to Forest Service critics, the favorite option in the plans yet seen has consistently been handed down from on high—Washington, D.C. Instead of agency information bubbling up to the top, says Hamilton, "it's as if local foresters have been told, 'Here is your timber and road target. Now meet it!' Then regional planners pump the numbers into their computer and expect it to tell them how to manage the forest.

"Until you find somebody who can actually read the computer program, the calculations are unavailable to the public," he continues. "In plan after plan we eventually learn that it's garbage in, garbage out. They're plugging in the wrong numbers and getting all the wrong answers about how much and how fast to cut."

Mahoney describes his frustrations in trying to get a public wedge in the Forest Service door: "They say, 'We don't set the program, Congress does. Congress tells us what to cut. Congress tells us how many miles of roads to build.' But to Congress they turn 180 degrees and present their professional face, saying, in essence, 'Trust us. We're not political. We're the professionals. We know how to manage these forests.'"

The political face of the Forest Service is disconcerting to some critics. They believe the agency is playing dangerous games with the future, toying with too many biological risks as it cloaks its operations in doublespeak and computer language. Some believe that by avoiding direct involvement with its tax-paying stockholders, the agency is rolling the dice with its own future. "The real gut issue in these plans isn't roads or timber," says Kirby. "It's the future mission of the Forest Service."

Of the more than 100 forest plans now on the streets, few have not been immediately appealed. "Many will ultimately wind up in court," says Hamilton, "and that's a shame. We all had such high hopes when this process started."

Conservation organizations, acting with what Kirby calls "the greatest unanimity I've seen on any issue," will seek help from Congress—intense and consistent oversight action, funding changes, and outright budget freezes—to pull in the reins on the process with which the Forest Service has played so fast and loose.

Ultimately, however, laws and bureaucracies must give way to humans. Only people can make things work. Hatchets on all sides have been honed for so long that consensus seems impossible. But at some point the Forest Service and the public will have to sit down and agree on how to use and protect our forests. If they succeed, generations of Americans will bless them. □

Dennis Hanson, *former senior editor of* Audubon, *is a freelance writer in Bend, Ore.*

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PESTICIDES HIT HOME

BOB GOTTLIEB AND PETER WILEY

ONCE AN ISSUE of farm and field, the pesticide question has moved into the cities and suburbs.

From Los Angeles to Miami, an escalating war against pests has intensified concerns about the health effects of chemical pesticides. An old problem is being attacked with new vigor, and a spate of community-based organizations has appeared, drawing new constituencies into the environmental movement.

The issue of urban and suburban insecticide spraying made headlines in 1981 when California Governor Edmund G. Brown, Jr. reluctantly authorized the use of malathion to protect the state's fruit crop from the Mediterranean fruit fly. Chemical wars against pests such as the Japanese beetle, the Mexican fruit fly, and the gypsy moth have also helped bring the issue into people's backyards. In some cases farm pesticides leaking into municipal water supplies have triggered the formation of activist groups. Even chemicals used in lawn care and mosquito eradication are being called into question.

The new pesticide activists have generated educational campaigns, a Washington lobbying effort, and a broadened interest in alternatives to chemical pesticides. Despite their lack of experience, they can point to a few victories:

- A federal district judge in Oregon has put a nationwide ban on the use of four pesticides—acephate, diflubenzuron, trichlorofon, and carbaryl—in federally financed spraying projects.
- A Santa Cruz County, Calif., judge has prohibited the spraying of carbaryl in the county.
- The city of Berkeley, Calif., has almost entirely eliminated the use of chemical pesticides in city parks.

People in sprayed areas are concerned about the possible side effects of the chemicals used, particularly when they or their children have experienced nausea, vomiting, or headaches in the wake of spraying. A number of the pesticides used in residential areas are also thought to produce more serious effects: Even low levels of exposure to diazinon, Imidan, Oftanol, or carbaryl may cause birth defects, serious damage to the nervous system, mutations in cells, or cancer.

People in sprayed areas are also concerned about infringements of their rights. The Fourth Amendment to the U.S. Constitution guarantees "the right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures."

But according to the California Department of Food and Agriculture (CDFA), once a pest has been declared a public nuisance, the situation becomes an emergency, like a forest fire. The state claims that under these conditions it has the right to enter a person's property without a warrant and spray, remove, or destroy objects that act as a host to the pest. Only if residents obtain a court restraining order can state sprayers be stopped. Washington state's regulations go even further. If a resident will not cooperate, the state can force the person to take action at his or her expense.

The pesticide industry has been adept at forging strong ties with government bureaucracies, particularly state agricultural departments. These ties, which include grants for pesticide research and development, have led to a high degree of government tolerance for programs that many residents see as health hazards and blatant violations of civil rights. In California, for instance, Gov. George Deukmejian's CDFA was called the "Department of Chemicals" in a *Sacramento Bee* editorial.

One of the tasks activists consider most important is education—spreading the word that there are alternatives to the use of chemical pesticides. Biological controls, for instance, use natural enemies to attack a specific pest. Because they are target-specific, biological controls avoid the adverse health and environmental effects of what pesticide experts call broad-spectrum controls, such as chemical spraying over vast areas.

The biological insecticide *Bacillus thuringiensis* has been proven effective against gypsy moths, and another strain, *B.t. israelensis*, is toxic to mosquitos. The states of Washington, Oregon, Wisconsin, and Illinois have all supported the use of this bacterium in their gypsy moth eradication programs because it kills pests without affecting humans or beneficial predators and parasites.

The National Coalition Against the Misuse of Pesticides (NCAMP) in Washington, D.C., serves as a clearinghouse for the pesticide movement. Founded in 1981, NCAMP is "a nationwide coalition of groups that want to ensure safer use of pesticides and promote non-chemical alternatives," according to resource

Continued on page 52

DEFENDERS OF THE HOME

Five different women have one thing in common: a fierce determination to protect their communities from the escalating threat of pesticide abuse.

RASP Rallies Opposition to L.A.'s Fruit Fly Offensive; Patty Prickett Leads the Successful Grassroots Fight

Patty Prickett was driving her son to school when she heard on the radio that two Mexican fruit flies had been discovered in her neighborhood, just northeast of downtown Los Angeles. The announcer reported that the county agricultural commissioner had decided to spray the area with an insecticide called malathion.

"I freaked out," Prickett recalls. "I always knew there were problems living in an urban environment, but I asked myself, 'Do you have the right to expose your child to these kinds of chemicals?' "

Prickett, then a housewife and actress who recorded voice-overs to make ends meet, had never considered herself an environmentalist. "I thought environmentalists cared about whales, not people," she says. But then she decided to act.

After consulting with her city councilman, Prickett and a couple of her friends organized a rally on the issue. More than 500 people showed up, and Prickett became a leader overnight.

Under the name Residents Against Spraying of Pesticides (RASP), Prickett and other concerned citizens in her neighborhood plunged into the issue, learning about malathion and the possibility of using nonchemical alternatives. RASP members were particularly incensed when at first the county agricultural commissioner and the county health department ignored their complaints.

Patty Prickett

The spraying in Echo Park, Prickett's community, ended several weeks earlier than anticipated, however. Three months later the county agricultural commissioner, responding in part to the protests organized by RASP, applied integrated pest management techniques using a minimum of pesticides to deal with a new infestation of Oriental fruit flies in an adjacent neighborhood.

Prickett, now working on entertainment industry and environmental issues on the staff of Los Angeles City Councilman Mike Woo, remains active on the pesticide issue. She works closely with the Toxics Assessment Group in Sacramento and has been helping some Hawaiian organizations fight the Tri-Fly Eradication Program, a plan to spray the islands with pesticides to eradicate several pests, including the Mediterranean fruit fly. The program is designed to prevent the flies from moving to California.

"The issue is never over," Prickett sighs. "In the beginning we just wanted to stop the spraying in our neighborhood. We didn't realize the magnitude of the problem."

Mosquito Wars in Florida Hit Shrimp, Snook—and Citizens Who Tout an Alternative to Both Baytex and Bug Bites

Four years ago Lea Reilly moved to Naples, Fla., to live near her husband's family. Like many parts of the South, Naples has a mosquito problem, and hence a very active county program to wipe them out. But when three DC-3s flying wingtip to wingtip at low altitude roared over Reilly's house spraying some kind of chemical, she was appalled.

"That got me off my butt," she says. "I couldn't believe that people weren't in the streets asking what was happening."

Reilly was told that her neighborhood was being sprayed with a concoction of Baytex and diesel fuel. She found out that Collier County, where Naples is located, was also applying another toxin, called naled, from helicopters and airplanes. It wasn't long before Reilly helped found Citizens For Affirmative Controls to Toxic Sprays (Citizens FACTS) and began a campaign against the use of dangerous chemicals for mosquito control.

This is a sensitive subject in Florida, a state dependent on the tourism and real estate development industries. The various mosquito control agencies say that without massive doses of chemicals, people face grave dangers from encephalitis. Real estate developers and tourism entrepreneurs fear that mosquitos might undermine the economy.

Citizens FACTS' campaign found

Illustrations by William Cone

Lea Reilly

strong allies in the state bureaucracy. Marine biologists at the Florida Department of Natural Resources (DNR) noticed a 70 percent decline between 1977 and 1981 in the population of snook, a popular game fish that spawns in the Naples area. Undoubtedly, several factors were at work in the decline. But the DNR's Duane Bradford says, "We think one of the prime culprits is pesticides."

The agency's first attempt to deal with the issue went nowhere. The DNR pointed out that the label for Baytex says not to spray it over bodies of water. The mosquito control agencies responded that they were spraying just far enough over the water to allow the wind to carry the pesticide to land.

Out of frustration the DNR decided to go public. Armed with photographs showing planes spraying Baytex and diesel fuel over the middle of Naples Bay, the agency threatened to sue the mosquito control agencies for trespassing on public lands under its jurisdiction.

At first this approach seemed to work. In February 1985 an aide to Gov. Robert Graham convened a meeting to discuss formulating a state mosquito-eradication policy. Representatives from the DNR, Citizens FACTS, and other state agencies and citizen groups were included in the discussion. Responsibility for drafting the new policy was handed over to the state's Health and Rehabilitation Services agency.

Five policy drafts later, neither Reilly nor Bradford was pleased. As it stands now, the policy won't provide the public with adequate information about pesticide hazards or disciplinary measures for pesticide companies who pollute estuaries and other water systems.

Reilly points out that it is not a question of abandoning mosquito eradication. There are other, safer ways to control mosquitoes, such as the bacterium *Bacillus thuringiensus israelensis*, which kills mosquito larvae without affecting fish and other mosquito predators. Collier County says this method is too costly, but Reilly notes that Charlotte County, with less money for mosquito control, is successfully using *B.t.i.*

Bradford says *B.t.i.* would relieve the state of the cost of "cranking up a bunch of DC-3s every morning." He would like to see the chemical companies post a bond to guarantee the safety of their chemicals. "If you have that much faith in your chemicals," he says, "then put up a million-dollar bond."

Once Accidentally Doused with Spray, Terry Shistar of Kansas Now Helps Shape National Pesticide Policies

One summer day in 1979, Terry Shistar, her husband, and her infant son were sitting with friends in their yard in Lawrence, Kan., when they were sprayed with pesticides meant for an adjacent alfalfa field. "We were really upset," she says. "The plane flew over the house, but we couldn't stop it. We didn't know what they were spraying and what it would do to us."

This experience was the beginning of an odyssey that led from helping to organize Kansans for Safe Pest Control to going back to graduate school to taking an active role in the Sierra Club, where she is now pesticides coordinator for the Club's Hazardous Materials Committee. A student in the department of systematics and ecology at the University of Kansas, Shistar says she is working to become a more effective activist.

Terry Shistar

Because Kansas is a major farm state, much of her time is spent dealing with the public-health impacts of farm pesticide use. Last year she lobbied for the state law that now regulates

the injection of pesticides, fertilizers, fungicides, and herbicides into irrigation systems. The law is designed to keep chemicals from running back through irrigation pumps into the groundwater supply in the event of a power failure. Shistar is also concerned about hazardous chemicals leaching out of the soil into water supplies.

Shortly after she became an activist, Shistar teamed up with the head of the local Sierra Club group to put out a pamphlet called "What to Do If You're Sprayed." Involved with the Club ever since, she helped draft the pest management policy adopted by the Club's Board of Directors in November. She says the Club now has a strong policy stating that pesticides should be used only as a last resort, and calling for public access to all experiments done on registered pesticides. Shistar is also involved in efforts to reform the Federal Insecticide, Fungicide, and Rodenticide Act.

Eleanore Wootton

Beetles Bring Spray Teams into a Sacramento Suburb; Student Eleanore Wootton Mobilizes a Mist Resistance

Eleanore Sarah Wootton was an art history student at the University of Oregon. She returned to her home in Fair Oaks, Calif., in 1983 to write her doctoral thesis, but instead found herself in a bitter confrontation with the California Department of Food and Agriculture (CDFA) over attempts to eradicate the Japanese beetle.

Wootton, a resident of Fair Oaks for 21 years, had watched the area change from a quiet rural community with orchards of fruit and nut trees to a bustling suburb connected to Sacramento by an interstate highway. Soon after Wootton's return to Fair Oaks, the CDFA found a Japanese beetle in a trap in nearby Orangevale. The next day, trucks from the CDFA showed up and began spraying Sevin 80S (a trade name for carbaryl).

This was only the first stage of a long campaign involving two other potent pesticides, diazinon and Oftanol. As the spraying spread to a five-square-mile zone inhabited by 18,000 people, Wootton and her neighbors formed Affiliated Citizens to Investigate Oftanol Now (ACTION). One member discovered that Oftanol is 18 times more toxic than diazinon. Yet the pesticide had not been registered by the state, and its health effects had not been tested.

At one point, ten ACTION members were arrested for refusing to let CDFA spray teams onto their property. The agency was forced to obtain 309 court orders to enter the property of 4,900 other residents. In the end the CDFA sprayed only half the properties with Oftanol.

Meanwhile, the CDFA denied Wootton's group access to health and safety studies on Oftanol. ACTION's attorneys filed a suit asking for a restraining order against the use of the pesticide, but the courts denied the request, and the CDFA characterized the opponents of Oftanol as "hysterical welfare recipients."

ACTION won the next round, however. Tests conducted with the chemical on chickens at the University of California–Davis showed irreversible nerve damage. The CDFA said the tests were inadequate, but Oftanol was withdrawn from use pending further study.

Diazinon and carbaryl were applied again in 1984, and spraying was intensified after more beetles were found. The state warned residents not to eat food grown in home gardens sprayed with diazinon. Later in the year the CDFA set up a panel of medical specialists to hear testimony about the chemicals involved. ACTION showed up with statements from 200 residents whose health had been affected by the spraying. Two of the statements described children, four and five years old, whose immune systems were depressed because of pesticide exposure. Both children had been hospitalized numerous times, one for 22 days.

The CDFA panel's recommendations resulted in the establishment of medical hotlines and clinics for blood and urine analysis, 24-hour advance notice of spraying, and an effort "to educate the public as to the need for eradication projects." But spraying resumed March 1, 1985. Diazinon was applied first, followed by Sevin during the summer.

Wootton, exasperated by her dealings with the CDFA, is now considering a petition drive aimed at putting the pesticide issue on the state ballot. "I'd like to see what could be done by taking the issue to the people," she says.

The Mother of an Ordinance and the Bane of an Industry, June Larson Just Wanted to Protect Her Ailing Daughter

June Larson might be described as the founding mother of the lawn-care ordinance, a new type of local statute designed to inform citizens about chemicals being used by lawn-care companies.

Twenty-five years ago Larson moved

from Chicago to a small town to the northwest called Wauconda. She left Chicago because she felt that her daughter, who had muscular dystrophy, needed to be kept away from possible exposure to chemicals in an urban environment. (In the city her daughter had once been hospitalized for a severe allergic reaction to DDT.) Because of her daughter's sensitivity to pesticides, Larson became a vigilant observer of the local chemical environment.

But chemicals followed Larson and her daughter to their new home. Soon after they moved to Wauconda, Larson's daughter was exposed to pesticides sprayed along a local highway to control mosquitos. Larson threatened to sue the state, a move that she thinks kept the spraying at least a mile away from her house.

Her next target was lawn-care pesticides, a more proximate danger. An existing ordinance required companies to register chemicals used in lawn care with the town. But Larson discovered that the ordinance was being ignored, and she began to push for an ordinance to notify residents about these chemicals.

In September 1984, Wauconda finally passed its precedent-setting lawn-care ordinance. It required lawn-care companies to obtain a $25 permit, banned application of pesticides when the wind was blowing over ten miles per hour, required notices and warnings to be posted after application of chemicals inside public buildings or on a lawn, and limited spraying along a common property line.

The lawn-care companies rushed to court. With the assistance of the pro-industry Pesticide Public Policy Foundation of Eugene, Ore., they sued to overturn the ordinance. David Dietz, director of the foundation, told reporters that the lawn-care companies were being discriminated against, because individuals can apply lawn pesticides without going through the registration and posting process, but the companies can't.

In August 1985 a U.S. District Court found that Wauconda did not have the authority to set its own rules for pesticides, which are already regulated by the state. Wauconda filed an appeal in September with the U.S. Court of Appeals in Chicago.

The lawn-care industry is taking the threat of increased regulation seriously. The November 1984 issue of *American Lawn Applicator* decried the recent "chemophobic whirlwind," and said the industry was "under siege by a mixed bag of foes."

Meanwhile, the Wauconda ordinance has proved contagious. Lakewood, Ohio, has adopted a similar ordinance, and dozens of other communities are considering doing the same, despite threats of legal action by lawn-care companies.

"This modest ordinance may well become the bellwether for the entire nation," said a *New York Times* article by Samuel Epstein, professor of occupational and environmental medicine at the University of Illinois Medical Center. If so, one concerned mother from Wauconda has certainly made her mark.

June Larson

coordinator Sandra Marquardt.

"People are organizing across the country to get city and county ordinances passed," Marquardt says. "There is a feeling that the issues are not being dealt with on the state and federal level. We want notification prior to spraying. We want to know what chemicals are being used and what their effects are so we can take precautions."

Many of NCAMP's recent efforts have been focused on the reform and reauthorization of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), which regulates the manufacture, sale, and use of pesticides. NCAMP and other environmental and consumer groups have been negotiating with the chemical industry to draft amendments for the consideration of the House and Senate agriculture committees.

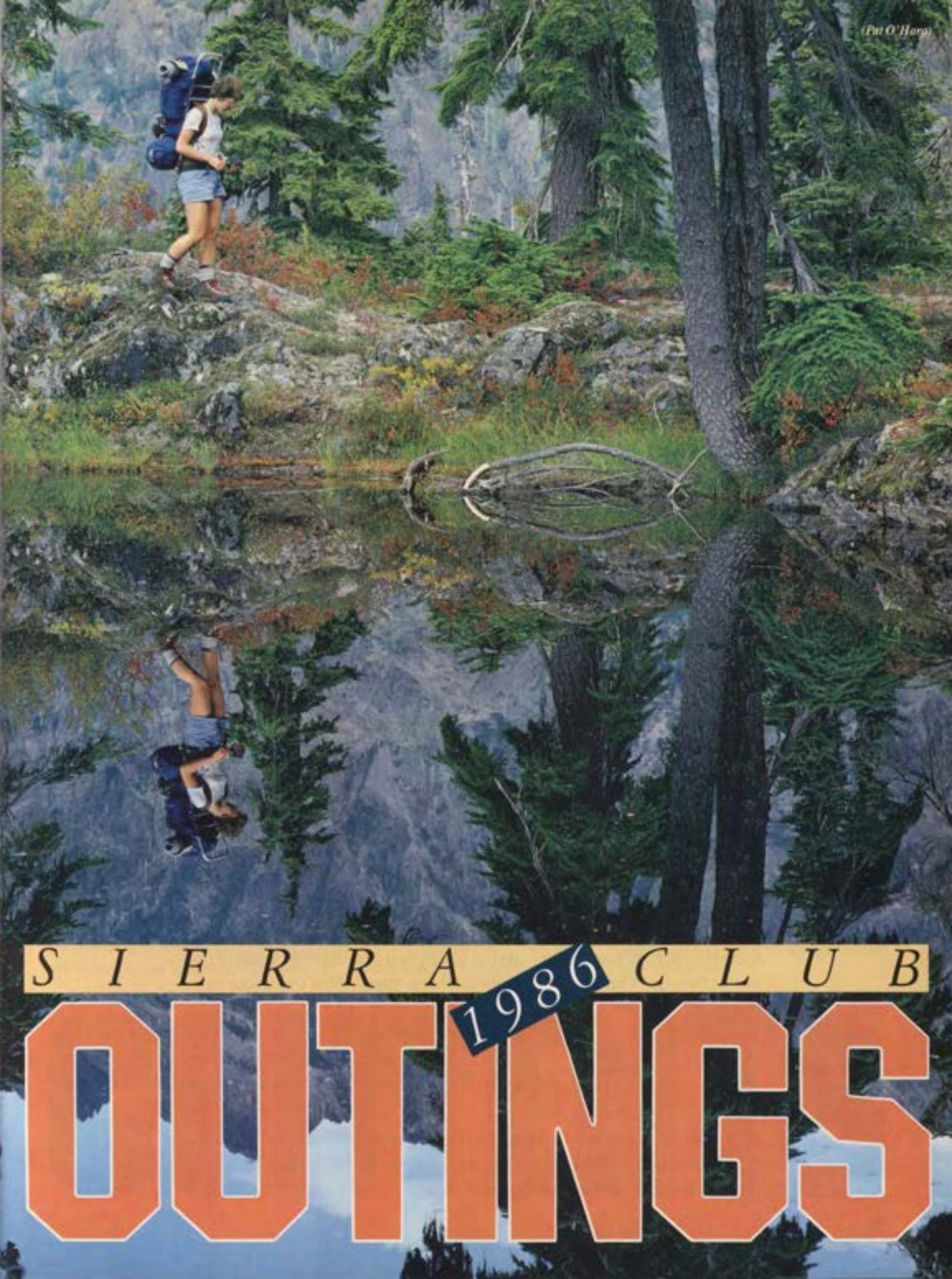
Certain strengthening amendments have already been agreed upon, including provisions for the testing of so-called inert ingredients in pesticides, many of which are "toxicologically significant," according to Marquardt. The agreement also suggests granting the public greater access to health and safety data and banning imported foods that contain residues of chemicals that are illegal in the United States.

But both national and local battles on this issue are likely to go on for years. "It looks like it could be a very long process," Marquardt says. A Wauconda, Ill., ordinance that regulated the use of lawn-care chemicals on private property was overturned less than a year after it was passed. The decision is now being appealed. Court rulings limiting pesticide use in California have been reversed by the state legislature on at least two occasions, forcing activists to rethink their strategies.

But as the pesticide threat hits home all over the nation, the number of urban activists swells. The FIFRA negotiations themselves are an important sign of the movement's growing strength. As Marquardt puts it, "The chemical industry is realizing that it has to talk."

More than two decades after the publication of Rachel Carson's *Silent Spring*, pesticide poisoning has finally emerged as a key public issue. □

BOB GOTTLIEB and PETER WILEY *write "Points West," a column on the West that appears in 25 U.S. newspapers.*


(Pat O'Hara)
SIERRA CLUB
1986
OUTINGS

Chairman's Message

A group of backpackers led by an Oakland, Calif., banker struggle for almost a full day to evacuate a woman with a broken leg over a snow-blocked High Sierra pass; tempers are thin and they are near exhaustion. In the Catoctin Mountains of Maryland, a pair of psychologists conduct a workshop in interpersonal relations. In Nebraska a group practices the techniques of righting an overturned canoe. In Washington, D.C., a scientist hosts a gathering of men and women delving into the mysteries of filing financial forms acceptable to accountants; soon the subject will change to menu preparation and foreign exchange rates. In Arizona, at the home of a leading orthopedist, a baker's dozen watch a videotape. They are refreshing their skills in mountaineering first-aid.

All have a common tie: they are (or aspire to be) volunteer leaders of Sierra Club national outings. More than 500 Club members are involved with the program, some as leaders, some as apprentices. All give countless hours and weekends to acquire and improve the skills necessary to participate in trip leadership.

The result is that the Sierra Club's Outing Program is organized and conducted by a committed group of highly trained and motivated volunteer conservationists—people to whom the enjoyment and preservation of the wild places of the Earth are of overriding importance. They are supported by an equally committed, equally enthusiastic professional staff at Club headquarters who accept reservations, prepare trip supplements, edit copy for the Outing catalog in *Sierra*, and do the general administration necessary to such a large operation. We earnestly believe this total dedication is the reason for the special experience we offer—and in which you can share by joining one of our outings. Ours is not a business, it is a cause. Won't you join us this year?

Dolph Amster

Dolph Amster
Outing Committee Chairman

(P.S. The young woman's leg healed immediately after her successful evacuation—she was an actress hired to play the part of a victim, unknown to her rescuers at the time!)

This catalog is dedicated to the many volunteers who have donated their time and talents to carry on the Outing Program.

The Outing Department thanks our photographers and requests that black-and-white photos and color slides for outing publications be sent to Marla Riley, Sierra Club, 730 Polk St., San Francisco, CA 94109. We especially need black-and-white photos.

Important Notes— Please Read Carefully

- The Outing Department will begin processing reservations for summer and fall trips on January 6, 1986. Applications received before that date will be processed as if received on January 6. Supplements will be available after January 1.
- To order supplemental information on specific trips, please see page 122.
- Make sure you read the Reservation and Cancellation Policy carefully before applying.
- Many trips can accommodate special dietary needs (e.g., vegetarianism, allergies), while others cannot. Check individual trip supplements or contact trip leaders about your particular situation.
- Make sure to include your membership number on your trip application. Your membership number can be found on your membership card or on the mailing label of your copy of *Sierra*.

CONTENTS

INNER CITY OUTINGS

Inner City Outings (ICO) is the Sierra Club's community outreach program. Our volunteers, trained in recreational and safety skills, provide wilderness adventures for people who wouldn't otherwise have them—youth of diverse cultural and ethnic backgrounds, hearing or visually impaired individuals, and the elderly. To recruit participants for outings, ICO leaders work in cooperation with community agencies. Outings include dayhikes, backpacking, whitewater rafting, cross-country skiing, snowshoeing, and adventure ropes courses. In 1985, leaders provided 200 outings for more than 2,000 participants.

Inner City Outings is coordinated by the ICO National Subcommittee. There are currently 18 ICO groups, each affiliated with a Sierra Club chapter or group:

Austin, TX
Boston, MA
Charlotte, NC
Chicago, IL
Cincinnati, OH
Detroit, MI
Denver, CO
El Paso, TX
Los Angeles, CA
Miami, FL
New Orleans, LA
New York, NY
Philadelphia, PA
Sacramento, CA
San Francisco, CA
San Jose, CA
Stillwater, OK
Washington, DC

In 1986, the ICO National Subcommittee will sponsor one or two regional conferences for current leaders and Sierra Club members interested in starting new ICO groups. The subcommittee also plans to complete work on a new slide show and produce a packet for ICO leaders to present to schools interested in becoming involved in the program.

A donation from you will help ICO meet these objectives. Contributions to the program are tax-deductible and should be made out to **Inner City Outings, Sierra Club Foundation.**

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

ICO National Subcommittee
Sierra Club
730 Polk St.
San Francisco, CA 94109

The subcommittee thanks all those who contributed to Inner City Outings in 1985, particularly those who made contributions in memory of Rimus Gylys, Steven Manas, Tom Pillsbury, Scott Ramsey, and Scampi. Special thanks is due to members of the Continental Divide Expedition who solicited donations for Inner City Outings. The subcommittee is also grateful to the following clubs and foundations for their support:

Alpine Winter Foundation
California Alpine Club
Alfred and Mary Douty Foundation
Edwin Gould Foundation for Children
Evelyn and Walter Haas, Jr. Fund
Maria Kip Orphanage Foundation
Koret Foundation
James Starr Moore Memorial Foundation, Inc.
The David and Lucile Packard Foundation

ICO youth on a beach in California's Golden Gate National Recreation Area (Philip Adam)

Alaska is about one fifth the size of all the lower 48 states put together! 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 rainforests of southeastern 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 that culminates, in a sense, at Mt. McKinley, the highest point on the North American continent.

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

Conservation issues are still a critical concern in Alaska. These trips involve areas where important decisions are being made that affect the future of Alaskan land. 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.

[380] Dog Sled Ski Tour, Mt. McKinley, Alaska—March 17–27. *Leaders, Beverly and Les Wilson, 570 Woodmont Ave., Berkeley, CA 94708.* We will ski from Talkeetna across open country to cabins at Pirate Lake, past the snout of the Ruth Glacier, and up the Coffee River into the Ruth Gorge. The walls of the gorge are higher than those of Yosemite. The Rooster Comb, the Moose's Tooth, and finally Denali itself rim the Ruth Amphitheater beyond. Two dog teams will pull community loads and be available for day excursions. Air charter cost is not included in the trip price. Leader approval required. *Note: The dates and location of this trip have been changed from what has been published previously.*

[68] Kenai Fjords Park Sea Kayaking, Alaska—June 21–July 4. *Leaders, Sharon and Bob Hartman, 1988 Noble St., Lemon Grove, CA 92045.* Kenai Fjords National Park is best explored by kayak, venturing into its glacier-carved inlets reknown for their extraordinary abundance and diversity of wildlife. Our double kayaks will take us near glaciers that calve directly into saltwater bays. From our camps on seldom-visited beaches, we can hike up mountainsides to view the enormous Harding Icefield and the tops of the Kenai Mountains. Birding, wildlife photography, and wilderness exploration during the long days of the summer Solstice will shape our expedition. This trip is suitable for adventuresome members with no kayak experience

ALASKA

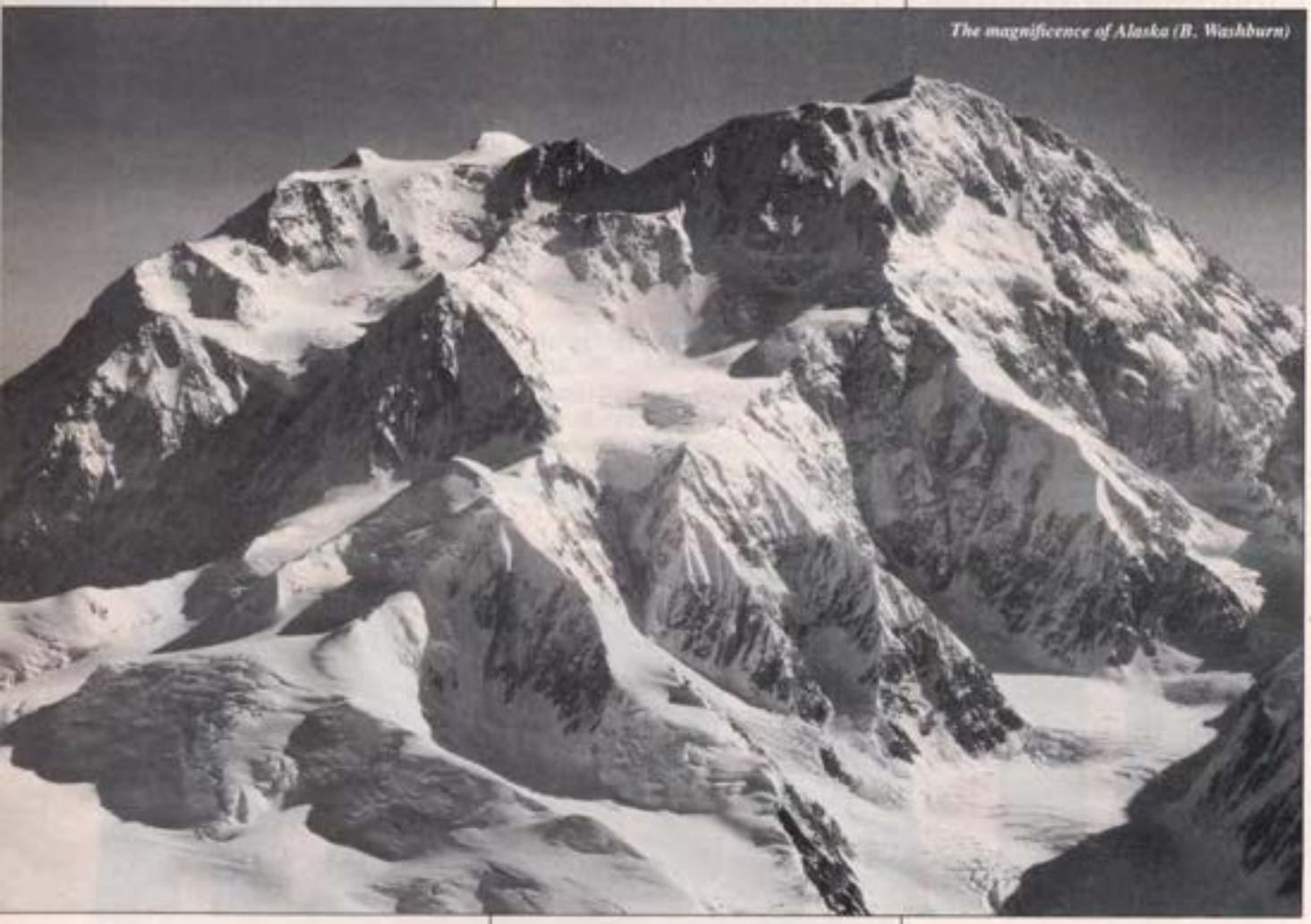
as well as those who have already discovered the thrill of ocean kayaking.

[69] North of the Arctic Circle, Brooks Range Backpack, Alaska—July 20–August 1. *Leaders, Carol and Howard Dienger, 3145 Bandera Dr., Palo Alto, CA 94304.* The spectacular mountain scenery and austere beauty of arctic Alaska defy description. With carefully chosen gear and route, we will travel light to minimize impact as we hike through this special world of tundra, permafrost, and the midnight sun. From Bettles we fly by charter floatplane to a remote lake north of the Arctic Circle. After a few days of exploration from a base camp, we will backpack over the Continental Divide through pristine, seldom-visited mountains. Although a food cache is planned, the trip will be moderately strenuous. Members must be experienced backpackers in good physical condition. The cost of commercial and charter air flights from Fairbanks to the start of the trip are not included in the trip price. Leader approval required.

[70] Kenai Highlight, Kenai Wildlife Refuge, Alaska—July 28–August 6. *Leader, Jerry Clegg, 9910 Mills College, Oakland, CA 94613.* The Kenai National Moose Refuge harbors the greatest number of species of large mammals in the United States. Dall sheep, goats, moose, wolves, and bear roam on tundra laced with lakes and streams that run red with salmon in late July. Gilding this spectacle is an icefield that hovers overhead, glaciers, waterfalls, wildflower displays, and boreal lights. A highlight format will extend the range of the restless while offering ease to those who feel fit for little else but observing the area and its wildlife.

[71] Noatak River Float and Exploration, Gates of the Arctic Park, Alaska—August 3–16. *Leader, Carol Dienger, 3145 Bandera Dr., Palo Alto, CA 94304.* The Noatak is one of the wildest rivers in the Arctic. We will be floating only the upper section, allowing ample opportunity for exploring the spectacular side valleys. The area harbors abundant wildlife: We'll have a good chance of viewing sheep, moose, bear, fox, and wolf. The trip coincides with the arctic caribou migration, and we should see large numbers of them. Late summer is a fine time to see the Arctic. Canoe proficiency is not necessary, but some paddling experience is desirable. Cost of bush plane travel is not included in the trip price.

[72] Wrangell–St. Elias Park, Alaska—August 10–22. *Leader, Russ McCubbin, 4412 Worden Way, Oakland, CA 94619.* Explore our nation's largest national park on a hike through the spectacular Chitistone Canyon. In this pristine wilderness, discover immense glaciers, unnamed peaks, remote alpine valleys, and colorful rock formations. A visit to a bush community in the park is planned. All hiking will be cross-country, covering 30 miles in nine days, with three to four days for hikes without a full pack. Expect moderate elevation gains. Cost of transportation from Anchorage to the trailhead is not included in the trip price. Leader approval required.



The magnificence of Alaska (B. Washburn)

BACKPACK

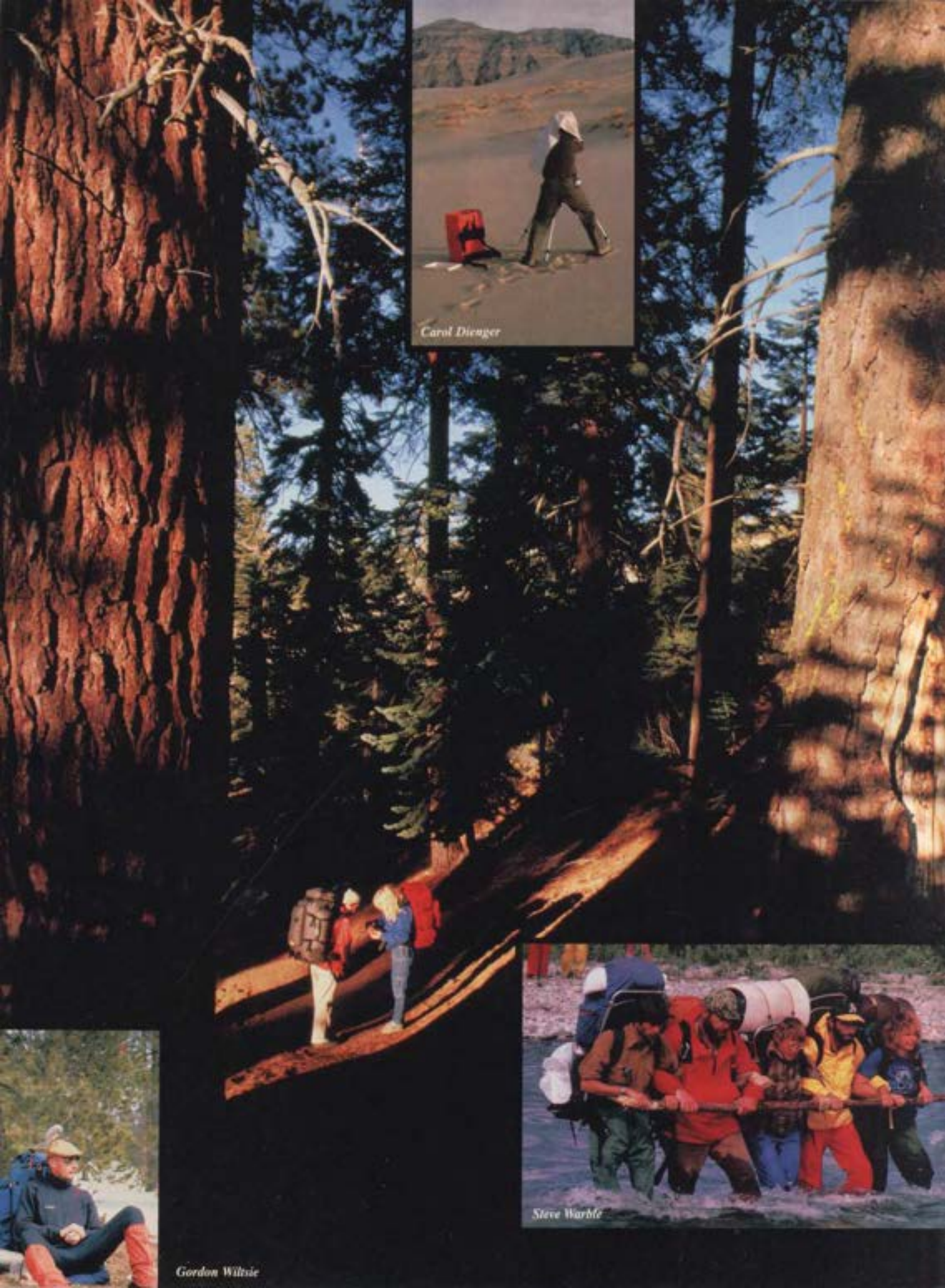
Backpack trips are an adventurous and rewarding way to experience the wilderness. Packing everything you need for the trip adds an extra dimension of freedom and satisfaction to your outing. And backpacking has another benefit: It is the least expensive way to go.

Our trips are really small expeditions. Each is individually planned by the leader, who seeks challenging routes and attempts to get off the trails and set up camp in untrampled, out-of-the-way places wherever possible. The trips almost always provide one or more layover days for relaxing or exploring.

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

Your trip leader serves as a teacher as well as a guide, and will demonstrate the ways of traveling best suited to protecting the land and making participants more aware of good wilderness manners. For example, in almost all cases we cook using stoves instead of fires.

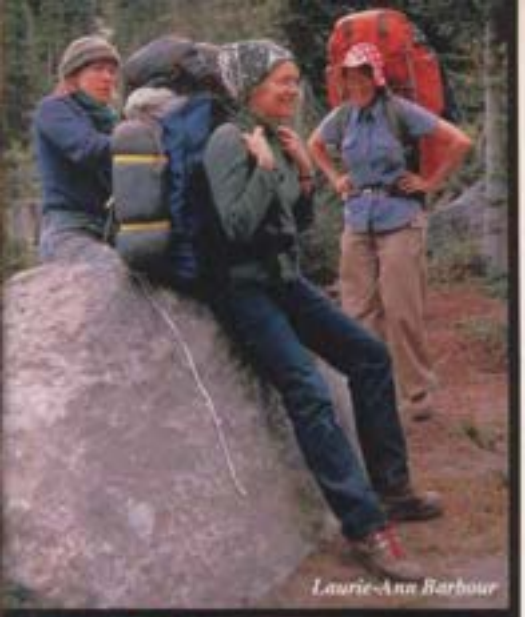
There are more than 75 backpack trips being offered this year throughout the United States. They vary greatly in length and difficulty. To help you make a selection based on your own fitness and experience, we have rated the trips in five catagories: Leisure (L) trips have fairly easy daily mileages, up to 25–35 miles in a week of four to five travel days, the remainder being layovers. Moderate (M) trips cover a longer distance, closer to 35–55 miles in a week, and may include rougher climbing and more cross-country routefinding. Strenuous (S) trips cover as many as 60–70 miles per week, with greater ups and downs and continual high-elevation

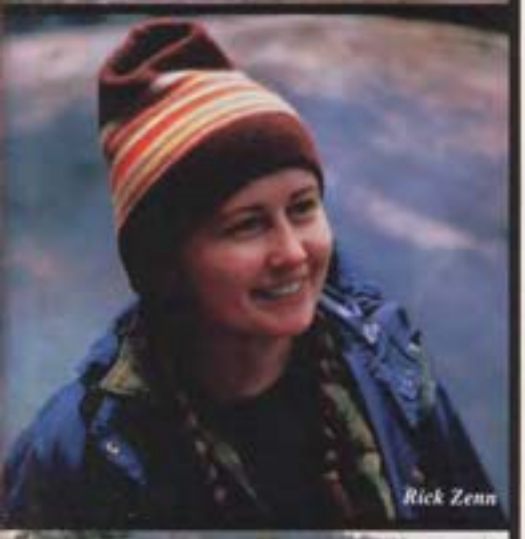


Carol Dienger

Steve Warble

Gordon Wiltsie


Laurie-Ann Barbour


Rick Zenn


Laurie-Ann Barbour

travel. Leisure-Moderate (L-M) and Moderate-Strenuous (M-S) are interim ratings. Individual trip supplements explain each trip's degree of difficulty in more detail. Peak climbing on the backpack trips is limited to Class 2, and occasional Class 3 scrambling.

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

[40] Phantom Valley, Zion Park, Utah—March 9–15. *Leader, Dave Mowry, 3848 W. Lawrence Rd., Phoenix, AZ 85019.* Explore the slickrock wilderness in this seldom-visited area of Zion National Park. We will hike through narrow side canyons and along the base of high sandstone walls. This trip is off-trail with most elevations above 6,000 feet. There is a possibility of a spring snowstorm. (Rated M-S)

[41] Galiuro Wilderness, Galiuro Mountains, Coronado Forest, Arizona—April 6–12. *Leader, Sid Hirsh, 4322 E. 7th St., Tucson, AZ 85711.* Very wild, very rugged, and still primeval—that's the seldom-visited Galiuro Mountains in southeastern Arizona. Our route is over dry, brushy ridges with brightly colored rocks on the way up, and into heavily forested canyons with running streams on the way down. We'll hike past interesting rock formations, an irresistible desert waterfall, and some old gold mines in Rattlesnake Canyon. Travel will be on difficult, overgrown trails, off-trail, and on some good trails. There are no layover days, but, except for the second and last days, there will be time to explore and enjoy. (Rated M-S)

[66] Grand Gulch Primitive Area, Utah—April 6–12. *Leader, Randy Klein, 1036 Crandall Ave., Salt Lake City, UT 84106.* Near the west edge of Cedar Mesa in southern Utah's redrock canyon country winds Grand Gulch. The trail starts at 6,400 feet and drops quickly into an immense canyon dotted with Anasazi dwellings, pictographs, and petroglyphs. Freshwater pools, dayhikes to ancient ruins, and exploring side canyons complete the trip. (Rated M)

[42] Devil's Peak, Ventana Wilderness, Los Padres Forest, California—April 18–26. *Leader, Bob Berges, 974 Post St., Alameda, CA 94501.* This circle trip out of Boucher's Gap will provide spring backpackers with a chance to warm their boots up early. It will be leisurely to moderate in difficulty with one layover day that may provide an opportunity to soak in a hot spring. The time is right for many wildflowers and long, clear views from the ridgetops. We will experience many microclimates of the wilderness. It should be too late for the rainy season and too early for really hot weather. (Rated L-M)

[43] Canyons of Navajoland, Utah—April 20–26. *Leader, Jim De Veny, 5307 E. Hawthorne, Tucson, AZ 85711.* On this exploratory trek through sandstone-dome country, we will pass through a maze of deeply incised canyons in the Navajo sandstone. This mostly cross-country trip will pass near Music Temple, Nasja Mesa, and Zane Grey's "surprise valley" on the way toward the Rainbow Bridge. The trip will begin and end by boat on Lake Powell. (Rated M-S)

[74] Paria Canyon–Vermilion Cliffs Wilderness Area, Arizona/Utah—April 21–27. *Leaders, Bob Audretsch and Susan Barbieri, P. O. Box 2090, Idaho Springs, CO 80452.* Paria Canyon and its tributary, Buckskin Gulch, are some of the most spectacular in canyon country. The canyon walls often rise to more than 1,000 feet, but are sometimes as narrow as two feet. During our 40-mile trip we will hike down through six geologic formations with colors ranging from red and brown to purple and gray. We will see numerous natural arches,

amphitheaters, pinnacles, and Indian petroglyphs. (Rated M-S)

[44] Kanab Canyon/Thunder River, Grand Canyon, Arizona—April 26–May 3. *Leader, Peter Curia, 1334 W. Willetta, Phoenix, AZ 85007.* The scenery in this area is perhaps the best that the Grand Canyon offers to the offtrail adventurer. There's the expanse of the Esplanade, the redwall narrows of Jumpup, the usually muddy but always sinuous Kanab Creek, the sculptured floor in Scotty's Hollow, the murmur of Whispering Falls, and finally, the explosive headwaters of Thunder River. The terrain is difficult and there are no layover days, but the memories that go with you are forever. *If this trip is substantially oversubscribed, a second section will be formed.* (Rated S)

[45] King Range Lost Coast and California Coastal Redwoods—April 28–May 4. *Leader, Bob Posner, 838 San Luis Rd., Berkeley, CA 94707.* This Northern California trip includes majestic coastal redwoods, spring wildflowers, spectacular isolated beaches, and the sounds of surging surf and barking sea lions. Ocean angling, stream fishing, photography, birding, and exploring Spanish and Big flats are among the many pleasures of this trip. As a last-day option we may skirt No Pass Point and trek up Chemise Mountain (2,598) for the magnificent views, or enjoy beachcombing and the meadows of Shelter Cove. (Rated L-M)

[46] Sierra San Pedro Martir, Baja California, Mexico—May 5–14. *Leader, Wes Reynolds, 4317 Santa Monica Ave., San Diego, CA 92107.* This is the highest mountain range in Baja California. From Vallecitos, a grassy meadow with pines and aspens, we will pass through boulder-strewn rolling hills and arroyos, visiting the alpine meadows of La Encantada and La Grulla. There are also oak woodlands mixed with western slope chaparral and aspects of human history to be seen. On a layover day it may be possible to see both the Pacific Ocean and the Sea of Cortez from a nearby peak. Two nights in Mexico will be at the Meling Guest Ranch in the chaparral-covered foothills of the Sierra San Pedro Martir. (Rated L-M)

[47] Nankoweap Canyon, Grand Canyon, Arizona—May 10–17. *Leader, Bert Fingerhut, 177 E. 79th St., #10, New York, NY 10021.* This trip will explore the Nankoweap Canyon area located on the north side of the Colorado River, just downriver from Marble Canyon. The terrain is difficult and off-trail hiking will be encountered, making this a strenuous trip, but there will be time to explore side canyons and Anasazi ruins. We will probably spend at least two nights along the Colorado River. (Rated S)

[48] Snowbird Wild Area, Nantahala Forest, North Carolina—May 17–24. *Leader, Bob Temple, 8357 Four Worlds Dr., #7, Cincinnati, OH 45231.* Participants in this leisurely late-spring trip will explore the swift-flowing streams, ridges, and high meadows around Big Snowbird Creek—the last native brown trout stream. This rugged, remote area just south of the Great Smokies was once the refuge of the Cherokees who escaped forced relocation to Oklahoma in 1836. We will cover 22 trail miles with plenty of time for another ten miles of optional dayhiking, swimming, enjoying the wildflowers, and relaxing. This trip is suitable for novices. (Rated L)


(Laurie-Ann Barbour)

[49] Fish and Owl Creek Canyons, San Juan Resource Area, Utah—May 25–31. *Leader, Pete Nelson, 5906 Dirac St., San Diego, CA 92122.* The Fish Creek–Owl Creek canyons near Natural Bridges National Monument cut deeply through Cedar Mesa sandstone. Cliff-dwelling ruins remain from once-numerous Anasazi settlements. Springs, cool pools with small fish, and flowing streams intersperse with dry canyon sections. We will travel cross-country into and along the bottom of deep (500-foot), narrow, scenic canyons, climbing around short sections blocked by rockfall or pour-offs. The 20-plus-mile trip distance permits us to explore cliff dwellings, natural arches, and side canyons. (Rated L)

[75] Mt. Rogers Scenic Backpack, Jefferson Forest, Virginia—June 7–14. *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. This trip offers hikers the opportunity to cross mountain ridges, wander along streams and gorges, and


Coyote Gulch, Utah—Scott Smith

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

[77] Parunauweap Canyon, Utah—June 8–14. *Leader, John Ricker, 2610 N. 3rd St., Phoenix, AZ 85004.* Parunauweap is a deep and narrow canyon cut into the Navajo sandstone of southeastern Utah. We will hike the entire length from Mt. Carmel Junction to Zion National Park. The canyon has been described as "a deep and dangerous gorge" and "like a corridor in an ancient palace leading on and on." Much of our time will be spent wading through wall-to-wall water, but with opportunities to visit interesting side canyons and cliff dwellings. The weather will be warm and the water comfortable. The total distance is short, but the winding canyon, water, and boulders make up for the short mileage traveled. The pace will be leisurely, but the trip is considered moderate. (Rated M)

[78] Gila Wilderness High Country, New Mexico—June 15–21. *Leader, Richard Taylor, Box 122, Portal, AZ 85632.* Beginning at above 9,000 feet, we'll take the Crest Trail to the aspen-trimmed meadow at 10,400-foot Hummingbird Saddle. Our journey through America's first wilderness includes a side trip to Whitewater Baldy (the highest point in the Gila) and a visit to Mogollon Baldy, one of the most remote fire lookouts in the United States. The view from these peaks embraces the headwater canyon system of the Gila River and vast tracks of New Mexico and Arizona. Elk, black bear, and blue grouse are representative of the Gila high-country wildlife that inspired Aldo Leopold. Layover days give us a chance to explore and enjoy flower-filled meadows, fern-carpeted forest, and an icy native trout stream. (Rated L-M)

[79] Hyatt Bald, North Carolina/Tennessee—June 17–23. *Leader, Jim Absher, 225 Ansley Dr., Athens, GA 30605.* This is the fifth annual "spring romp" through the Smokies. We will hike through a variety of habitats, including rhododendron and azalea in full bloom. Our goal will be to visit some of the more spectacular but less-frequented areas of the park. This trip includes one layover day, international cuisine, and afternoon swims. Trip size is limited to eight, so we will be a small, congenial group. (Rated M)

[80] Trinity Alps Leisure Loop, California—June 19–29. *Leader, Len Lewis, 2106-A Clinton Ave., Alameda, CA 94501.* Steep canyons, rugged mountains, and many lakes are the predominant features of this compact region in Northern California. Four layover days give us time to dayhike and explore some of the little-used backcountry. Fishing should be good and late-spring flowers still in bloom. While suited for the beginner, this trip will also be interesting for the experienced backpacker. (Rated L)

[81] Black Elk Wilderness, Black Hills Forest, South Dakota—June 21–27. *Leader, Faye Sitzman, 903 Mercer Blvd., Omaha, NE 68131.* Nestled between Mt. Rushmore and the grand Cathedral Spires of the Needles is the heart of the sacred "Paha Sapa." We will traverse Harney Peak (7,242), Black Elk's "Center of the Earth," enjoy the vistas from granite ridges, and camp in lush forested canyons. Exceeding the Appalachians in altitude and the Alps in age, this wilderness is generously graced with wildflowers, beaver ponds, butterflies, mushrooms, and mountain goats. Travel days average five miles and we will have one layover day. This trip is ideal for well-conditioned beginners as well as experienced backpackers who enjoy well-organized, stimulating treks. (Rated L-M)

[82] "Cloudland," Cherokee and Pisgah Forests, Tennessee/North Carolina—June 21–28. *Leader, Chuck Cotter, 1803 Townsend Forest Ln., Brown Summit, NC 27214.* The third trip of the "Appalachian Trail Odyssey" takes you to the 6,000-foot Roan Mountains, land of foggy balsam fir forests, exposed grassy ridges, and blooming rhododendron gardens. The mountains lie on the North Carolina–Tennessee border, and the Appalachian Trail traverses its main ridge. In late June the rhododendrons are in full bloom, a display unsurpassed anywhere in the Southern Appalachians. This trip offers an important opportunity for participants to learn more about the balsam fir, currently threatend by acid rain. (Rated M)

[83] Susquehannock State Forest, Pennsylvania—June 21–29. *Leaders, Erica and Len Frank, 205 W. Moore St., Hackettstown, NJ 07840.* Come and explore the "Big Susque Country," a sparsely populated area in north-central Pennsylvania. This state forest occupies 264,000 acres, mainly in Potter County. Our trail runs through forested land intersected by swift streams that provide some of the best fishing in the state. Mountain laurel will be in bloom as will many wildflowers. Wildlife is abundant; deer, beavers, foxes, hawks, and wild turkeys as well as many smaller birds and mammals may be seen. We will start near the Patterson Picnic area on Route 44 and follow the Susquehannock Trail to Ole Bull State Park on Route 144. We will be traveling over trails with relatively few steep climbs, averaging about six miles a day. The trip is suitable for beginners as well as experienced backpackers. (Rated L)


Preparing lunch while others relax, Yosemite (Charles Ford)

[84] Vermont's Green Mountains—June 22–28. *Leader, Dan Nelson, 666 Upper Merriman Rd., Akron, OH 44303.* The Green Mountains run the length of Vermont from Massachusetts to the Canadian border. We'll follow the Long Trail, starting in one of the most remote sections at Lincoln Gap. We'll travel north over many peaks, including Camel's Hump, the second highest in the state. Mileages will be moderate to compensate for the often rugged terrain. June is a good time to visit because we will encounter fewer people. Abundant wildflowers and views of the astonishingly green countryside are only part of the beauty that this trail offers. A food cache will lighten our packs. (Rated M-S)

[85] Classic Klamath Sampler, Salmon-Trinity Alps Primitive Area, California—July 5–13. *Leader, Jenny Holliday, 1170 Cloud Ave., Menlo Park, CA 94025.* Our route loops through the full range of terrain found in this unique coastal region. We hike from riparian hardwood forest in deep canyons to floral alpine meadows scattered with lakes. Along the way we will have views of the granite massifs for which the Trinity Alps were named. Two layover days will permit exploration of lakes and mining relics, fishing, or an easy peak scramble for the more ambitious. The climate is usually dry, with warm days and mild nights. Elevations will be quite low, with our highest point at 7,500 feet. (Rated L)

[86] Glacier Peak Wilderness, Stehekin Valley, Washington—July 6–13. *Leader, Rodger L. Faulkner, 645 Cedarberry Ln., San Rafael, CA 94903.* We enter the heart of the Washington North Cascade mountain range via ferry boat on 50-mile-long Lake Chelan. Our walk up Railroad Creek will introduce us to views of waterfalls, wildflowers, and lakes. At Lyman Lake, encircled by snow-covered peaks, we enjoy a sunset that will turn Lyman Glacier pink and the peaks bright rose. We travel to Cloudy and Suiattle passes on our way to the Image Lake basin for dramatic views of snow- and ice-covered Glacier Peak. Some cross-country travel takes us to the Stehekin Valley and to Agnes Creek drainage with its tall cedars. Nutritious gourmet backpacking food will be featured, and we will allow time for baking pizza and fresh bread while on-trail. (Rated M-S)

[87] Rutherford Lake, Ansel Adams Wilderness, Sierra—July 13–20. *Leader, Fred Schlachter, 7185 Homewood Dr., Oakland, CA 94611.* Rutherford Lake and nearby Anne Lake lie in the western part of the Ansel Adams Wilderness, south of Yosemite National Park. We will explore and camp at several lakes in the area, with layover days to relax, swim, or explore lakes to the west of Fernandez Pass. Our loop will take us over two 10,500-foot passes with spectacular panoramic views and to Isberg Lake for another layover day. The trip will consist of some fairly strenuous hiking days, both on trail and cross-country, separated by layover days. (Rated L-M)

[88] Around the Clark Range, Yosemite Park, Sierra—July 13–22. *Leader, Cal French, 1690 N. 2nd Ave., Upland, CA 91786.* The Clark Range: Here John Muir first discovered a living Sierra glacier, Clarence King survived one of his thrilling climbing adventures, and early Club mountaineers learned the ropes. We'll circumambulate the range, penetrating its glacial valleys and ascending its summits. Our 50-mile route begins deep in the forest just south of Yosemite and takes us high up to alpine meadows, lakes, and fell fields. Two layover days and 28 miles of off-trail travel are included. (Rated M-S)

[89] Huckleberry Lake Discovery, Emigrant Wilderness, Stanislaus Forest, Sierra—July 14–21. *Leader, John Bird, 5839 Clover Dr., Oakland, CA 94618.* The Emigrant Basin north of Yosemite National Park is a mountainous, lake-studded wilderness well-suited for this fun-filled trail and cross-country hike. Starting at Bell Meadow (6,800), we climb through high pine forest and remote meadows to the headwaters of Bell Creek, then on into the heart of the Emigrant Wilderness. We travel past dramatic peaks, idyllic lakes, and enchanting meadows. There will be time on our two layover days for peak scrambling, fishing, and sunning. Our trip ends where it began, at Bell Meadow west of Pinecrest Lake. (Rated M)

[90] Gorge of Despair, Kings Canyon Park, Sierra—July 14–23. *Leader, Jim Watters, 600 Caldwell Rd., Oakland, CA 94611.* With a name like Gorge of Despair, the trip has to be good! And it provides some unusual routes. We follow the crest of the imposing Monarch Divide from the Gorge east above a chain of seldom-seen hanging valleys. Next we visit Windy Ridge and one special lake where views into and over the Middle Fork Kings River are most striking. Later we cross three lake basins on the Cirque Crest—all overlooking the Kings South Fork. The Monarch, a transverse divide, affords a superb panorama of nearly the entire Kings River country, north and south. The trip is almost half cross-country, and involves 50 travel miles in ten days. One layover day is planned. A packer drop cuts loads the first day. (Rated M-S)

[91] Yosemite and Ansel Adams Wilderness, Sierra—July 17–24. *Leader, Howard Drossman, 921 Spaight St., Madison, WI 53703.* This trip is an excellent chance for the experienced hiker to enjoy the beautiful Ritter Range. The hike

starts from Tuolumne Meadows (8,800) in Yosemite National Park and follows the John Muir Trail over Donohue Pass (11,056) toward the Ritter Range. The trip offers 35 miles of hiking with a 5,500-foot elevation gain over four and a half hiking days. Two and a half days will be reserved for bagging any of eight surrounding peaks, including Mt. Lyell, Electra Peak, Mt. Ritter, and Banner Peak. The trip finishes at Agnew Meadows with a car shuttle back to Yosemite. (Rated M-S)

[92] Granite Peak, Absaroka-Beartooth Wilderness Area, Montana—July 18–26. *Leader, Dwight Taylor, 2 Marston Rd., Orinda, CA 94563.* Granite Peak (12,799), the highest mountain in Montana, is the monarch of the Beartooth Mountains. The Beartooth is the eastern half of the wilderness area and adjacent to Yellowstone National Park. It is a land of high beartooth-

shaped peaks, plateaus, glaciers, and unspoiled lakes. Our 40-mile odyssey will loop by the base of Granite Peak, past large lakes, and across tundra through the heart of the Beartooth. The wildflowers should be in peak bloom. We will have three layover days to explore, peakbag, and fish for lunker cutthroat trout. (Rated M)

[93] Lake George Backpack, New York—July 20–26. *Leader, Bob Dolson, 305 W. Hudson Ave., Englewood, NJ 07631.* Although Lake George is a popular Adirondack recreation area with scores of motels, hotels, and other developed facilities, the solitude of a backpacking experience can be enjoyed in the thousands of acres of woodland bordering the lake. Mountain peaks and a fire tower will provide vistas of Vermont's Green Mountains and the southern end of Lake Champlain. Our leisure backpack will be mostly on abandoned woods roads with adequate time for picture taking and side trips. (Rated L)

[94] Yosemite Park Beginner's Backpack, Sierra—July 20–26. *Leader, Suzanne Swedo, P.O. Box 48887, Los Angeles, CA 90048.* This exploration of the Ten Lakes and Grant Lakes area in the heart of Yosemite offers the novice backpacker a gentle introduction to backcountry travel. Learn about equipment, food, map and compass use, and minimum impact camping, as well as the wildflowers, animals, birds, and geological features of the area. Elevation gain is slight and the pace leisurely (about six miles per day). A layover day is provided for peakbagging, fishing, and loafing. (Rated L)

[95] High Lakes and Peaks of the Sangre de Cristo, Colorado—July 20–29. *Leader, Dave Derrick, 1916 Spring Dr., Louisville, KY 40205.* The Sangre de Cristo Range rises abruptly above the San Luis Valley and the Great Sand Dunes of southern Colorado. Our loop trip near Crestone Peak takes us into some of Colorado's most spectacular high country, camping at several lakes near 12,000 feet. Four layover days offer opportunities for wildlife observation, fishing, and treks up 13,000- and 14,000-foot peaks, including Crestone Peak and Needle, Humbolt Peak, Pico Asilado, Music Mountain, and Tijeras Peak. (Rated M-S).

[96] Stehekin—The Way Through, North Cascades Park, Washington—July 21–29. *Leader, Patrick Colgan, P.O. Box 325, La Honda, CA 94020.* The first and last days of this nine-day trip will be spent basking in the comparative luxury of a privately owned vacation ranch, deep in the heart of remote Stehekin Valley. North Cascades National Park is vast, unspoiled, and breathtakingly beautiful. Set amid glaciated peaks and steep windswept canyons, Mt. Logan rises like a snowcapped giant through the ice, waterfalls and rivers cascade through dense forests and meadows, and cougar, bear, and mountain goat abound. A couple of strenuous passes and some bushwhacking complement a layover day to bag a peak or relax. We end our wilderness experience with a glorious hot shower, a home-cooked meal, and a clean warm bed in the community of Stehekin. Strong beginners are welcome! (Rated M)

[97] Trinity Alps, Mines and Lakes, Salmon-Trinity Alps Primitive Area, California—July 19–26. *Leader, Jean Ridone, 272 Coventry Rd., Kensington, CA 94707.* Remnants of a not-so-well-known gold rush beckon to be explored in the Trinity Alps, tucked away in northwestern California. 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 exploring on our layover day. Elevations range between 3,500 and 8,000 feet, mostly on-trail. (Rated L-M)

[98] Indian Lakes Peakbagging, John Muir Wilderness, Sierra—July 25–August 2. *Leader, Vicky Hoover, 735 Geary St., #501, San Francisco, CA 94109.* The John Muir Trail will give us quick access to a remote, above-timberline area of hidden, central Sierra lake basins—Bear Lakes to Indian Lakes. Here, moderate, mostly cross-country hiking days will let us concentrate on ascents of a half dozen surrounding summits, from Seven Gables to Turret, Feather, and more. Peakbagging will turn our two layovers into strenuous ventures. (Rated M)

[99] Piute-Pinnacles Panorama, John Muir Wilderness, Sierra—July 26–August 3. *Leader, Joe Donaldson, 2073 Story St., San Luis Obispo, CA 93401.* Arriving atop Piute Pass, a panorama emerges of the central Sierra. Alpine meadows, azure lakes, and 13,000-foot peaks will be our constant companions as we encircle the serrated Pinnacles. We complete our loop via the Indian Lakes, between Seven Gables and Gemini peaks, by Merriam Lake, and through Humphreys Basin. Traveling mostly off-trail and above 10,000 feet, panoramas will be unceasing. The photographer and solitude-seeker will delight in our exploration of the alpine Sierra. (Rated M)

[100-E] Blossom Lakes Natural History, Mineral King, Sierra—July 28–August 5. *Leaders, Louise and Cal French, 1690 N. 2nd Ave., Upland, CA 91786. Instructor,*

(Tom & Faye Sitzman)

Jim French. The Sierra Nevada forms the world's largest and most aesthetically sculptured granite massif. Nature took 200 million years in raising the Sierra from the ocean depths to 14,000-plus feet. The process produced a landscape of grandeur nonpareil. Participants on this leisurely trip can see, learn about, and photograph this world of glacial valleys, tarns, matterhorn peaks, flowers, trees, and shy wildlife. Jim French, an assistant professor of botany at Rutgers University, will share his knowledge as we hike through Mineral King's gentle wilderness. Come with us and touch the granite, fish the lakes, learn the natural history, and feel at home backpacking in the "Range of Light." (Rated L-M)


(Jeff Smeding)

[101] Cloud Peak Wilderness, Bighorn Forest, Wyoming—July 31–August 7. *Leader, Faye Sitzman, 903 Mercer Blvd., Omaha, NE 68131.* Through this lake-studded alpine wilderness in north-central Wyoming, we will travel six to nine miles a day with routes and camps mostly above 10,000 feet. One or two layover days will provide time for fishing, hiking, peakbagging, photography, and wildlife observation. Spectacular views of Cloud Peak (13,165) will grace this uncrowded region. Expect excellent food, weather, and trip planning. Extensive backpacking experience is not required but participants must be energetic and in superb physical condition. (Rated M)

[102] McGee Lakes, Kings Canyon Park, Sierra—July 31–August 9. *Leader, Mac Downing, 2416 Grandview St., San Diego, CA 92110.* Our ten-day loop trip in the Evolution region north of Goddard Divide offers four layover days for relaxing, easy walks, or peakbagging. We go in on the John Muir Trail. The beautiful McGee Lakes lie in an isolated basin with the meadows, canyons, peaks, and passes of the region close by. We go out cross-country to Goddard Canyon. The total trip distance is 47 miles with 14 miles off-trail. (Rated L)

[103] Moon Lake–French Canyon, Sierra Forest, Sierra—July 31–August 9. *Leader, Phil Gowing, 2730 Mabury Sq., San Jose, CA 95133.* This leisurely exploration of upper French Canyon and Humphreys Basin is mostly on-trail with some cross-country. The fascinating, lake-studded high country skirting timberline and lying to the northwest of Mt. Humphreys will be ours to explore, fish, swim, or whatever for the duration of our stay. A packer-dropped food cache to lighten our loads and four layover days combine to make this a leisure trip, but you determine how strenuous or leisurely your layover days will be. (Rated L)

[104] High Mountain Basins, John Muir Wilderness, Sierra—August 1–10. *Leader, Diane Cook, 631 Elverta Rd., Elverta, CA 95626.* Our trip enters the Sierra at Wishon Reservoir east of Fresno, and travels to Red Mountain Basin at the foot of Hell-for-Sure Pass. We hike cross-country in the shadow of the LeConte Divide to Upper Bench Valley and then to Blackcap Basin, camping many nights above 10,000 feet. Two layover days provide opportunities to reach several 12,000-foot-plus peaks on the divide for panoramic views of the central Sierra and to fish the many lakes, take photos, or just smell the flowers. (Rated L-M)

[105] Beginner's Backpack for Women, Ansel Adams Wilderness, Sierra—August 2–10. *Leader, Carol Hake, 12830 Viscaino Rd., Los Altos Hills, CA 94022.* This trip in the exciting area east of Yosemite is suitable for beginner or experienced women eager to learn the skills to go outdoors on their own: rigging a tarp, cooking on stoves, using map and compass, and camping without leaving a trace. After an orientation day near Devils Postpile, we will travel light on a short loop that takes us off-trail wherever possible. Elevations range from 7,500 to 10,500 feet. (Rated L-M)

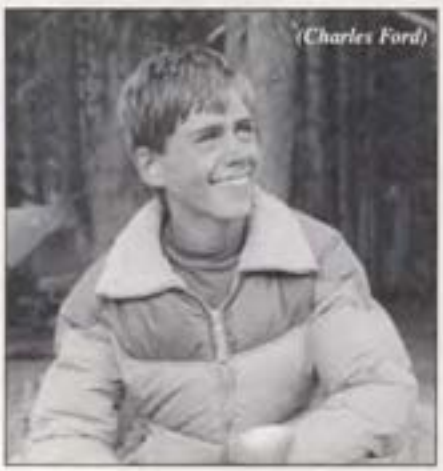
[106] Gemini Loop, John Muir Wilderness, Sierra—August 2–10. *Leaders, Leslie and Gary Young, 10125 Wise Rd., Auburn, CA 95603.* West of Bishop lies Pine Creek, our entrance into the Sierra. Our ultimate goal is to explore two remote lake basins. The first four days will cover the climb to the divide and a cross-country hike through open highlands. Every camp is above 10,000 feet as we travel over green meadows, creeks, and occasional snow patches. This is a moderately strenuous trip, but our remote and seldom-visited destination will make it all worthwhile. (Rated M-S)

[107] New Fork Lakes Leisure Loop, Bridger Wilderness, Wyoming—August 2–11. *Leader, Dave Bennie, P.O. Box 9107, Wrightsville Beach, NC 28480.* We will explore the glaciated canyon of the New Fork River and part of its alpine headwaters at elevations ranging from 8,000 to 11,500 feet. The fishing here is


(Scott Smith)

excellent. Two easy days at the beginning of the trip allow altitude acclimatization. A nontechnical hike up to Glover Peak will highlight one of two layover days. Some cross-country travel above timberline adds a sense of wilderness. This trip is suitable for novices in good physical condition. (Rated L)

[108] Hunter-Fryingpan Wilderness, Colorado—August 3–9. *Leader, Fred Gunckel, 2111 New York Ave., SW, Albuquerque, NM 87104.* Photography in one of Colorado's newest wilderness areas is the focus of this trip scheduled for the normally clear and sunny days of early August. Every aspect of the trip from breaking camp to scheduling kitchen duties is planned so trip participants will have


(Charles Ford)

the opportunity to capture the splendor of the Rockies in the best light. At least one layover day is planned. Nonphotographers are also welcome. (Rated M)

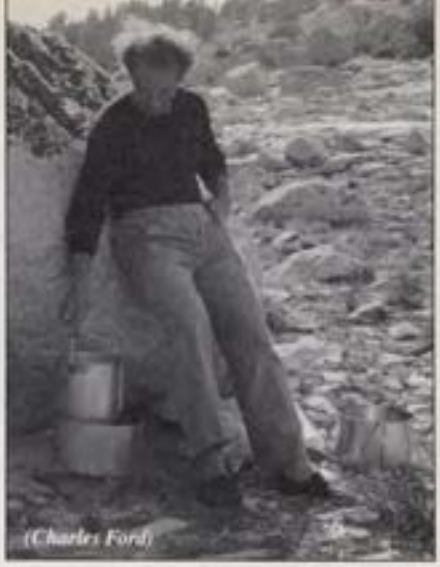
[109] Collegiate Peaks, San Isabel Forest, Colorado—August 3–9. *Leader, Al Ossinger, 12284 W. Exposition Dr., Lakewood, CO 80228.* The Sawatch Range of the Colorado Rockies is a north-south spine that includes 15 peaks over 14,000 feet, all of which offer gentle routes to the summits. The middle portion of this range includes the Collegiate Peaks near the town of Buena Vista. Trails along North Cottonwood Creek lead to Horn Fork Basin and Kroenke Lake, two base camps for easy ascents in the area, including Mt. Harvard (14,420) and Mt. Yale (14,196). The trip will be conducted at a very moderate pace. The trip culminates at the Mt. Princeton Hot Springs.(Rated L-M)

[110] Triple Divide Peak Leisure Loop, Southern Yosemite, Sierra—August 4–12. *Leaders, Lois and Walt Goggin, 18836 Lenross Ct., Castro Valley, CA 94546.* This unhurried exploration of southern Yosemite will retrace John Muir's discovery of his first Sierra glacier and take us over Yosemite's highest pass at 11,180 feet. The trip will offer a variety of high-country forest, lake, and alpine environments, as well as classic mountain scenery. Three full layover days will permit fishing, dayhiking, peakbagging, and picture taking. Most of the approximately 45 miles will be on-trail. (Rated L)

[111] Sixty Lake Loop, Kings Canyon Park, Sierra—August 5–14. *Leader, Bill Walsh, 2531 Prestwick Ave., Concord, CA 94519.* Circling the King Spur, we travel into the greatest single block of unbroken wilderness in the southern Sierra. We visit the Sixty Lake Basin, traverse a stretch of the Sierra Crest, and pass the dominating landmarks of the Kearsarge Pinnacles, Fin Dome, Castle Dome, and the Sphinx. Traveling entirely on-trail, with a midpoint food drop and three layover days, we will enjoy unhurried exploration of the high country. The views from Glen Pass (11,978) will long be remembered. (Rated L-M)

[112] Pacific Crest Trail, McGee Creek to Tuolumne Meadows, Sierra Forest, Sierra —August 9–17. *Leader, Jim Carson, 706 Wildcat Canyon Rd., Berkeley, CA 94708.* After crossing McGee Pass (11,900) into the Silver Divide, our group will join the Pacific Crest Trail at Tully Hole. This 72-mile section of trail is noted for its lush meadows, open vistas, and extensive stands of foxtail pine. Highlighting the trip will be the geologically unique formations of Devils Postpile and the Minarets. Also featured are an extensive variety of deep, colorfully glaciated lakes with good fishing. Our layover day is scheduled for Reds Meadow, where Rainbow Falls and a hot spring await. A food drop has been arranged, and the menu features a popular modified natural food diet. (Rated M-S)

[113] Miter Basin, John Muir Wilderness and Sequoia Park, Sierra—August 10–17. *Leader, Jim Gilbreath, 7266 Courtney Dr., San Diego, CA 92111.* Miter Basin, a few miles south of Mt. Whitney, is one of several eastern Sierra high canyons we'll visit. Here at the headwaters of Rock Creek, Sky Blue and Iridescent lakes lie at the foot of the Miter. Up here, it's still springtime in August, and three layover days will give us ample time to enjoy the wild-


(Charles Ford)

flowers. Mt. Langley (14,042), Mt. Whitney (14,495), and numerous Class 2 and 3 climbs will appeal to peakbaggers. We'll be camping above 11,000 feet, with 11 cross-country miles out of 36 miles total. Photographers, bring your gear! This trip is not for beginners; talus experience is necessary. (Rated M).

[114] Koip-Kuna Crest Peakbagging, Yosemite Park, Sierra—August 10–17. *Leader, Frannie Hoover, 6000A Avila, El Cerrito, CA 94530.* From Dana Meadows we will cross several scenic passes on our way to a meadow base camp (10,480) beneath Mt. Donohue (12,023) and Mt. Lyell (13,114). On the way we will bag Koip Peak (12,979) and Parker Peak (12,861). From our camp, day treks of Banner Peak (12,945), Mt. Ritter (13,157), and Mt. Davis (12,311) will be offered. Peakbagging, photography, and sweeping views of the Minarets and Koip and Kuna crests are the highlights of this trip into a rugged area of Yosemite. Your enthusiasm is much more important than experience. (Rated M-S)

[115] Silver Divide, John Muir Wilderness, Sierra—August 10–17. *Leader, Andy Johnson, 206 Demontfort, San Francisco, CA 94112.* This eight-day trip will take enthusiastic hikers into several remote places within the John Muir Wilderness. Highlights include a trudge up Red Slate Mountain (13,163), a layover day at scenic Cecil Lake, two cross-country passes, and an atmosphere of relaxed familiarity. Participants should be in good shape and have taken at least one prior backpack trip. Total distance traveled will be 35 miles. The emphasis of the trip will be on enjoying ourselves and learning about the Sierra in a way that has high impact on us and low impact on the places we visit. (Rated M)

Kolob rest stop, Utah (Steve Ottinger)

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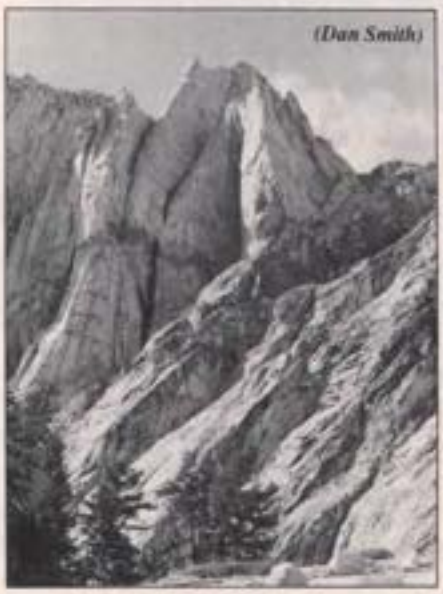
[116] Peakbagging in Evolution Country, Kings Canyon Park, Sierra—August 11–20. *Leader, John Ingvoldstad, 2235 McLaughlin Ave., #1, San Jose, CA 95122.* This trip provides an opportunity to try peaks in the vicinity of Evolution Basin, a region that is one of the most beautiful and rugged in the Sierra. The blend of Class 2 and 3 climbs are well suited to both the beginning and experienced peakbagger. Planned peaks include Agassiz, Charybdis, Darwin, and Lamarck, all above 13,000 feet. We enter Kings Canyon Park at Bishop Pass and exit at Lamarck Col. Every other day is a layover day. (Rated M)

[117] Mineral King Lakes, Meadows, and Passes, Sequoia Park, Sierra—August 13–21. *Leader, Joe Davis, 10543 Odessa Ave., Granada Hills, CA 91344.* To the south, east, and north, Mineral King is surrounded by scores of lakes and meadows nestled on the mountain slopes. Our trip will take us through several of these meadows and over Shotgun and Sawtooth passes as we loop 47 miles to four different lake basins. The terrain will vary from alpine forests to open slopes above timberline. Layover days at Blossom Lakes and Columbine Lake will allow options for swimming, fishing, exploring, peak scrambling, or just loafing. (Rated L-M)

[118] Gardiner Basin, Kings Canyon Park, Sierra—August 13–22. *Leader, Bill Engs, Drawer 4248, Crestline, CA 92325.* The panorama of rugged peaks and sparkling lakes constantly changes as we move through four major valleys just west of the Sierra Crest. A high roadhead gives us easy access to the less frequented Sixty Lake Basin, and the more remote Gardiner Basin. Half of our 40-mile total will be cross-country hiking. Shorter days of two to eight miles and one layover day allow time for exploration, photography, or fishing. Camps will be lakeside at about 11,000 feet. (Rated M)


(Dan Smith)

[119] The Sierra High Route, Yosemite Park, Sierra—August 16–22. *Leader, Carol Shapiro, Box 1204, Davis, CA 95612.* This fast-paced peakbagging trip offers outstanding scenery from the Sierra Crest. Slate and talus cross-country travel retrace Steve Roper's timberline alternative to the John Muir Trail within the park. Layovers and optional peak days can reduce the difficulty of this moderately strenuous trip. Expect good alpine fishing and solitude. (Rated M-S)

[120] High Peaks Traverse, Glacier Peak Wilderness, Wenatchee Forest, Washington—August 16–24. *Leader, Mary Sutliff, 11326 2nd, NW, Seattle, WA 98177.* Our trip is located in the southeast section of the Glacier Peak Wilderness in Washington's rugged Cascade Mountains. We will travel east to west, partly on trails and partly cross-country, as we cross four high ridges and four deep valleys, including the fabled Napeequa. Highlights will include Seven Fingered Jack, Fortress, and Buck mountains. This trip will be a challenge for the experienced backpacker. (Rated S)

[121] Cottonwood Lakes Leisure, Golden Trout Wilderness and Sequoia Park, Sierra—August 17–23. *Leader, Hal Fisher, 6111 Baltimore Dr., La Mesa, CA 92041.* Starting on the east side of the Sierra south of Mt. Whitney, we will make a 24.5-mile loop in the Sequoia National Forest and Golden Trout Wilderness. We start at 9,600 feet and vary up to 12,000 feet with an optional hike up Mt. Langley at 14,000 feet on a layover day. There will be opportunities for photography, fishing, and exploration in one of the most scenic areas of the Sierra. (Rated L)

[122] Yosemite's Scenic Magnificence; A Beginner's Backpack for Women—August 17–23. *Leader, Carolyn Steinmetz, 96 Hawthorne Ave., Los Altos, CA 94022.* Discover the joy of backpacking on this women's introduction to the grandeur of Yosemite National Park. We will follow the John Muir Trail through high mountain meadows lush with wildflowers and crystal-clear streams, pass breathtaking granite slopes polished smooth by ancient glaciers, ascend world-famous Half Dome for an incomparable view of Yosemite Valley, and walk alongside the Merced River as it cascades into waterfalls, creating rainbows of memories of our week in the wilderness. You will develop self-confidence in the wilderness by learning many skills: packing your gear, cooking on stoves, setting up a tarp or tent, crossing streams, reading a map, and having minimal impact on this glorious part of the Sierra. Elevations range from 7,000 to 10,000 feet. Distances will be short with ample time for nature study and photography. (Rated L-M)


(Gordon Gallahorn)

[123] String of Pearls, Kings Canyon Park, Sierra—August 18–26. *Leaders, Marilyn and Dan Smith, 817 Lexington Ave., El Cerrito, CA 94530.* Strung like pearls along the Palisades, the rugged, beautiful alpine lakes of Kings Canyon National Park are our destination. Our route will take us from the east side of the Sierra to well above timberline on portions of the Sierra High Route and the original John Muir Trail. The trip will include a good mix of trail and cross-country backpacking. A layover day and some short moving days will allow time for peakbagging and exploration. Our itinerary is planned for those who enjoy the untracked high country of the southern Sierra. (Rated M-S)

[124] Middle Fork of the Kings, Kings Canyon Park, Sierra—August 21–30. *Leader, Gordon Peterson, 222 Royal Saint Ct., Danville, CA 94526.* The Middle Fork of the Kings River flows through a beautiful 15-mile canyon north of the Monarch Divide. Because it is isolated, the canyon is

seldom visited; yet it has many attractions, including the remains of early mining activity in Little Tehipite Valley, the bare granite walls of Slide Bluffs, and the native trout in its many large pools. We plan a scenic loop over the Monarch Divide that will include some interesting cross-country travel. (Rated M)

[125] Milestone Basin, Sequoia–Kings Canyon Parks, Sierra—August 22–31. *Leader, David Reneau, 330 Nimitz Ave., Redwood City, CA 94061.* On this ten-day open loop we will explore the alpine lake basins and peaks of the Kings-Kern and Great Western divides. From Onion Valley we pass over colorful Kearsarge Pass

Skiing cross-country in the early fall snow, Desolation Wilderness, Calif. (Charles Hardy)

(11,823) to the Kearsarge Lakes. We then travel down Bubbs Creek and over the Kings-Kern Divide to the sparkling lakes at the headwaters of the Kern River. Total hiking distance will be 50 miles, including 15 miles of cross-country travel. Two and a half layover days in Kern and Milestone basins will allow time for nature study, fishing, relaxation, and views from nearby peaks. (Rated M-S)

[126] Sequoia Lakes and Canyons, Sequoia Park, Sierra—August 29–September 6. *Leader, Don Lackowski, 2483 Caminito Venido, San Diego, CA 92107.* This trip provides a comprehensive tour of south-central Sequoia National Park featuring the Great Western Divide and Kaweah Peaks, spectacular deep canyons, and scenic high lake basins. Included are the Kern Canyon and Big Arroyo and the Big and Little Five Lake basins. A refreshing visit to Kern Hot Springs and two layover days are planned. Photography and fishing prospects are excellent. (Rated M)

[127] Baxter State Park, Maine—August 31–September 6. *Leader, Allan Blair, 20 Linden Ln., Plainsboro, NJ 08536.* "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, written 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 with unpredictable weather will demand good physical condition and proper equipment, but not necessarily extensive experience. (Rated M-S)

[128] Tahoe Rim Trail, West El Dorado Forest, Sierra—September 4–10. *Leader, Serge Puchert, 1020 Koontz Ln., Carson City, NV 89701.* Starting from Echo Lake and ending at Donner Pass, this seven-day, 60-mile backpack will follow the Pacific Crest and Tahoe Rim trails, hitting high points of the beautiful Desolation Wilderness. This off-season trip is ideal for experienced hikers and beginners in good shape who want to become thoroughly acquainted with this beautiful area. A car shuttle is required. (Rated M)

[129] "O Be Joyful," Gunnison Forest, Colorado—September 6–13. *Leader, John Lutz, 11563 Lillis Ln., Golden, CO 80403.* The aspen will be turning gold as we begin our trip up the east side of the Ruby Range. Our journey will take us from the alpine heights of 12,000 feet down through Gold and Silver basins, past huge stands of aspen, and out by way of Dark Canyon with its large ferns and rushing creek. A moderate pace and daily distances combined with two layover days will allow us time for side trips and quiet personal time. Come share the best of Colorado, and bring your camera. (Rated L-M)

[130] Joe Devel Peak Loop, Inyo Forest, Sierra—September 7–13. *Leader, Bob Madsen, 3950 Fernwood Way, Pleasanton, CA 94566.* Just below Mt. Whitney the two high basins of Miter and Crabtree lakes lie on the Sierra Crest. We will explore these on layover days. This late-season trip around Joe Devel Peak will include only five hiking days of up to 12 miles each and elevation gains of less than 3,000 feet each day. (Rated M)

[131] Medley Lake, John Muir Wilderness, Sierra—September 13–21. *Leader, Paul Cavagnolo, 19170 Old Vineyard Rd., Los Gatos, CA 95030.* Our Indian Summer trip ranges from the forested floors of U-shaped valleys to rockbound lakes above timberline. We plan to explore the headwaters of Bear Creek from Rosemarie Meadow to the musical medley of Flat Note, Sharp Note, and Medley lakes and to the Bear Lakes Basin. There will be layover days to bag peaks, fish for golden trout, explore other lake basins, or just relax. Seven Gables (13,075) offers an exceptional view of the Sierra. Mono Hot Springs, close to our trailhead, offers a soothing soak before the journey home. (Rated M)

[132] Adirondack Fall Colors, New York—September 21–26. *Leaders, Craig Caldwell and Jeanne Blauner, 12028 Gaylord Dr., Cincinnati, OH 45240.* The 2.5-million-acre forest preserve of Adirondack State Park should be wearing its fall finery during our trip. We will travel about 35 miles on the Northville–Lake Placid Trail and into the high peaks area (46 of them over 4,000 feet), which includes Mt. Marcy (5,344). Our camps will be by the beaver ponds and streams that turn into the Hudson River. (Rated M-S)

[133] Navajo Mountain/Rainbow Bridge, Arizona—September 21–27. *Leader, Nancy Wahl, 325 Oro Valley Dr., Tucson, AZ 85704.* Navajo Mountain dominates the landscape of the Navajo Indian Reservation in northern Arizona. Around the base, magnificent sandstone canyons of dazzling form and color, slickrock vistas, amphitheaters, sparkling creeks, and evidence of ancient Indian dwellers await the hiker. The area is a photographer's delight. Time is alloted for exploration. (Rated M)

[300] Capitol Reef, Utah—September 27–October 4. *Leaders, Lynn Krause and Susan Groth, P.O. Box 398, Many Farms, AZ 86538.* For 75 miles, Waterpocket Fold divides southern Utah in two. Formed as layers of sandstone warped into a magnificent fold in the earth's crust, these canyons and ridges offer adventurers a work of stark, scoured rock and occasional streams and forests. Our unhurried exploration of the fold will allow time for photography and optional slickrock scrambling. Because the availability of water is uncertain, we will carry all water with us. To reduce weight, the trip is divided into three overnight backpacks totaling 40 miles and one 11-mile dayhike. We will be hiking on sandy level washes and over slickrock as well as on maintained trails. (Rated M)

[301] Gila Wilderness, New Mexico—September 28–October 4. *Leader, George Mader, 8704 Catalpa Ln., El Paso, TX 79925.* Located near Glenwood, N.M., this part of the Gila Wilderness is heavily forested and sparsely visited. We will backpack four days and follow Whitewater Creek downstream, starting at 8,000 feet and ending near 6,000 feet. Before and after the backpack, we will car-camp for three days, visiting old mining sites, a ghost town, and ancient Indian ruins. Those with at least some weekend backpack experience will enjoy this taste of real wilderness combined with historical interests. (Rated M)

View of Mt. Humphreys, Sierra—Sue J. Eisele

[302] Kanab Creek/Deer Creek/Thunder River, Grand Canyon, Arizona—October 4–12. *Leader, Bert Fingerhut, 177 E. 79th St., #10, New York, NY 10021.* In terms of variety and sheer canyon beauty, this North Rim trip combines about the best that the Grand Canyon has to offer. We will encounter spectacular waterfalls, narrow side canyons, hanging flower gardens, and great swimming pools. Our hike starts down Kwagunt Hollow to Jumpup Canyon and then follows Kanab Creek to the Colorado River. We will spend two nights at different spots along the Colorado River before starting our ascent across Surprise Valley. A side excursion to Tapeats Creek is also possible. (Rated S)

[303] Picacho del Diablo, Sierra San Pedro Martir Range, Baja California, Mexico—October 11–18. *Leader, Bob Hartman, 1988 Noble St., Lemon Grove, CA 92045.* Rising 10,000 feet above the Santa Clara desert and separated from the Sierra San Pedro Martir plateau by an enormous chasm, Picacho del Diablo is the highest peak in Baja California and one of North America's most pronounced escarpments. Twenty miles of boulder-hopping, scrambling, and wading up Diablo Canyon will put us at the base of the peak. The ascent of the summit, which affords views of both the Pacific and the Sea of Cortez, will cap this strenuous mountaineering expedition. (Rated S)

[304] Southern Utah Slickrock Canyons—October 11–18. *Leader, Don McIver, Box 923, Star Route 2, Cavecreek, AZ 85331.* Southern Utah's slickrock country near Zion National Park offers unique backpacking amid clear streams, narrow canyons, and sandstone peaks of unrivaled beauty. Exceptionally remote, this area is seldom visited by even the hardiest backpacker. Strong hikers are encouraged to participate in routefinding and exploration. Expect clear, warm days and cool, dry nights with elevations up to 6,500 feet. This is definitely a trip for the adventurous. (Rated S)

JUNIOR BACKPACK

Share the wilderness with other young backpackers! Guided by competent and experienced leaders who enjoy young people, participants hike the backcountry, bag peaks, travel off-trail, and learn wilderness camping skills. As with regular backpack trips, 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 a fair share of community gear and food. Parents are requested to assist with transportation to the roadhead and home again. Please refer to the Backpack Trips introduction for a definition of the trip difficulty rating.

[135] Tablelands, Sequoia Park, Sierra—August 16–22. *Leader, Ellen Howard, 521 Francisco St., San Francisco, CA 94133.* Exploring this select portion of the southern Sierra, we'll visit woods, meadows, lakes, and vast rock-strewn stretches near timberline. Our route via trail and easy cross-country includes a sampling of adventurous ridge crossings with wonderful views of the surrounding high peaks. Some short moving days and one layover day will provide time for relaxing, fishing, and possibly peakbagging. A packer's spot cache will assist us the first day. This trip is for backpackers age 13–15. (Rated M)

BASE CAMP

Base camp trips offer a wide range of wilderness activity in an exciting variety of natural settings. Common to all trips is a camp that serves as the base of operations for overnight backpacking, fishing, photography, ecological study, or simple nature walks in the surrounding wilderness. Some activities are organized, but the choice of whether or not to participate is left to each individual. Many trips include a naturalist on the camp staff.

Trips usually begin with dinner at the roadhead. The following day, up to 25 pounds of dunnage per person is transported from roadhead to camp while the trip members hike in. Camp is set up on 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 instructions and aid from the camp staff.

Base camp trips vary with the locale of the trip. For example, in the Southeast, base camp trips never use mules, but set up after a short hike into the wilderness. Some trips stay in lodges or cabins instead of camping. The following 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 seek a rigorous program of wilderness activity in relative isolation. Cross-country hiking and overnight backpacking are popular.

BASE CAMPS: Especially suited for newcomers and family groups, the hike into camp 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's more a do-it-yourself camp in which 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' cars are used for side-trip transportation. Activities mainly consist of dayhikes to points of scenic and historic interest.

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

[26-E] Arroyo San Pablo, Sierra San Francisco, Baja, Mexico—January 27–February 7. *Leader, Daniel Plambeck, 1171 Virginia St., Berkeley, CA 94702. Anthropologist, Roger Newman.* Along goat trails and portions of Camino Real, we climb 1,700 feet and descend 2,000 feet to two base camps in the deeply eroded arroyos of volcano San Francisco. Among palms and pools of water our *vaquero* guides lead us to shallow caves vividly painted with giant, ancient representations of humans and hunted animals. A visit to famous Gardner Cave is featured. Interviews with mission descendants, Baja's unique desert ecology, and spectacular scenery make this a memorable trip to a rarely visited region.

Taking a break from hiking, Black Elk Wilderness, South Dakota (Annette Jones)

[29] East Mojave Scenic Area, California—March 22–29. *Leader, Joanne Barnes, 960 Ilima Way, Palo Alto, CA 94306.* Spring vacation provides us with a perfect opportunity to visit the desert region between Death Valley National Monument and Joshua Tree National Monument,

which contains more than 20 proposed wilderness areas. There will be leisurely to moderate dayhikes to 600-foot sand dunes, caverns, canyons, cinder cones, volcanic spires, mesas, and petroglyphs. Visiting naturalists and local desert experts will be joining us throughout the week.

[28] Rogue River Trail Lodges Base Camp, Oregon—March 23–29. *Leader, c/o Bill Gifford, 3512 NE Davis, Portland, OR 97232.*

[32] Rogue River Trail Lodges Base Camp, Oregon—April 27–May 3. *Leader, c/o Bill Gifford, 3512 NE Davis, Portland, OR 97232.*

[39] Rogue River Trail Lodges Base Camp, Oregon—June 1–7. *Leader, c/o Bill Gifford, 3512 NE Davis, Portland, OR 97232.* Starting near Agness, we will hike two days along the Rogue River Trail, about six miles each day, staying overnight at a wilderness lodge. Our gear will be carried by boat. The second day we will reach Half Moon Bar Lodge, where we will spend the next four nights. Here we can relax, dayhike along the river, fish, and enjoy the peace of the wilderness and the lodge's marvelous food. The last two days we will hike back along the river trail, stopping again at a lodge. This trip features easy hiking and plenty of time for relaxation. A naturalist will accompany us and lead field trips to discuss the flora and fauna of the canyon.

[33-E] Zion/Bryce Photo Base Camp, Utah—May 2–9. *Leader, Dolph Amster, P.O. Box 1106, Ridgecrest, CA 93555. Instructor, Martha Murphy.* Savor and photograph nature's colors at their brilliant, contrasting best. From our base camp at Zion National Park, we'll experience spring on dayhikes within the park and on daily car shuttles to Bryce Canyon, Cedar Breaks, and Kolob Canyon. Weather permitting, we will be able to explore the Zion Narrows and its side canyons on an overnight trip. Our hikes will be leisurely to accommodate the interests of photography buffs. This is a trip to satisfy the senses and provide lingering memories.

(Annette Jones)

(Lloyd Hoyle)

[35] Rogue River Trail Wilderness Lodges, Oregon—May 12–17. *Leader c/o Bill Gifford, 3512 NE Davis, Portland, OR 97232.*

[38] Rogue River Trail Wilderness Lodges, Oregon—May 28–June 2. *Leaders, Susanna and Jim Owens, P.O. Box 5, Agness, OR 97406.*

[138] Rogue River Trail Wilderness Lodges, Oregon—June 4–9. *Leaders, Susanna and Jim Owens, P.O. Box 5, Agness, OR 97406.* Come 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 our trail along the river. We will stay in rustic wilderness lodges each night with all the comforts of home—clean beds, hot showers, and fabulous hearty meals. Two layover days will be spent at Half Moon Bar Lodge, where we can enjoy the beauties of spring and the abundant wildlife of the Rogue River Canyon. Support services will be provided by an authorized Rogue River outfitter.

[137] Canyonlands–Colorado Plateau, Arizona—May 17–26. *Leaders, Carolyn and Bob Marley, 1931 E. Duke Dr., Tempe, AZ 85283.* Originating in Phoenix, we will travel by van to establish a moving base camp on the Colorado Plateau (northern Arizona and eastern Utah), visiting Navajo National Monument, Monument Valley, Bridges National Park, Canyonlands National Park (Needles and Island in the Sky), and Arches National Park. Each day will be spent van camping, dayhiking, sightseeing, and preparing gourmet western meals. We will hike five to ten miles daily, seeing sights such as Betatakin Anasazi Ruins, Bridges Trail, Chesler Park, the Confluence Overlook, and Upheaval Dome. This is your kind of trip if Indian history, vast slickrock scenery, and out-of-the-way places interest you.

[37] Spring in Canada's Coast Mountains, Tweedsmuir Park, British Columbia—May 26–June 1. *Leader, Dennis Kuch, Tweedsmuir Park, Box 10, via Bella Coola, British Columbia, Canada V0T 1C0.* While the peaks above are still blanketed with snow, the deep, glacier-carved valleys of the Coast Range spring to life with blossoming orchids and nesting eagles. Based at the rustic and comfortable Tweedsmuir Lodge in the Atnarko Valley, we will make daily forays into the valley

and surrounding Tweedsmuir Park: a leisurely introduction to springtime in Canada's Coast Range wilderness.

[139] Rogue River Wilderness Lodges, Oregon—June 15–20. *Leader, c/o Bill Gifford, 3512 NE Davis, Portland, OR 97232.*

[140] Rogue River Wilderness Lodges, Oregon—July 5–10. *Leader, c/o Bill Gifford, 3512 NE Davis, Portland, OR 97232.*

[149] Rogue River Wilderness Lodges, Oregon—August 3–8. *Leader, c/o Bill Gifford, 3512 NE Davis, Portland, OR 97232.*

[155] Rogue River Wilderness Lodges, Oregon—September 13–18. *Leader, c/o Bill Gifford, 3512 NE Davis, Portland, OR 97232.* 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, with a raft to carry gear, spending one night each at Clay Hill and Illahe lodges 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.

[141-E] Thousand Island Lake Photography, Ansel Adams Wilderness, Sierra—July 5–12. *Leader, Howard Drossman, 921 Spaight St., Madison, WI 53703. Instructor, Randy Silver.* Southeast of Yosemite National Park lies one of the most spectacular wilderness areas in the Sierra Nevada. Our base camp between Thousand Island Lake and Garnet Lake (at 10,000 feet) will be the focal point of activity for photography lessons featuring early wildflowers, scenic lakes, and the beautiful Ritter Range. Supplementing our photography instruction will be dayhikes and fishing opportunities. Photography enthusiasts of all levels of skill are encouraged to join us.

Fly-fishing for trout on the Highland Creek, Sierra (Charles Hardy)

[142] Stehekin Valley, North Cascades, Washington—July 13–19. *Leader, c/o Bill Gifford, 3512 NE Davis, Portland, OR 97232.*

[154] Stehekin Valley, North Cascades, Washington—September 7–13. *Leader, Ed Honton, 1719 Eddystone Ave., Columbus, OH 43224.* Stehekin, the "Enchanted Valley," is reached by a 50-mile ferry ride up the inland fjord of Lake Chelan, a 6,000-foot rift in the North Cascades. We will stay in rustic cabins on the Courtney Ranch 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 and waterfall-shrouded Horseshoe Basin. Meals will be delicious, homemade, and family-style. Optional activities include horseback trail rides and raft trips. This trip is suitable for families, couples, and singles of all ages.

[143] Waugh Lake, Inyo Forest, Sierra—July 17–26. *Leaders, Julie Davies and Tom Busch, 2600 P. St., Sacramento, CA 95816.* Our roadhead on the June Lake loop is on the precipitous eastern slope of the Sierra. Our base camp is at the head of Waugh Lake (9,400), nine miles and 2,200 feet up the canyon of Rush Creek. Above our camp, the headwaters of Rush Creek tumble from the heights of nearby Mt. Lyell and the Ritter Range. The John Muir Trail affords us two routes to the western slope: to the southeast over Island Pass into the Thousand Island Lake basin, and to the northeast over Donohue Pass into the Yosemite backcountry. Opportunities for overnights, peakbagging, and dayhiking abound. Activities will be geared to the desires of the group.

[144] Summer in Canada's Coast Mountains, Tweedsmuir Park, British Columbia—July 28–August 3. *Leader, Dennis Kuch, Tweedsmuir Park, Box 10, via Bella Coola, British Columbia, Canada V0T 1C0.* On the central coast of British Columbia, Tweedsmuir is the province's largest and least-known park. Based at comfortable Tweedsmuir Lodge, we will explore the surrounding park on leisurely hikes along the Atnarko River to alpine meadows in full bloom and to the ocean fjord of Bella Coola. Residents of the area will provide a unique and intimate introduction to this historic part of Canada.

[145] Glacier Divide Alpine Camp, John Muir Wilderness, Sierra—July 28–August 5. *Leader, Sue J. Estey, 1008 Henderson Ave., Menlo Park, CA 94025.* Golden trout, whitebark pines, and glacier-blue lakes await us. Our camp will be close to timberline at about 10,700 feet. The nine-mile hike in from North Lake (9,400) follows the North Fork of Bishop Creek past Mt. Emerson to Piute Pass (11,400). We will have a week in the high basin defined by the solitary height of Mt. Humphreys and the peaks of Glacier Divide. More than a hundred lakes and pools invite exploration, and we can scramble up some of the nearby peaks, photograph the alpenglow on the Sierra Crest, identify mid-season wildflowers, or drop down into the lower pine forests for an overnight trip.

Cooperation and good balance are needed to put up a tarp. (Steve Warble)

[146-E] Donner-Tahoe Exploration, Sierra—August 2–9. *Leader, Marjorie Broussard, 507 Laurel Ave., Menlo Park, CA 94025.* Discover the history and beauty of the western Sierra from our base at Clair Tappaan Lodge, two miles west of Donner Pass. Follow the Donner Party route along hidden lakes and granite outcroppings characteristic of the Donner-Tahoe Basin. Daily hikes and an overnight will offer us both easy and moderate trips, making this outing suitable for families, couples, and singles of all ages. Instruction by guest experts in photography, history, and geology will be available.

[147] Rangeley Lakes, Maine—August 2–9. *Leader, Bob Holcomb, 819 Fairway Dr., Waynesboro, VA 22980.* The Rangeley Lakes region, which consists 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 four.

[148] Golden Creek, Sierra—August 2–10. *Leader, Betty Watters, 600 Caldwell Rd., Oakland, CA 94611.* This wilderness experience begins at our campsite on Golden Creek (9,600) in the Mono Recess country. We'll be within easy hiking distance of all four recesses, Pioneer Basin, five 12,000-foot peaks, and the crest of the Sierra, yet we're only seven and a half miles and 1,600 feet of elevation gain from our cars at the end of Rock Creek Road. You can be assured of ample opportunity to sit around and watch tadpoles in a brook or minerals on a peak. And, of course, there will be bountiful buffets.

[150-E] Historical Meadow Lake, Tahoe Forest, Sierra—August 10–16. *Leader, Serge Puchert, 1020 Koontz Ln., Carson City, NV 89701.* This history-oriented base camp will be located in the heart of the Gold Country, north of Interstate 80. We will explore early Indian habitats, old immigrant trails, abandoned mines, and ghost towns on short hikes in the Donner Pass area. Campfire discussions and lectures will provide further background on the historical aspects of this area. A recently improved logging road will give us direct access to our campsite at beautiful Meadow Lake. Pertinent books and literature will be provided.

[151] Stehekin Valley, North Cascades, Washington—August 17–23. *Leader, Bill Gifford, 3512 NE Davis, Portland, OR 97232.* The "Enchanted Valley" of Stehekin is reached by a 50-mile ferry ride up the inland fjord of Lake Chelan. We will stay in rustic cabins on the Courtney Ranch at the base of McGregor Mountain.

Enjoying California's Anza-Borrego Desert in spring (Esther Kiviat)

Each day we will have a choice of hikes, ranging from spectacular Cascade Pass to Walker Park or Horseshoe Basin with its many waterfalls. We will camp two nights near Park Creek Pass; tents are provided and horses will pack in food and gear. Meals will be delicious, homemade, and family-style. The hiking is varied and the scenery splendid. This trip is suitable for families, couples, and singles of all ages.

[152] Canyon de Chelley, Canyon de Chelley Monument, Arizona—August 22–29. *Leaders, Carol and Tom Baker, 2328 33rd St., San Diego, CA 92104.* Spend a week at 6,000 feet with the Navajos and experience their culture and history firsthand. Investigate the canyon's geological beauty and the archaeological riches of Anasazi, Hopi, and Navajo dwellings and rock art. Light hiking to art sites requires sure-footedness and a head for heights. Dunnage is trucked, so trip members carry only their daypacks and water. The longest hike is ten miles and the longest climb is 1,000 feet. This trip is open to individuals and families with children eight years and older.

[153] Chain Lakes–Paradise Found, Southern Yosemite, Sierra—August 23–September 1. *Leader, Frances Colgan, P.O. Box 325, La Honda, CA 94020.* Experience the joy of physical, spiritual, and communal harmony unique to wild places. From our traditional base camp deep in southern Yosemite's remote Clark Range, we will enjoy leisurely to strenuous day-hikes. Swimming, frolicking, snoozing, lollygagging, and sumptuous cuisine will complement our total wilderness experience. Packstock carries dunnage and supplies, leaving members with only a daypack to carry. Families with young children and new members are welcome. Come make new friends and return home with fond memories that will last a lifetime.

[306] Everglades Park, Florida—December 26–31. *Leaders, Vivian and Otto Spielbichler, 9004 Sudbury Rd., Silver Springs, MD 20901.* Our base camp at Flamingo in the southern tip of the park is a unique subtropical wilderness, home to rare birds and animals. We will take daily walks or canoe trips to explore mangrove and buttonwood environments, freshwater ponds, brackish water, open coastal prairies, and saltwater marshes. This leisure trip is for people of all ages who enjoy bird and animal watching, photography, and relaxation.

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 gear on their bikes and buy groceries daily. Leader approval is required for each participant; this usually involves questions about experience and equipment. Helmets are strongly recommended and sometimes required. Domestic bike trips camp along the way. See Foreign Trips section for additional bicycle trips.

[157] Cycling Cape Cod and the Islands, Massachusetts—May 11–17. *Leader, Eileen O'Connor, 222 McLennan Dr., Fayetteville, NY 13066.* The nearly endless sand beaches of the national seashore, the historic houses of Nantucket, an old-fashioned clambake, whales, and shore birds—we'll find these beauties and much more as we ride around Martha's Vineyard and Nantucket. We'll ferry back and take the newly completed Cape Cod bike trail from Bourne all the way to the dunes at Truro. Our packs will be light; we'll sleep at youth hostels and average 30–35 miles per day with gentle hills. A layover day is planned. Lunches are not included in trip fee.

[158] Chesapeake Bay Bicycle Tour, Eastern Shore, Maryland—June 8–14. *Leader, John Arthur, 1125 Jenifer St., Madison, WI 53703.* Set between the ocean and the nation's largest estuary, the Eastern 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. Camping and carrying our own gear, we will average 55 miles per day. Highlights include camping where the wild ponies roam, a layover day at Chincoteague National Wildlife Refuge, and a night's stay at a historic inn near St. Michaels.

[159] Vermont Bicycle Tour—June 15–21. *Leader, Bill Lankow, 228 W. 15th St., #2A, New York, NY 10011.* We will spend six days bicycle-touring central and southern Vermont, stopping each night in a campground. We will cycle through rolling countryside and along the shores of Lake Champlain, passing numerous historic sites along the way. We'll travel through open farmland, quaint New England villages, and covered bridges. Moderate mileages each day should allow enough time to swim (at least once in an abandoned quarry), visit antique shops, picnic, and generally relax. A sagwagon will transport both community and personal gear between campgrounds.

[160] East-West Wisconsin Bicycle Tour—July 12–19. *Leader, Alice Van Deburg, 441 Virginia Terrace, Madison, WI 53705.* Passing through country once frequented by John Muir and Aldo Leopold, our route extends from Lake Michigan to the Mississippi River. It traverses both glaciated and unglaciated terrain, taking advantage of Wisconsin's fine network of paved secondary roads. A layover day at Devil's Lake State Park will allow time for photography and swimming. The trip ends with a ride on the famed Elroy-Sparta bicycle trail through tunnels along a historic railroad route. We will average 55 miles per day carrying our own gear, buying provisions along the way, and camping each night. This trip will be moderately strenuous.


(Dory Blobner)

BICYCLE

Seeing the beauty of Alaska by bike (Paul Tamm)

[161] Seattle to the San Juans Bicycle Tour, Washington—July 13–20. *Leaders, Bill Lande and Grace Voss, 8 Museum Way, San Francisco, CA 94114.* This eight-day, self-contained bike tour will begin in Seattle. Heading west by ferry to Bremerton, we go north through small fishing villages and green pasturelands to Anacortes, gateway to the San Juans, followed by a short visit to Victoria. The return trip from Bellingham to Seattle will go through logging towns, farmlands, and fir forests. We will cover 60–70 miles per day, camp in state and county parks, and purchase fresh food as we go.

[162] Cascade Mountains Bicycle Tour, Washington—July 27–August 3. *Leaders, JoAnn and Paul Von Normann, 732 S. Juniper St., Escondido, CA 92025.* Touring the Cascade Mountains of Washington provides the bicycle tourist with the ultimate in diversified terrain and scenery. Our self-contained moderate to strenuous 450-mile tour begins and ends in Seattle, and takes us from the moist coastal lowlands of Puget Sound to the arid rangeland of eastern Washington. We'll cross several passes that offer unsurpassed scenery in an area largely undiscovered until the 20th century. You'll see everything from fishing fleets, loggers, mountain climbers, and cowhands to ocean beaches, glaciers, and arid plains.

[163] Acadia Park/Mt. Desert Island Bike and Hike, Maine—August 10–16. *Leader, Edith Schell, 2671 Brown St., Collins, NY 14034.* 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 the park's beautiful lakes. When we reach trailheads, 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 swimming and identifying flora and fauna. The combination of hiking and hilly biking makes this a moderate trip.

[164] Finger Lakes "Grand Tour," New York—September 7–13. *Leader, John L. Kolp, 453 Warren St., Brooklyn, NY 11217.* The Finger Lakes region of central New York state is superb bicycling country—rolling farmlands, gorges, waterfalls, historic towns, grape arbors, wineries, and numerous freshwater lakes. Camping at state parks, we will use a sagwagon to carry all the gear we need. The extra mobility the sagwagon provides will enable us to tour the entire region. Beginning at Ithaca on Lake Cavuga, we head north to Lake Ontario, west to Letchworth State Park and the spectacular Gennesee River Gorge, east to Hammondsport on Keuka Lake (the center of New York's wine region), then back to Ithaca to complete our loop.

BURRO

Burros, the friendliest and gentlest of pack animals, are your companions on these wilderness outings. Suitable for the novice camper or seasoned outdoorsperson of any age, a burro trip is a truly different type of outing. The burros are led by participants and carry most of the loads. Although the burros' pace on the trail is not fast, burro trips cannot be characterized as leisurely; participants must be in good physical condition. Most routes are at high elevations (8,000 to 12,000 feet) and a typical day covers five to ten miles.

Everyone takes part in the trip activities, including cooking, burro care and wrangling, and dishwashing. Layover days provide free time for relaxation or more strenuous activity. The burros provide elements of adventure and gentleness not to be found on other outings. A burro trip is a fine opportunity to get to know these delightful animals, see some beautiful wilderness, learn about the outdoors, and get some exercise. In short, an unusual and interesting adventure.

[30] Panamint Mountains, Death Valley, California—March 29–April 5. *Leader, Steve Akeson, 129 Lake Ave., Piedmont, CA 94611.* The Panamint Mountains form the western boundary of Death Valley. They rise abruptly from the desert with peaks in the 6,000- to 8,000-foot range, so we will have panoramic views of Death Valley to the east and Panamint Valley to the west. Long ago, Indians spent their summers in this desert of sage and pinion pines, and in the mountains' recent history, gold and silver mining played the major role. Spring is an ideal time to visit the area; the snow will have cleared and the wildflowers should be beginning to bloom.

[166] Remote Yosemite, Sierra—July 26–August 9. *Leaders, Dan Holmes and Don Bain, 11 Cresta Blanca, Orinda, CA 94563.* This two-week trip really takes us out into the Sierra Nevada wilderness. From near Devils Postpile National Monument, we travel far from the roads and crowds over Isberg Pass and through the upper Merced River watershed to Tenaya Lake. This rarely-seen part of Yosemite is very rugged and provides spectacular views of the Ritter, Clark, and Cathedral ranges, and an abundance of lakes. Of course, our delightful burros carry supplies on this wilderness trek.

[167] Ten Lakes Family Trip, Yosemite Park, Sierra—August 9–16. *Leader, Ted Bradfield, 5588 Oak Knoll Dr., El Sobrante, CA 94803.* A leisurely trip planned for families, this outing goes into the Ten Lakes Basin in central Yosemite. Fishing, swimming, and exploring the lakes will be part of our itinerary. We travel between Mt. Hoffman and Tuolumne Peak and have wonderful panoramas of northern Yosemite. Children will enjoy getting to know our amiable burro companions.

[168] Grand Canyon of the Tuolumne, Sierra—August 16–23. *Leader, Don White, 411 Walnut Dr., Monmouth, OR 97361.* This river canyon trip is a rugged adventure through the Grand Canyon of the Tuolumne. We begin near the upper end of Hetch Hetchy Reservoir and follow the Tuolumne River past Water Wheel Falls and California Falls to lovely Tuolumne Meadows, the largest subalpine meadow in the Sierra Nevada. We will traverse a dramatic landscape that exhibits the grand beauty of Yosemite's granite cliffs and waterfalls. Warm weather can be expected.

[169] Yosemite and the Ritter Range, Sierra—August 23–30. *Leader, Jack Holmes, 1711 Cork St., Davis, CA 95616.* Come join this burro trip through the alpine and subalpine areas of eastern Yosemite and the northern Minarets. Our route travels past the impressive peaks of Lyell, McClure, Banner, and Ritter. From the meandering course of the Lyell Fork of the Tuolumne River, we ascend Donohue Pass and Island Pass to Thousand Island Lake, one of the premier scenic spots in the Sierra Nevada.

Rest stop for burros and participants, Inyo Forest, Sierra (Linda Null)

FAMILY

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 children of any age 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 the wilderness offers in the pleasurable atmosphere of an all-family trip. Ideas are shared, everyone encounters similar problems and obstacles, and the children experience the fun of outdoor living with others of 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 at high altitude before the trip for acclimatization.

Wilderness Threshold Trips

The Wilderness Threshold Program is designed to introduce families to the joys of backcountry camping in a cooperative atmosphere. In addition to helping less-experienced families with basic skills (camp selection, cooking with lightweight foods, proper use of equipment), the program also tries to increase awareness of an area's ecology and the importance of minimizing human impact on it. In addition to two-parent families, we welcome single parents, grandparents, or aunts and uncles.

An experienced and highly motivated family leads each wilderness threshold trip. The concept of leadership skills taught by an entire family is 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 that even very young children can hike in comfortably on their own. Two- to four-year-olds may need help getting to camp, but will 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, and swimming. The adults and teenagers of each participant family share 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 encouraged 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 harder to reach. If you have any questions regarding the difficulty or age format of the trip, please contact trip leaders before submitting your application.

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

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[171] Golden Trout Wilderness Threshold, John Muir Wilderness, Sierra—July 26–August 2. *Leaders, Ellen and Jim Absher, 225 Ansley Dr., Athens, GA 30605.* The Cottonwood Basin is tucked

(Sue J. Estey)

against the southernmost of the 14,000-foot peaks. Our forested camp will be lakeside at approximately 10,200 feet, in the heart of golden trout territory. From there we will be able to explore other lake basins, bag a peak, fish, or just relax and play. The hike in will be about six and a half miles and include 1,600 feet of ascent, all on-trail. This trip is especially suited for families with children 5–12 years of age.

[172] Clair Tappaan Family Week, Sierra —July 4–10. *Leaders, Beth and Bob Flores, 2112 Portobello, Mesa, AZ 85202.* On the western slope of the Sierra Nevada, just a few miles from Tahoe, is the Sierra Club's rustic Clair Tappaan Lodge, situated near many hiking trails, lakes and streams for fishing, and natural areas. To enhance the overall experience, we will have naturalists on hand to share their expertise on the Sierra and the natural world. The comforts of the lodge, with its spa, fireplace, great meals, and family sleeping rooms with bunks allow for a wonderful family experience in the High Sierra without sacrificing all the amenities. No age limit.

[173] Canada's Coast Mountain Wilderness, Tweedsmuir Park, British Columbia —August 11–17. *Leader, Dennis Kuch, Tweedsmuir Park, Box 10, via Bella Coola, British Columbia, Canada V0T 1C0.* Based in rustic log cabins at Tweedsmuir Park, we will make daily forays by foot and van into the surrounding forest and mountains of Tweedsmuir Park and the historic Bella Coola Valley. Leisurely hikes will take us to an ocean fjord and alpine meadows, allowing ample time for a refreshing dip in the nearby Atnarko River as we learn about the natural and cultural history of this fascinating area. This is a trip for families with children of all ages.

Family Canoe Trips

THE PURPOSE of a family canoe trip is to provide the family with an opportunity to experience the joys of paddling on a river or lake, beach camping, side canyon exploration, swimming, and relaxation. These outings provide a unique opportunity to pass on to the next generation an appreciation and respectful concern for the wilderness and Earth's resources. Participants must be in good health and capable of effectively paddling, kneeling, lifting, and swimming.

Food, river equipment, safety instruction, and some paddling instruction are provided. All must share in camp chores. Leader approval is required. See the Canoe Trip section for an explanation of trip grades.

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[174] Main Eel Family Trip, California—June 15–21. *Leader, Jenny Dienger, 830½ W. 9th St., Benicia, CA 94510.* This trip is a unique opportunity for families to enjoy an outstanding wilderness experience. The section of the Main Eel from Alderpoint to South Fork is surprisingly remote and outstandingly beautiful, and the river is exciting, clear, and warm. The swimming is great and the beaches clean. Basic river techniques will be taught. River gear is provided. (Grade A)

[175] Restigouche River Exploration, Northern New Brunswick, Quebec—July 12–20. *Leaders, Wanda and Tom Roy, 9 Sunset Trail, Rockwall, TX 75087.* This leisurely family trip into French Canada will feature a tour of the Gaspe Peninsula, with emphasis on the rivers, geology, and wildlife native to the region. We will explore the spectacular seabird colony on Bonaventure Island. The trip will conclude with three days in canoes on the Restigouche River, where wildlife is abundant. Minimum age is ten. No prior canoe experience required. (Grade A)

Family Bike Trip

CHILDREN AND ADULTS of all ages love the freedom and fun of bicycling. Family bike trips give families a chance to spend time together and sightsee in some beautiful areas of the United States. Led by leader families, family bike trips are sometimes self-contained or sometimes use sag-wagons. On ride days cyclists are expected to reach the day's destination but are encouraged to take the time to enjoy the scenic beauty along the way.

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Enjoying fun and music around the campfire (Carol Dienger)

[176] Door County, Wisconsin—August 10–16. *Leader, John Arthur, 1125 Jenifer St., Madison, WI 53703.* Door County's rocky western shore has been favorably compared to the coast of Maine. The lack of large hills makes it an even better place for bicycling. Picturesque small towns and state parks are never more than a few miles apart, making family cycling the perfect way to go. Two layover days and more than one night in campgrounds will give families time to sightsee, swim, and travel unhurriedly to the next campsite. This will be a self-contained camping trip averaging 25–35 miles cycling distance per day. Highlights will include a ferry ride to Washington Island and the ship-building yards in Sturgeon Bay. There is no age limit, but children (and adults) should do some bicycle touring prior to the trip. A limited number of couples or individuals may also be accepted.

Sierra Club Foreign trips take you to some of the most beautiful and interesting places in the world. 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 close to the land and its people—camping out where we can, staying in hostels, huts, or villagers' homes—having 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 with complete information on each country visited.

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

[680] New Zealand Featuring Fiordland—March 6–30. *Leader, Vicky Hoover, 735 Geary St., #501, San Francisco, CA 94109.* We will explore several of the South Island's spectacular fiords and mountain areas via three backpack jaunts between huts. Car-camping intervals plus auxiliary boat and air travel will help us sample the remarkable variety of scenery Down Under. The last week of this 25-day outing will take us by ferry to the North Island and will include tramping in remote Urewera National Park. Leader approval required.

[685] Langtang Trek, Nepal—March 17–April 12. *Leader, John Garcia, 124 Romero Circle, Alamo, CA 94507.* Just south of Tibet is Nepal's famous Langtang National Park, site of this moderate 22-day full-service trek, which will feature rhododendrons in bloom, Yosemite-like waterfalls and rock formations, glaciers, alpine lakes, yaks, local cheese factories, and of course, the very hospitable Nepalese people. Elevations will range from 2,000 to 15,000 feet. Leader approval required.

[687] Beginning Ski Touring, Austria—March 30–April 13. *Leader, Wayne R. Woodruff, P.O. Box 614, Livermore, CA 94550.* Ski touring can take you into wonderfully remote mountain areas the downhill skier never sees in winter. In the Montafon Valley in the western Austrian Alps, we first learn the techniques of touring while staying in the beautiful old town of Schruns. We then move up into the mountains for day tours and possibly some peak climbing. Instruction and ski-touring equipment are included in the trip price. This trip is moderate to strenuous. Intermediate downhill skiing ability and leader approval are required.

[690] Manaslu Circle Trek, Nepal—April 21–May 24. *Leader, Peter Owens, c/o John DeCock, 53 Landers, #2, San Francisco, CA 94114.* Manaslu, one of the world's greatest peaks at 26,660 feet, can be circled to the north by crossing the 17,100-foot pass, Larkya La. Following the Buri Gandaki, the Dudh Khola, and the Marsyandi Khola, this extended trek passes very near the Tibetan border. We will cross spectacular terrain and visit villages and *gompas* along the way. This is an economy trek. Leader approval required.

[695] Annapurna Circle Trek, Nepal—June 7–July 7. *Leader, Peter Owens, c/o*

FOREIGN

Catherine E. Perrodin

Gus Benner

Linda Christy

Catherine E. Perrodin

John Edginton

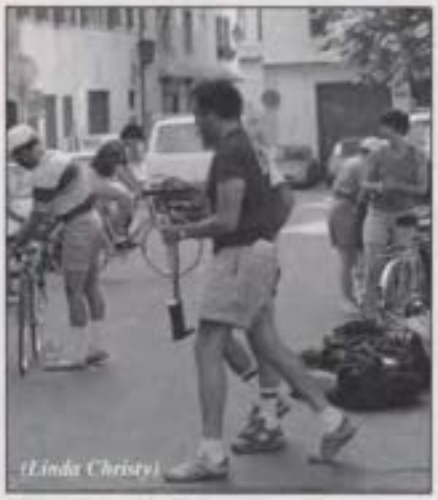
Alan Benner

Dolph Amster

Bob Madsen, 3950 Fernwood Way, Pleasanton, CA 94566. This moderate 27-day economy trek will circle the Annapurna Massif by a route that takes us up the Manang Valley and over 17,650-foot Thorung 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 (26,540) and Dhaulaghiri (26,810). This monsoon-season trek will see some rain showers during the first and last week, but the middle two weeks will be in the "rain shadow" of the Himalaya, where relatively arid conditions prevail. This is the time to see Nepal without hordes of other trekkers. Leader approval required.

[700] Leisure Bike and Hike in Holland—May 1–13. *Leader, Thelma Rubin, 899 Hillside, Albany, CA 94706.* Take a leisurely bike tour in Holland at tulip time. We'll see monumental dikes protecting Holland from the sea and visit little villages, big cities, castles, and caves—all set in a variety of landscapes. Our first stop is Amsterdam. After a few days we will transfer to Arnhem, where we will make a loop biking into Germany and back to Arnhem, crossing the Rhine several times by ferry. We will then bus to Maastricht, the oldest city in the Netherlands with its architectural masterpieces from Roman and Renaissance periods. Six days will be spent biking 30–45 miles per day. Seven days will be spent walking. The terrain is essentially flat. Bicycles will be provided, and a sagwagon will carry our luggage. Leader approval required.

[705] Walking in the West Country and Lake District, England—May 10–24. *Leader, Dick Terwilliger, 7339 Pinecastle Rd., Falls Church, VA 22043.* Staying in a different guesthouse for each of two weeks, we will be dayhiking in two of England's most interesting walking regions. The first week's hiking will be in Cornwall, the extreme southwestern part of England. A peninsula dominated by a spectacular coastline, Cornwall provides some of the finest scenery in all of England. Our base will be the town of Penzance, famed for its equable climate and spring flowers. In the second week we move to the northwestern county of Cumbria, an area of moors, fells, lakes, and waterfalls. Our footpaths and hiking routes will take us through some of the best walking country in Lake District National Park, England's largest park.

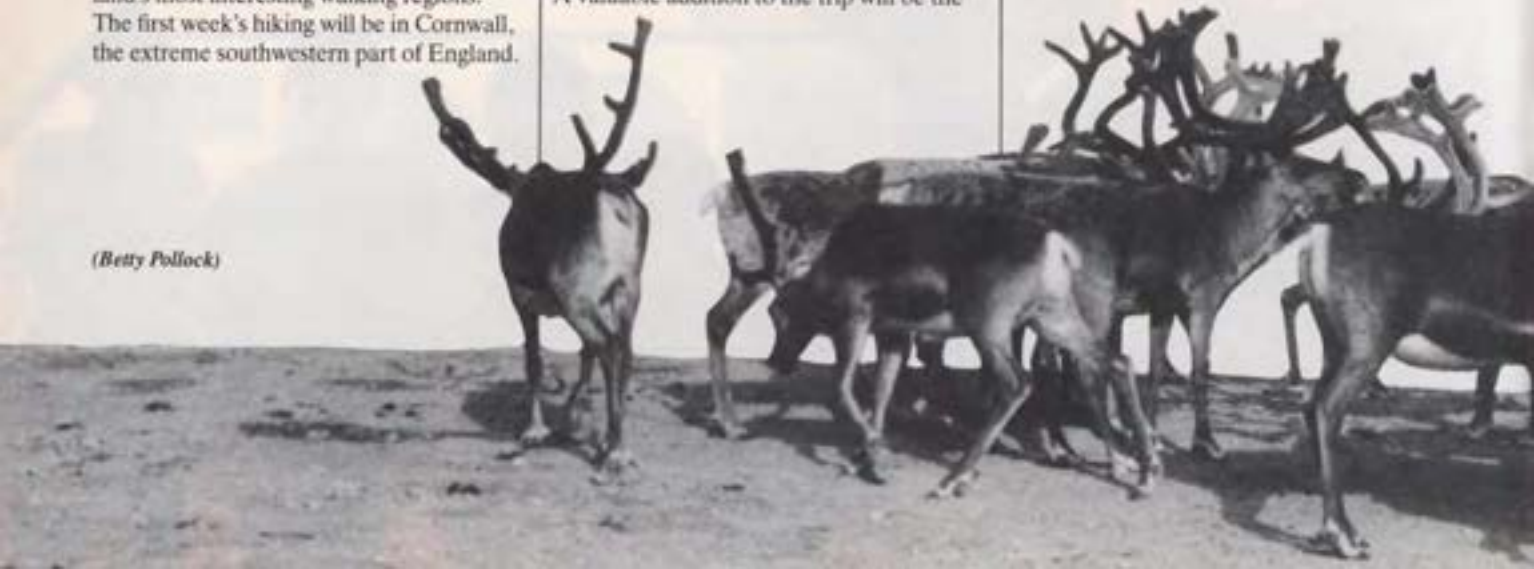


(Linda Christy)

[715] The Mountains of Portugal for Walking and Hiking—May 25–June 14. *Leaders, Mildred and Tony Look, 411 Los Ninos Way, Los Altos, CA 94022.* Ten major mountain ranges rising from 4,500 feet to the Serra da Estrola at 6,500 feet separate the deep river valleys that rise near the Spanish border. The walks and hikes in and around these mountain ranges take place in oak, pine, and fir woodlands. These hikes can be as moderate or strenuous as desired. Photography, nature study (including spring wildflowers), and historic interpretations will be an important part of our itinerary. Traveling in passenger vans, our route will be north and east of Lisbon. A valuable addition to the trip will be the Portuguese guide who will travel with our party.

[720] Peru: Land of the Inca—May 25–June 16. *Leader, David Horsley, 4285 Gilbert St., Oakland, CA 94611.* This 23-day adventure is designed to give us a full experience of Peru, from past to present. It will offer sightseeing in the cities of Lima, Cuzco, and Huaraz, trekking through the magnificent mountain scenery of the Cordilla Blanca with peaks towering over 20,000 feet, and exploring extraordinary Inca ruins at Machu Picchu, Pisac, and Ollantayambo. We also plan a thrilling whitewater raft trip on the Urubamba River (through the "Sacred Valley of the Incas"), aerial viewing of the mysterious archaeological "Nazca Lines," and a visit by boat to the incredible seabird colonies on the Ballestes Islands. This unforgettable experience of the Peruvian people and country will prove to be richly rewarding.

[725] Turkey: A Classic Overview—June 18–July 11. *Leader, Ray Des Camp, 510 Tyndall St., Los Altos, CA 94022.* Anatolia, bridge between Asia and Europe, has from time immemorial hosted a long procession of peoples: Hittites, Phrygians, Greeks, Persians, Romans, Byzantines, and finally Turks. Starting in Istanbul, we'll tour Turkey from the Black Sea to the Mediterranean, and from the Aegean to Cappadocia. We'll visit the most celebrated sites, including the Hittite capital, Hatushas (second millennium B.C.), Troy, made famous by Homer's *Illiad*, and Ephesus, one of the best-preserved Roman cities in the world. We'll spend several days along the beautiful Turquoise Coast, from Bodrum to Antalya and Alanya on the Mediterranean, and visit Cappadocia with its fantastic fairy chimneys and underground cities. There will be time to meet the Turkish people.



(Betty Pollock)

[730] Inland Waterways of England—May 31–June 14. *Leader, Marleen S. Van Horne, 423 S. 12th St., San Jose, CA 95112.* Step back 200 years to travel the Gentle Highway as it flows through the industrial centers of England and into the countryside. Drift peacefully past farm and village as a passenger on a converted narrowboat, the traditional freight carrier of Britian's canal system. Traverse the locks, tunnels, and aqueducts that made this mode of transportation possible. Hike the towpath, birdwatch, or people-watch as you meander through the heart of England.

[735] Tanzania Wildlife Safari: Zanzibar to Serengeti—June 20–July 4. *Leader, Mary O'Connor, 2504 Webster St., Palo Alto, CA 94301.* Zanzibar, a fabled island with a romantic past, beckons us to visit its reef life, large tortoises, and clove plantations. We then move on to some of Africa's most famous game parks with their prolific herds. We'll camp in Serengeti National Park, Selous Game Reserve, Lake Manyara National Park, and inside Ngorongoro Crater. We'll also visit prehistoric Olduvai Gorge and Masai villages. Travel will be by plane, boat, and four-wheel-drive vehicle. Some nights will be spent in hotels. This trip is suitable for anyone in good physical condition.

[740] Bike and Hike in Ireland—June 22–July 5. *Leaders, Frances and Patrick Colgan, P.O. Box 325, La Honda, CA 94020.* Ireland is one of the most magnificent places in the world. The special magic of this ancient and mystical land starts the moment we step off the plane in Shannon and get on our bikes. It continues for two glorious and memorable weeks as we leisurely meander north along Erin's beautiful west coast. We will cycle peacefully through the remote backroads of Clare, Galway, Mayo, and Sligo—all the way to the Bluestack Mountains of Donegal. A sagwagon will ferry our dunnage and supplies. Nights will be spent in traditional Irish farms and guesthouses.

[745] Bolivia—Quiet Jewel of the Andes—June 22–July 13. *Leader, Charles Schultz, 1024-C Los Gamos Rd., San Rafael, CA 94903.* Bolivia has been only lightly touched by foreign travelers. We will sample the jungle of the upper Amazon basin on the Tuichi River; Sucre, rich in colonial setting and considered the most beautiful city in Bolivia; Potosi, dating from the time of the conquest; and Lake Titicaca and environs, whence rose the original Inca. We shall cap our stay with a six-day trek in the Apolobamba Range, where snowy peaks tower and condors soar overhead.

[750] The Unknown Pyrenees, Spain—June 29–July 12. *Leader, John Doering, 6435 Freedom Blvd., Aptos, CA 95003.* A chartered bus will take us from Barcelona to Montserrat, Torla, Viella, Benasque, Tahull, and other seldom-visited villages of the spectacular Pyrenees. We will walk through Spain's most beautiful parks, Aigues Tortes and Ordessa, attend an ancient ceremony in an abandoned village, and sleep in mountain *refugios* or small hotels that provide excellent meals. Snow permitting, there will be a chance to bag the Pyrenees' highest peak (11,000). The trip ends in historical Zaragoza. Expect up to ten-mile days at 6,000 to 8,000 feet.

[755] Photographing the Alps—June 29–July 14. *Leader, Dolph Amster, P.O. Box 1106, Ridgecrest, CA 93555.* We meet in historic Salzburg and explore the city and surrounding lake region for one to two days. We then travel to Innsbruck, from which we make daily trips into the Stubai Valley with its spectacular views and to the Dolomites of Italy. A week later we go by bus to the Bernese Oberland of Switzerland, where our daily adventures may include a trip on a narrow-gauge railroad and dinner at a Swiss farmhouse. Accommodations will be in comfortable hotels, and the hiking will be leisurely. The leader is an accomplished photographer who will share his love of this expressive medium with trip members.

[760] France: The Southwest—June 30–July 11. *Leader, Lynne Simpson, 1300 Carter Rd., Sacramento, CA 95825.* Beginning in the seaport town of Bordeaux, this trip will focus on the less-visited southwestern region of France. Our walks in the regional park of Landes de Gascogne, one of the country's most scenic areas, will offer us preserves of piney forests and lowland coastal areas. Moving east, we will leisurely explore areas rich in beauty and gastronomical delights. Accommodations will be in hospitable (often family-run) rural inns. *La belle France* at its best!

[770] Slovenian Alps, Yugoslavia—July 13–26. *Leader, Fred Gooding, 8915 Montgomery Ave., N. Chevy Chase, MD 20815.* We will travel with daypacks as we hut-hop in the two principal ranges of northern Yugoslavia: the Kamnik and Julian alps. The huts are excellent and off Europe's beaten path. Our guide will be a young Yugoslavian mountaineer/doctor who has assisted on three previous Sierra Club outings. There will be time to climb Mt. Triglav, the highest in the country, and to sightsee in the Slovenian capital of Ljubljana and the resort city of Bled.

[772] Hindu Raj and Karakoram Trek, Pakistan—July 13–August 8. *Leader, Bud Bollock, 1906 Edgewood Dr., Palo Alto, CA 94303.* The Vale of Swat is our ten-day introduction to this rare and exciting Pakistan adventure that takes us over high mountain passes through alpinelike vistas under the sleeping giants of the Hindu Raj. We then pass westward through Gilgit into fabled Hunza, described as the "ultimate manifestation of mountain grandeur," for a 13-day trek that includes a five-day moderate ramble up the mighty Batura Glacier in the Karakorams. Our trip concludes with visits to Karimabad to observe Hunzakut lifestyles and dramatic scenery and to Lahore, gateway to India. Leader approval required.

[775] Basqueland Adventure, France and Spain—July 14–27. *Leader, Nancy Auker, 120 Sheridan Rd., Oakland, CA 94618.* Crossing back and forth across the crest of the Pyrenees, which forms the border, we will see the prehistoric menhirs and circular gravestones that identify a unique

Chavez, Portugal (Mildred Look)

civilization. Five layover days permit us to visit a Basque museum and a 12th-century Romanesque church. We will also have the opportunity to join the Basques at a *pelote* game or a *fête* featuring an ancient morality play, balladeers, and skillful dancers. A van carries all baggage, except lunch, to our next *gîte*, where a French cook will prepare an excellent meal each evening.

[780] The Lotschental: A View of Rural Switzerland—July 21–31. *Leader, Ray Simpson, 1300 Carter Rd., Sacramento, CA 95864.* This trip explores the Lotschental, a high mountain valley east of Geneva. Each day we walk through Alpine countryside and visit the idyllic villages of Ferden, Kippel, and Fafleralp. Hiking will be on both level and switchback trails that climb to passes affording views of the legendary giants of the Alps—the Jungfrau, the Matterhorn, and Monte Rosa. Moderately strenuous hikes (plus a short glacier crossing) provide interesting, challenging days complemented by overnights in comfortable mountain inns or family-run hotels.

[785] The First Foreign Service Trip, England and Wales—July 21–August 7. *Leader, Don Coppock, 1485A Church St., San Francisco, CA 94131.* This moderately strenuous trip will combine the satisfaction and fun of a service trip with the adventure of a foreign outing. Working with local hosts, trip members will learn trail-building and conservation techniques as practiced in Britain. The itinerary leaves free days for hiking in the countryside surrounding our two base camps, exploring country inns and estates in Peak District National Park, and visiting the castles and towns of the Welsh coast from Snowdonia National Park.

[790] Wilderness and Culture of the Great Manchurian Basin, China—July 27–August 17. *Leader, Jack Holmes, 1711 Cork Pl., Davis, CA 95616.* This excursion is designed to enable you to experience the wilderness and cultural flavor of the traditional yet actively developing northeastern region of China. There will be two short backpack trips: a four-night exploration of the untracked rim of a large volcanic crater lake, and a three-night exploration of a very rugged and picturesque winding river valley. We will be traveling through some of the last remaining tiger habitat in China. There will be time to visit cultural and historical features of the three key cities of the region, some unique granite forma-

tions, and a hot springs. Transportation will be by plane, train, and jeep. Accommodations will be the best available.

[795] Ladakh to Kashmir Trek, India—August 4–29. *Leader, Peter Overmire, 293 Union St., San Francisco, CA 94133.* This 26-day trip starts in Delhi, India. We fly to Srinagar in Kashmir, and then take jeeps to Leh, the Buddhist capital of Ladakh. Two days here provide time for acclimatization and visits to the Tibetan monasteries of the Indus Valley. In 19 trekking days we go south over the Himalayan Range from desertlike Ladakh to the lush, green Vale of Kashmir, crossing several passes up to 17,000 feet. Two luxurious nights on Dal Lake houseboats end our trip.

[800] Kenya Adventure—A Wildlife Odyssey, Africa—July 14–August 5. *Leader, Ruth Dyche, 2747 Kring Dr., San Jose, CA 95125.* The largest concentration of game animals in the world is found in Kenya. We will visit the premier game reserves of this diverse and fascinating country and have many opportunities to observe and photograph the wildlife. Our trip is scheduled to coincide with the migration of great herds of wildebeest as well as other migrating game. Included will be a three-day float trip on the Tana River, Kenya's largest. Birdlife is prolific along its banks, and many species of animals and waterfowl are seen in and along the river. We will visit different people in their villages and in the countryside. Our transportation will be primarily by Land Rover, and nights will be spent in tented camps or game lodges.

[805] Cycling the French Lake and Spa Region, France—July 22–31. *Leader, Richard Weiss, 448 Wellesley St., Toronto, Canada M4X 1H7.* This cycling holiday will take us to Haute Savoie and three of the most beautiful lakes in Europe: Lac du Bourget, Lac d'Annecy, and Lake Geneva. With three or four days in each location, we will have time to leisurely explore the villages, vineyards, forests, and lakes of this region. Sagwagon and bikes will be provided.

[810] Mountain Hiking in Swedish Lappland—August 21–September 5. *Leader, Bob Paul, 13017 Caminito Mar Villa, Del Mar, CA 92014.* Come hike the rugged trails of Padjelanta National Park, an extensive mountain plateau in northern Sweden. This moderately strenuous tour through birch and pine forests and alpine meadows offers opportunities to see Lapp villages, reindeer herds, and unique flora and fauna. Staying in mountain stations and huts, we will meet the friendly Swedes and other mountain travelers. Leader approval required.

[815] Hiking in the Austrian Alps: Vorarlberg and Tirol—September 11–20. *Leader, Ann Hildebrand, 1615 Lincoln Rd., Stockton, CA 95207.* For ten days we will escape for a wonderful rural alpine experience: hiking in the Vorarlberg and Tirol regions of Austria. The hike will be moderately difficult; we need carry only our personal gear. Accommodations will be in Alpine Club huts and comfortable hotels, where we will enjoy the renowned Austrian *Gemütlichkeit*. Leader approval required. *Please note new trip dates.*

[820] Autumn Walks in Japan—September 20–October 11. *Leaders, Mildred and Tony Look, 411 Los Ninos Way, Los Altos, CA 94022.* Brilliant crimson will be touching the mountainsides as we walk in Nikko and Joshinets-Koigan national parks and on the Noto Peninsula and Oki Island. Day walks can be as strenuous or leisurely as desired during our three or four layover days in Japanese inns or *ōnsens*. Travel will be by train or bus in the company of a Japanese guide. Stops are scheduled at famous gardens, temples, and shrines. A Kyoto visit is optional for those who wish to extend their stay in Japan until October 18. *Please note new trip dates.*

[825] Trekking in the Dragon Kingdom, Bhutan—September 27–October 25. *Leaders, Jane and John Edginton, 2733 Buena Vista Way, Berkeley, CA 94708.* The fascinating and secluded kingdom of Bhutan has remained closed to Western visitors until recently. The people of this tiny forested country (long known as the Land of the Peaceful Dragon) high in the eastern Himalaya have retained their colorful traditional dress, unique and highly decorative architecture, ancient culture, and Buddhist religion. With two separate sampler treks, our trip emphasizes both the culture of Bhutan and its spectacular mountain scenery. We will explore the western region near the sacred mountain of Chomolhari (23,997) and the less-visited, botanically and culturally richer region of central Bhutan. We will also visit ancient and unique monasteries, including famous Taksang, the cliff-hanging Tiger's Nest, and several of the unique fortress-monasteries called *dzongs*. Trekking distances will average 10–12 miles per day, and we may get as high as 16,000 feet, but only a daypack need be carried.

[830] Mediterranean Sailing Adventure—September 29–October 12. *Leader, John Garcia, 124 Romero Circle, Alamo, CA 94507.* Since the beginning of time, the gods have entrusted the Greeks with the sea, and the Greek sea and the shores it touches would be endowed with natural beauty, mystery, and liquid-sapphire water. Now we can share in this rich seafaring tradition and sail these ancient waters. Accompanied by the captain, we will be the crew aboard 39-foot sloops. We begin our adventure on the island of Rhodes, then sail along the Turkish Coast, visiting archaeological sites from Lycian, Carian, Greek, Roman, and Byzantine civilizations as well as charming Turkish villages. We will swim in the blue-green waters of the Aegean Sea or visit wilderness coves and beaches. We will learn to sail and possibly have our own regatta at the end of the trip.

[835] Oktoberfest in the Rhineland, West Germany—October 1–11. *Leader, Bud Bollock, 1906 Edgewood Dr., Palo Alto, CA 94303.* Explore the historic and legendary Rhine Valley on a series of easy dayhikes, and experience the enchanting scenery highlighted by fall colors. We have scheduled our visit to coincide with the grape harvest and Oktoberfest, widely celebrated in quaint villages and *Biergartens* alike. We will have the opportunity to observe the farming, conservation, and reforestation methods that have preserved the land over many centuries. Each night will be spent in a comfortable hotel featuring delicious food and drink.

[840] Mt. Everest Base Camp/Backpack and Chitwan Park, Nepal—October 11–November 3. *Leader, Mike Brandt, 10229 Variel Ave., Unit 22, Chatsworth, CA 91311.* This unique trek to Mt. Everest Base Camp is a first for the Sierra Club. On this backpack trek in the Solu Khumbu, one of the most majestic areas in the world, all members will backpack, cook meals, and clean the mess gear. Starting at Lukla we will trek through Sherpa country to Namche Bazaar, visiting homes of the Sherpas in Thame and the awesome Tengboche Monastery. We continue on to Gorak Shep and will have an opportunity to climb Kala Patar (18,100) to view Mt. Everest (29,028), and dayhike to Everest Base Camp (17,300). We will return to Lukla and then Kathmandu. The 14-day backpack will be a true Himalayan chal-

lenge. We also plan to drive to Chitwan National Park to see this wildlife sanctuary. Leader approval required.

[845] China Recycled—Bike and Hike—October 12–November 1. *Leader, Phil Gowing, 2730 Mabury Sq., San Jose, CA 95133.* This trip is a repeat of the popular Zhengzhou–Xi'an bike trips of 1983 and 1984, with exploration days scheduled for


Betty Pollock)

both Beijing and Shanghai. The Great Wall, the Terra Cotta Army near Lintong, and the Zen Buddhist Monastery at Shoalin are among the many attractions. Hiking in the Song Mountains and climbing Huaxian, the Holy Mountain, are possibilities. We will stay in local hotels and guesthouses, some more comfortable than others. Leader approval required.

[847] Sea Kayaking, Sea of Cortez, Baja California, Mexico—October 19–25. *Leader, Ron Miller, P.O. Box 1106, Del Mar, CA 92014.* Departing from the sleepy village of Loreto, we will fill our days with paddling to quiet coves, snorkeling in a clear undersea world, exploring islands, and observing sea life. There will be opportunities for fishing, photography, and simply relaxing in the sun. The sea kayaks we will use are larger than the river variety and carry two people plus their equipment. Instruction will be provided by experienced guides.

[850] Jugal Himal, Nepal to Xixapangma, Tibet—October 27–November 28. *Leader, Wayne R. Woodruff, P.O. Box 614, Livermore, CA 94550.* See both sides of the main Himalayan range on a 15-day warm-up trek in northern Nepal and a 12-day trek in Tibet to the Xixapangma base camp. On the Nepal side we will trek up through rhododendron forests, past hill villages of varying cultures to the snowy ridges with views of the high peaks. In contrast, Xixapangma, at 26,291 feet (the lowest of the 8,000 meter peaks), rises abruptly from the grassy plain with no foothills to block the view of a beautiful area of Tibet. This is a full-service trek of moderate difficulty. Leader approval required.

[860] Rolwaling Valley, Nepal—November 15–December 6. *Leader, Patrick Colgan, P.O. Box 325, La Honda, CA 94020.* In the language of the Sherpa, Rolwaling means the "Furrow," a high, mysterious, sparsely populated valley of remote yak pastures and fascinating tales of the Yeti. Surrounded by massive jumbled rock escarpments and fierce, knife-edge ice ridges, it is dominated by Gaurishankar (23,442), the holiest mountain of the Sherpa. Our moderately paced, unregimented 21-day economy trek takes us from Charikot along the Bhote Kosi River through Sherpa and Tamang country. Accompanied only by porters and kitchen staff, we will encounter few trekkers as we negotiate the 12,000- to 13,000-foot, often snowbound passes en route to the wild Rolwaling. Our highest camp will be about 13,000 feet. There will be several layover days for side hikes and lots of time throughout to photograph, drink *chia* with local families, and visit *gompas*. Leader approval required.

[865] Annapurna Christmas, Nepal—December 20, 1986–January 3, 1987. *Leader, Peter Owens, 117 E. Santa Inez, San Mateo, CA 94401.* Come spend the Christmas holidays on this culturally oriented trip to the Gurung villages of the Annapurna range. Great views of these 25,000-foot giants are on the itinerary and you will make many new friends from our local staff. The highest camp on this moderate economy trek will be about 11,000 feet. Leader approval required.

[870] Bicycling in New Zealand—December 21, 1986–January 5, 1987. *Leaders, Betty and Paul Tamm, 6828 Saroni Dr., Oakland, CA 94611.*

[875] Bicycling in New Zealand—January 5–17, 1987. *Leaders, Betty and Paul Tamm, 6828 Saroni Dr., Oakland, CA 94611.* Spend a unique Christmas holiday bicycling Down Under. New Zealand's varied scenery, uncrowded roads, and challenging terrain make it a delight for the experienced cyclist. Our route will sample shining beaches, lush rain forests, glaciated mountains, rolling farmland, hot springs, spectacular fjords, and much more. Most of the time we'll stay in campgrounds, but an occasional cabin, hotel, and even farm stay is included for variety. Trains, buses, and ferries will be used to supplement our own pedal power. Come for the full month-long, vehicle-supported tour of both islands, or, if your time is limited, choose either the northern or southern two-week tour.

[880] Cross-Country Skiing in the Austrian and Swiss Alps—January 25–February 8, 1987. *Leader, Carol Dienger, 3145 Bandera Dr., Palo Alto, CA 94304.* Experience this world-famous winter wonderland, the Alps of Austria and Switzerland, on a 15-day cross-country ski adventure. The trip is planned for both novice and experienced skiers; cross-country ski instruction and practice tours will be provided for all skill levels. Time will be set aside for shopping as well as for enjoying scenic, historic, and musical attractions. Accommodations will be in comfortable hotels. The trip price includes equipment rental and ski instruction.

[890] Kenya Wildlife Walking Safari, Africa—February 1–20, 1987. *Leader, Emily Benner, 155 Tamalpais Rd., Berkeley, CA 94708.* Come explore Kenya by foot, camel, Land Rover, prawn boat, and dhow. With Kilimanjaro as a backdrop, we will game-drive through Amboseli-National Park, then walk for five days down the Tsavo River viewing hippo, crocodile, elephant, and the many birds of the African bush. Camels will join us for our trek into the rugged semidesert landscape of Tsavo East. Our last week will be spent relaxing and exploring the sand dunes, coral reefs, and Arab-African cultures along the coast of the Indian Ocean.

[895] Ski Touring In Norway—February/March 1987. *Leader, Bob Paul, 13017 Caminito Mar Villa, Del Mar, CA 92014.* This trip offers ski touring for novice and/or expert skiers in the land where Nordic skiing began. We will stay overnight in rustic lodges and subsist on hearty Norske food while day-touring in Norway's majestic mountains. Starting in Oslo, we will ski in Nordmarka, Rondane National Park, the Jotunheimen Mountains, and on the Hardanger plateau, ending our trip in the picturesque port city of Bergen. Leader approval required.

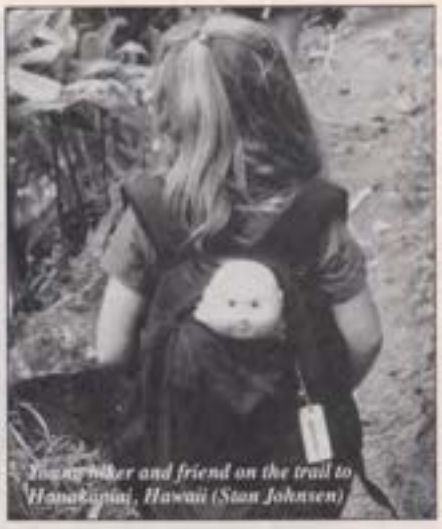
HAWAII

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 although there will be overnight hikes on some, 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.

[27] Island of Hawaii—March 21–29. *Leaders, Lynne and Ray Simpson, 1300 Carter Rd., Sacramento, CA 95825.* From volcanic cinders to emerald forests to white sand beaches, this trip will emphasize rural Hawaii. We will car-camp at three remarkably varied locations. Hikes and swimming will be available daily with at least one overnight hike planned. Transportation will be by rental car. Fresh food and island menus will be jointly prepared by a commissary staff and trip participants. Springtime in Hawaii is spectacular! Lush green is enhanced by riots of blossoming jacaranda and bougainvillea—truly a tropical paradise.

[178] Hulopoe, Hana, and Haleakala: Beach and Crater—May 16–24. *Leader, Steve Griffiths, 2 Sharon St., #3, San Francisco, CA 94114.* Spend ten days camping at lovely Hulopoe Beach on unspoiled Lanai this spring. We'll go snorkling, explore an ancient Hawaiian fishing village, search for petroglyphs, and hike to the top of Mt. Lanaihale. Then we'll take a quick flight to Maui, where we'll spend the first night camping on the rim of Haleakala Crater. The group will then split: some will go to base camp on the lush Hana coast, the rest will spend three days backpacking through awesome Haleakala ("the House of the Sun"). We'll link up at the end of the trip for a celebration dinner at the Seven Pools in Hana.



Young hiker and friend on the trail to Hanakapiai, Hawaii (Stan Johnsen)

[179] Camping and Hiking Kauai—August 2–10. *Leaders, Donna and Larry Crabbe, 1140 43rd St., Sacramento, CA 95819.* The tropical beauty of Kauai is unparalleled among the islands of Hawaii. Our adventure will take us from the overpowering cliffs of the Na Pali Coast to the junglelike interior of Alakai Swamp at 4,000-feet on Mt. Waialeale. We will travel by car using both tents and cabins for shelter. Our trip will include ample opportunities for those interested in dayhiking, sunbathing, swimming, snorkeling, and sightseeing. An optional overnight hike will also be offered.

[180] Big Island Coasts Backpack—September 8–19. *Leader, George Winsley, 241 Sequoia Dr., San Anselmo, CA 94960.* The big island of Hawaii is one of the least-developed of the Hawaiian Islands. Coastal development is taking place, but we will find miles of remote, untouched coastline for our two backpack trips. The first is along the dry and geologically young lava coast of Hawaii Volcanoes National Park. The second is to the tropical jungle and streams of the lush windward coast. We'll explore white and black sand beaches, lava cliffs, and protected coral coves. Rated moderate.

[308] Christmas on Hawaii, Volcanoes and the Sun—December 20, 1986–January 1, 1987. *Leader, Judy Nelson, 5906 Dirac St., San Diego, CA 92122.* Our trip to Hawaii will give us the opportunity to explore and enjoy the Big Island's many different environments, from its volcanoes to its black sand beaches. We'll also go through Parker Ranch to the Kona Coast and Hapuna's white sand beach. Christmas will be spent in the pines of Kalopa State Park, and we'll include a hike to dramatic Waipio Valley. We'll visit South Point and tour the City of Refuge for more historical perspectives of the island. New Year's Eve includes a trip up Mauna Kea and festivities on the Saddle between Mauna Loa and Mauna Kea.

HIGHLIGHT

Highlight trips offer a flexible format to those who enjoy the wilderness but want to hike without 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 participants are free to hike to the next camp at their own pace, provided travel is by trail.

Routes and mileages are usually within the ability of the average person who has done a reasonable amount of pretrip conditioning and acclimatization. Families with children nine or older are welcome.

Group sizes vary from 12 to 25 plus a small staff. Routes are chosen to provide maximum enjoyment with minimum wilderness impact. Travel between camps often provides unencumbered opportunities to fish, hike to isolated viewpoints, or pursue other individual activities. Leaders emphasize conservation issues and interpret the natural history of the areas visited.

[31] Grand Gulch Primitive Area, Utah—April 20–26. *Leaders, Marlo and Ron Miller, 13636 Durango Dr., Del Mar, CA 92014.* Starting on the high cedar mesa in southeast Utah, we will descend and explore one of the most colorful and historically significant canyons in the area. Using packhorses to carry supplies, we will hike 40 miles, stopping frequently at Anasazi ruins, pictograph sites, and natural arches. Our relaxed itinerary will allow time for a layover day exploring the wonders of the Gulch. A good trip for hikers of all ages.

[34] Hells Canyon Leisure, Oregon—May 8–17. *Leader, Len Lewis, 2106-A Clinton Ave., Alameda, CA 94501.* The Hells Canyon Wilderness was established in 1975 to preserve and protect this wild and scenic area. Its 652,000 acres straddle Hells Canyon of the Snake River from the peaks of Idaho's Seven Devils Mountains to the east and Oregon's rimrock and mountain slopes to the west. Our trip takes us through the heart of this region, and five layover days give us time to explore and savor its archaeological, historical, and ecological values.

[36-E] Oregon's High Desert: Llama Trek and Natural History Field Seminar—May 18–24. *Leader/Instructor, Stosh Thompson, 36670 Courtney Creek Rd., Brownsville, OR 97327.* The high desert of southeastern Oregon is a little-known area comprising a great diversity of natural environments that are particularly alluring in late spring. Llamas will carry the loads for relatively easy hikes. The leader/instructor, an expert on the natural history of the area, will take you to roadless wilderness areas that encompass mountains, deserts, marshlands, and hot springs. You'll study volcanic and glacial geology as well as wildflowers at the peak of their bloom. Wildlife will include antelope and bighorn sheep, along with the great profusion of migratory birds that use this area in spring.

[182] Navajo Rims and Canyons, Navajo Reservation, Arizona—June 1–9. *Leader, Don Lyngholm, P.O. Box 103, Flagstaff, AZ 86002.* The Carrizo and Lukachukai mountains near Four Corners are isolated ranges just over 9,000 feet. We hike the summits and along high rims of red sandstone and painted desert shales, then drop into canyons with ancient habitation sites. Camps are supplied by jeeps that will also shuttle us to certain locations. Our Navajo cultural leader will inform us of Navajo customs and legends. The trip ends on a high rim above Canyon de Chelly.

[183] Kalmiopsis Wilderness Llama Trek, Siskiyou Forest, Oregon—June 15–20. *Leader, Marilyn Gifford, 3512 NE Davis, Portland, OR 97232.* The Illinois River carves a deep gorge through southern Oregon's Kalmiopsis, one of the nation's little-known wildernesses. Rugged, heavily forested mountains are offset by the deep green pools and rushing whitewater of the river. Diligent, alert llamas carry our burdens over a good trail for 26 miles. Our relaxed itinerary will allow ample time for swimming, fishing, and loafing as well as observing the unique botanical and geological qualities that inspired the area's preservation.

[184] Ruby Mountains, Humboldt Forest, Nevada—July 26–August 2. *Leader, Serge Puchert, 1020 Koontz Ln., Carson City,*

NV 89701. This eight-day moderate highlight will be in the Ruby Range, 20 miles south of Highway 80 near Elko, Nev. The range offers unsurpassed scenery, solitude, fishing, and photographic challenges in one of the lesser-known scenic areas of the West. Starting from the south (6,000) we climb to the crest and hike mainly above 9,000 feet through alpine country studded with lakes, snowfields, lush meadows, and occasional 11,000-foot peaks offering marvelous views. We finish at Lamoille Canyon in the north. A car shuttle is required.

[185-E] Llama Trek/Photography Seminar, Eagle Cap Wilderness, Wallowa-Whitman Forest, Oregon—July 27–August 1. *Leader/Instructor, Martha Murphy, 36670 Courtney Creek Rd., Brownsville, OR 97327.* The photogenic High Wallowas of northeastern Oregon offer the most concentrated scenic beauty of any range in the state. Granite mountains shaped by glaciers, they feature majestic peaks, deeply scoured canyons, fast-flowing snow-fed streams, and many lakes. Agile, dependable, unflappable llamas make the ideal pack animal, enabling us to carry delicate equipment across almost any terrain. They're also just plain fun to be around. A leisurely itinerary of less than 25 miles allows plenty of time to enjoy the company of our dignified llamas as well as exploit the many photographic opportunities of the area. Expert photo instruction will be given to the novice as well as the experienced photographer.

[186] Kings-Kern Divide Loop, Kings Canyon and Sequoia Parks, Sierra—August 9–24. *Leaders, Emily and Chris Benner, 155 Tamalpais Rd., Berkeley, CA 94708.* Starting at Onion Valley, this 15-day, 70-mile loop provides an excellent opportunity to explore the wide range of ecosystems the Sierra has to offer. We will hike from high alpine basins to the meadows and forests of Bubbs Creek and Cloud Canyon. Then we head back over Colby Pass into Milestone Bowl and the headwaters of the Kern River, surrounded by numerous 13,000- to 14,000-foot peaks. Seven layover days will give us time to explore and enjoy the variety of terrain encountered en route.

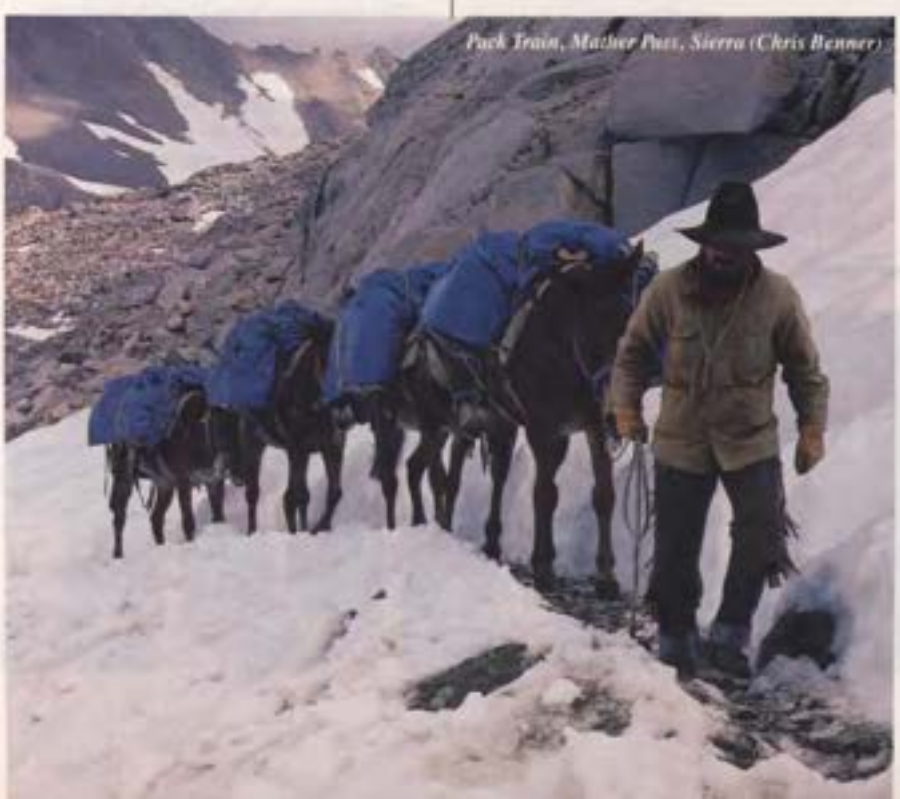
[187] Three Sisters Wilderness Llama Trek, Willamette Forest, Oregon—August 21–30. *Leader, c/o Tom Landis, 36670 Courtney Creek Rd., Brownsville, OR 97327.* Llamas enable us to make a relaxed ten-day circumambulation of the Three Sisters Range, a volcanic wonderland that offers a tremendous diversity of sights. Deep forests, stark lava flows, active glaciers, gushing springs, and expansive alpine views all grace our 40-mile route. Leisurely hiking days and several layovers will allow us to explore some of the most scenic parts of this lovely area more fully. Hike with a llama and learn why almost everyone falls in love with these wonderful animals.

[188] Humphreys Basin, Sierra—August 22–September 1. *Leader, Bob Miller, 11713 NE 150th Pl., Bothell, WA 98011.* Enjoy the late golden weather in the Sierra Nevada in one of its most imposing areas. We will hike a classic route from Piute Pass to Pine Creek amidst 13,000-foot peaks. Most campsites will be above 10,000 feet. Double layover days will allow time for acclimatization and long excursions for the already fit. Fish will abound, flies will be gone, people will be scarce, and the mountains will be at their best.

[189] Uinta Crest, Ashley Forest, Utah—September 11–19. *Leader, Jerry Clegg, 9910 Mills College, Oakland, CA 94613.* The Uinta range offers superlative trekking. Campsites will be above gorges, amid chains of lakes, and on spurs below Utah's highest mountains. There will be fish to catch, moose to watch, rock glaciers to scramble over, peaks to bag, pitch fires to enjoy, familiar stars and flowers to reidentify, and a strange geology to ponder. All seeking the delights of high-altitude euphoria are welcome.

[190] Indian Heaven Wilderness Llama Trek, Gifford Pinchot Forest, Washington—September 14–19. *Leader, Bill Gifford, 3512 NE Davis, Portland, OR 97232.* Early fall can be the most inviting time of year in this area of many lakes. Relatively gentle terrain gives us almost limitless opportunities for hidden campsites and exploration. A relaxed itinerary and the opportunity for unencumbered hiking makes for a leisurely outing through this recent addition to the wilderness system. A fragile ecological setting, Indian Heaven lends itself to the use of llamas, whose impact on the environment is negligible compared to conventional packstock.

[310] Mojave Desert Special, California—January 11–17, 1987. *Leader, Dolph Amster, P.O. Box 1106, Ridgecrest, CA 93555.* The Mojave is best visited in late winter, when temperatures are moderate, lighting low and soft, and shadows transparent; an ideal time for exploring sensuous dunes and formations, pastel canyons, and ghost towns. Campfires and walks will stress the area's unique geology and biota. We will car-camp in or near Death Valley, with time for leisurely exploration and maybe an ascent of Telescope Peak or a visit to Eureka Valley to see the highest dunes in the country. Individuals and families of all ages are welcome—especially the artist or photographer, who will find this trip planned for their enjoyment.



Pack Train, Mather Pass, Sierra (Chris Benner)

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 pleasure of backpacking. These trips are noted for being fun, energetic outings with lots of enthusiasm and spontaneity. Now in their 29th year, service trips have evolved into three general types:

CLEANUP TRIPS range from routine collection of trail litter to the removal of an airplane wreck.

TRAIL MAINTENANCE PROJECTS make trails safer or minimize their environmental impact on surrounding terrain. Work crews may backfill washouts, place waterbars for proper drainage, eliminate switchback cuts, or remove dangerous rocks from the trail. Occasionally the project involves construction of a brand new trail.

Although the work is hard, there is ample opportunity to enjoy the wilderness.

WILDERNESS RESTORATION PROJECTS eliminate signs of human impact and replant native vegetation. Their purpose is to assist the natural healing process of an ecosystem.

Some trips include two or all three of these types of projects. Most trips are in officially designated or de facto wilderness areas on U.S. Forest Service, National Park Service, or Bureau of Land Management land.

About half the days are free, allowing plenty of leisure time to be spent with other trip members. As with most outings, participants share in communal chores and cooking.

Service trips are subsidized, which means fees charged to participants are comparatively low. Tax-deductible donations from corporations and individuals as well as funds raised from the National Outing Committee are used to subsidize service trip prices. Over the last few years, generous donations from the Atlantic Richfield Foundation have helped keep service trip prices low, and have helped establish a scholarship fund for Club members who would otherwise be unable to participate on these trips.

Trip sizes vary from 12 to 25, including staff and a volunteer physician. Most trips have a cook and pack support to carry in food, so meals are generally plentiful. Applicants are considered on a first-come, first-served basis, provided the leader finds the applicant's experience level adequate for the trip. Members younger than 16

SERVICE

must contact the leader for special approval.

If you have been looking for a chance to contribute something to the wilderness, a service trip is surely the answer.

Trail Maintenance Projects

[51] Alder Creek Trail Project, Four Peaks Wilderness, Tonto Forest, Arizona—March 29–April 5. *Leader, Rod Ricker, P.O. Box 807, Cottonwood, AZ 86326.* Alder Creek is the principal drainage of a lush basin formed by the 7,600-foot Four Peaks. The trail follows the creek from the wilderness approximately 15 miles to Apache Lake of the Salt River. We will be working the middle section of the trail, having worked the upper and lower sections in past years. Our camp will be at 4,000 feet (with the roadhead at 6,000 feet), about 40 miles east of Phoenix.

[192] Kanab Creek Trail Maintenance, Kaibab Forest, Arizona—April 10–19. *Leader, Tim Wernette, 7461 E. Calle Managua, Tucson, AZ 85710.* Kanab Creek, one of the major drainages on the North Rim of the Grand Canyon, offers spectacular sandstone cliffs, side canyons, cottonwood and oak thickets, and wide sandy benches. The first half of the trip will consist of building trail tread, making rock cairns to mark the trail, and light brushing. Following the work project, we will hike down into Kanab Creek Canyon to a beautiful natural spring, where trip members can relax, explore numerous side canyons, or hike down to the Colorado River.

[52] Red Rock Trail Maintenance, Coconino Forest, Arizona—April 27–May 3. *Leader, Jim Ricker, 525 S. Elden, Flagstaff, AZ 86001.* This will be our fifth anniversary trip to the spectacular Red Rock country. The trails in this land of sandstone canyons and pine-covered mountains are in much need of repair. This year's trip will return to Dry Creek Basin at elevations of 4,800 to 6,600 feet. We will work every other day, and there will be ample time to explore, take photographs, or just soak up the beauty of the wilderness. Expect warm days in the lower elevations with a chance of snow higher up.

[193] Rose River Loop, Shenandoah Park, Virginia—June 1–7. *Leader, Paul Torrence, 106 E. Deer Park Dr., Gaithersburg, MD 20877.* Shenandoah National Park extends for about 80 miles along the Blue Ridge Mountains between Front Royal to the north and Waynesboro to the south, and overlooks the famous Shenandoah Valley to the west. We will be establishing our base camp in the central region of the park and working closely with park rangers to improve the Rose River Loop Trail by treadway construction, cribbing, and waterbars. An off day may be devoted to an ascent of Old Rag Mountain, the most spectacular single peak of the northern Virginia Blue Ridge.


Sierra Club's Own Trail Construction Project, Sierra (W. A. Jackson)

[194] Blue Range Primitive Area, Apache Forest, Arizona—June 7–14. *Leader, Rod Ricker, P.O. Box 807, Cottonwood, AZ 86326.* One of the largest and oldest primitive areas in the Southwest, the Blue Range has been considered for wilderness designation several times. Situated mostly in the White Mountains of eastern Arizona and partly in New Mexico, the area encompasses much of the Blue River and surrounding high country. It also includes the eastern end of the Mogollon Rim and many steep canyons. There are deer, elk, bear, and other wildlife in a forest that goes from spruce, aspen, and white fir to Ponderosa pine, Douglas fir, and then down to chapparal. We will backpack into our base camp and reroute and repair one of the trails much in need of work.

[195] Elk Creek, Marble Mountain Wilderness, Klamath Forest, California—June 16–26. *Leader, Jack Brautigam, 3043 NW 62nd St., Seattle, WA 98107.* Elk Creek drains the west slopes of 6,900-foot Marble Mountain, an all-white ridgetop formed of prehistoric marine sediments. Base camp will be in the upper Elk Creek valley, just below Marble Mountain, eight miles from our trailhead at Sulphur Springs Campground. The trail climbs gradually from 2,400 feet to 4,700 feet, reaching the red and white fir zone. The work project will include tread-widening and water drainage improvements. On off days a variety of hikes to nearby ridges and basins offers splendid views and numerous opportunities for exploration.

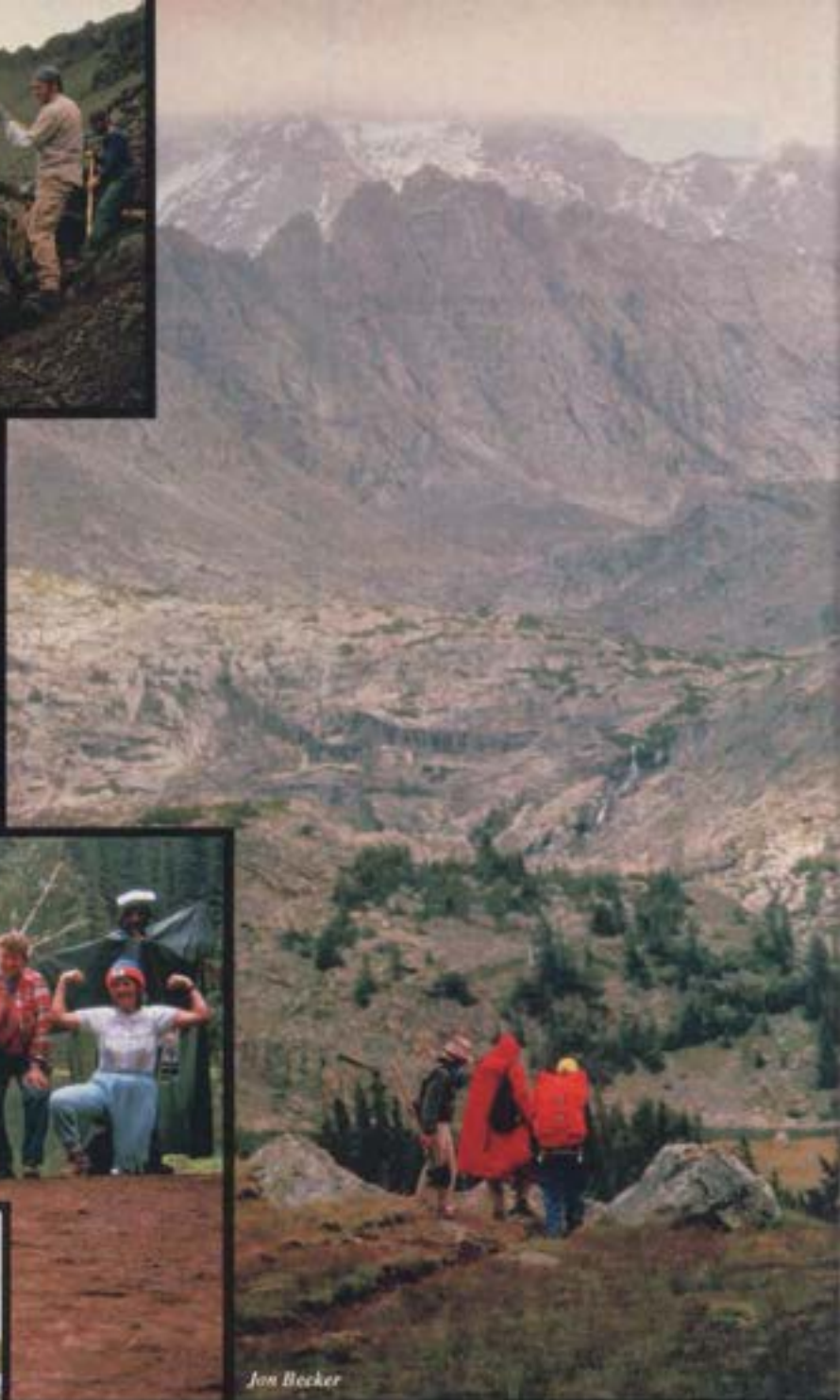
[196] Kenai Trail Construction Project, Chugach Forest, Alaska—June 16–26. *Leader, Bill Weinberg, 1465 Hayes St., San Francisco, CA 94117. Cook, Carol Crews.* The rugged Alaskan coastline has been attracting more visitors each year, and the Forest Service has been steadily increasing the trail system serving the backcountry. We will be building new trail along the route of a 1930's Civilian Conservation Corps trail that has not been maintained. The roadhead will be in the vicinity of Moose Pass, about 23 miles out of Seward. We will base camp near the foot of the glacier at Ptarmigan Lake (about 900 feet), surrounded by the subalpine, glacier-

Rick Zenn

Steve Warbie

Laurie-Ann Barbour

Laurie-Ann Barbour



Jon Becker

Laurie-Ann Barbour

sculpted peaks. This will be a strenuous trip, beginning with five days of hard work and climaxing with a long backpack loop through the mountainous forests and meadows. *Due to the anticipated demand for this trip, a lottery will be held by mid-February to allocate available spaces.*

[197] Sierra Club's Own Trail Maintenance Project, Sierra Forest, Sierra—June 20–30. *Leader To Be Announced. Cook, M. Geddes.* Join us on this early season maintenance trip repairing the ravages of winter. We will be opening the trail for summer use. The Service Trip Program has adopted this trail and substantially rebuilt it over the last five years. We will base camp in Upper Graveyard Meadow (9,000) and work both sides of Goodale Pass. This places us high in the heart of the Sierra, surrounded by 12,000-foot peaks and many lakes. This is a moderately strenuous trip.

[198] Sierra Club's Own Trail Construction Project #1, Sierra Forest, Sierra—July 1–11. *Leader, Flint Ellsworth, 1248 Stockton St., St. Helena, CA 94574. Cook, Muir Matteson.*

[209] Sierra Club's Own Trail Construction Project #2, Sierra Forest, Sierra—August 9–17. *Leader To Be Announced. Cook, Sandy Gimbal.* After five years of enthusiastic and dedicated work, the trail over Goodale Pass adopted by the Service Trip Program has been substantially completed. However, portions still cross fragile meadows, and the foot and stock traffic leaves gullies that promote erosion. We will be building elevated causeways through these areas to protect them. Our base camp in Upper Graveyard Meadow places us within easy range of many spectacular alpine lakes and peaks. This will be a moderate trip.

[199] Teton Wilderness, Wyoming—July 5–15. *Leader, Tom Gefell, 1010 Cranberry Dr., Cupertino, CA 95014.* The Bridger-Teton National Forest lies in the heart of Wyoming's mountainous northwest. We will camp and work in a heavily forested area of 8,000- to 9,000-foot peaks and meadows. Across the Snake River Valley lies Grand Teton National Park. Our side of the valley is dotted with many lakes and streams and heavy vegetation. The area is inhabited by much wildlife, including deer, elk, moose, beaver, Trumpeter swan, and brown and grizzly bear. We will work hard and play hard—there's lots to do on both counts.

[200] One-Mile Lake Trail Maintenance, Marble Mountain Wilderness, Klamath Forest, California—July 7–17. *Leader, John Albrecht, 2063 Lincoln, Eugene, OR 97405.* Tucked away in the Marble Mountains of Northern California, One-Mile Lake has been a popular spot for hikers and fishermen for many years—Herbert Hoover among them. This year's project will be to complete the trail from Sandy Ridge down to One-Mile Lake begun three years ago. The work will include brush-cutting, rock moving, and a lot of digging. There will be plenty of time on both work days and off days to enjoy meadows in full bloom and lakes excellent for swimming and fishing. Expect good Dutch-oven meals and a great group of people on this fun-filled and memorable trip.

[201] Hamilton Camp Women's Trip, Marble Mountain Wilderness, California—July 16–26. *Leader, Diane Jackson, 3033 Regent St., Berkeley, CA 94705.* Join us in the Marble Mountains on the third phase of this ongoing service project. This women-only trip will involve rerouting the trail near Hamilton Camp, which is located at the headwaters of the North Fork of the Salmon River. Free days can be spent climbing to the top of English Peak or swimming in several nearby lakes. The area is noted for its abundance of wildflowers and wildlife.

[202] Fourth Annual Beginning Camper's Trip, Inyo Forest, Sierra—July 19–27. *Leaders, David Simon and Susan Liddle, 4017 Villa Vera, Palo Alto, CA 94306.* Have you never gone backpacking before? Or only a little bit? Then this is the trip for you. We'll devote our energies to sharpening camping skills, having a good time, and repairing some trail—probably all at once. Join us on the Sierra's eastern side, where good scenery and places to dayhike abound. From our base camp by one of the lakes in the Pine Creek drainage, we can work on the Pine Creek Pass and Italy Pass Trails, explore Granite Park, and, if we're ambitious, climb the Class 2 Mt. Julius Caesar.

[203] White Mountain Service Trip—Appalachian Mountain Club Collaboration, New Hampshire—July 20–27. *Leader, John Rogers, 310 Munroe St., Ithaca, NY 14850.* Once again we're joining the venerable AMC for trail work in the Pemigewasset Valley, or perhaps the Great Gulf Wilderness of the White Mountains. We'll be making waterbars for much-needed drainage control, clearing some brush, and building stone steps. There may even be a trail relocation project. These woods are amazingly lush and green in July, and our base camp will be near a pond or river for swimming and fishing after work. We may even find a good raspberry patch. At the end of the trip we'll have time for one or more of the Presidentials—Mt. Washington anyone? The work will be hard and satisfying.

[204] Targhee Tetons Trail Maintenance Project, Targhee Forest, Idaho—July 21–31. *Leader, Bob Wolf, 2145 Bonnie Ln., Minneapolis, MN 55422. Cook, Gretchen Muller.* The Grand Tetons provide the backdrop for this year's trip to the Targhees. This rugged country is home to numerous bear, deer, other large mammals, and many smaller creatures. We will be working on the west side of the Tetons repairing the damage done to the trail by heavy rains and snowfall. Base camping at 10,000 feet, there will be ample time to bag nearby peaks, swim, or just lounge about. This is a moderate trip.

[205] Pine Creek, Inyo Forest, Sierra—August 1–11. *Leader, Scott Larson, 1200 27th Ave., Sacramento, CA 95822.* Join us at our 10,000-foot base camp on the eastern escarpment of the Sierra. We'll spend some of our days helping our friendly U.S. Forest Service trail crew repair the Italy Pass and Pine Creek Pass trails, and some of our days hiking, botanizing, snoozing, and otherwise enjoying ourselves. You can dayhike to Granite Park, Lake Italy, and Humphreys Basin or climb the Class 2 Mt. Julius Caesar (13,196).

Service Trip Doctors Wanted

Service trips attempt to include a doctor as a staff member on each trip. These are individuals who 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 wilderness that regular participants share.

All trip leaders have the Advanced Red Cross First-Aid Card, and the Club provides a first-aid kit. Although our accident record with 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 ten days of your summer vacation than in the great outdoors, sharing companionship with environmentally concerned citizens and putting some work back into the wilderness 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 Court
Raleigh, NC 27609

[206] High Uintas Wilderness Roving Trail Project, Wasatch Forest, Utah—August 3–13. *Leader, Jon Nichols, 338 W. Elvira, Tucson, AZ 85706. Cook, Robin Reilly.* The High Uintas, the most prominent east-west mountain range in the continental United States, lie 100 miles from Salt Lake City in northeastern Utah. Our project will be to maintain the approximately 30 miles of trail between Blacks Fork Creek and Island Lake. This area ranges in elevation from 8,000 to 11,000 feet, and contains many lakes and peaks plus the unique Red Castle formation and Utah's highest point, King's Peak (13,528). With the help of a packer, we will move our base camp two or three times. Free time can be spent moose-watching, fishing, hiking, and loafing. This project is suitable for people in good physical condition at all levels of experience.

[207] Cloud Peak Wilderness, Big Horn Forest, Wyoming—August 5–15. *Leader, John Albrecht, 2063 Lincoln St., Eugene, OR 97405. Cook, Sasha Ennik.* This trip will repair and rebuild three miles of the West Ten Sleep Trail from Misty Moon Lake (10,000) to Florence Pass (11,000). The six-mile hike from the roadhead (9,500) to base camp, work on the trail, and possible trips to Cloud Peak (13,174) and the surrounding lakes will provide ample opportunity for walking. Fishing in the area is excellent. Weather at this elevation is usually sunny and comfortable, but snow and frost are not unheard of in August. Altitude and climate make this a moderately strenuous trip.

[208] Washakie Wilderness, Greybull River, Wyoming—August 5–15. *Leader, Edwin Thomas, 1215 Cleveland St., Wilmette, IL 60091.* One of the most remote in the Lower 48, this area is located 40 miles east of Yellowstone in the Absaroka Mountains. The four work days will involve trail construction and improvement at elevations between 8,000 and

11,000 feet in desert scrub and coniferous forest. There will be four free days for viewing wildlife (elk, antelope, moose, and bighorn sheep), fishing, dayhiking to the numerous unnamed peaks of more than 12,000 feet, or just relaxing. This trip of moderate difficulty will be rewarding to experienced backpackers and a challenge to others.

[210] Long Mountain Lake Trail Maintenance Project, Panhandle Forest, Idaho—August 10–20. *Leader, Bob Hayes, 1891 Happy Ln., Eugene, OR 97401.* Long Mountain Lake is the site of our camp nestled below Pyramid Peak. From nearby Parker Ridge we will have a panoramic view of the Selkirk Range and an overlook of Long Canyon, the region's proposed wilderness area. Long Canyon is currently accessible only by a very steep trail; we will work on a new one with a gentler slope. On free days, there are nearby peaks for the energetic, while numerous lakes provide fishing and swimming opportunities. We may see moose, eagle, and other wildlife. Join us for a strenuous, challenging, and rewarding trip.

[211] Minarets Trail Maintenance Project, Ansel Adams Wilderness, Sierra—August 15–25. *Leader, Laurie-Ann Barbour, 3131 Quintara St., San Francisco, CA 94116. Cook, Mindy Walker.* The Ansel Adams Wilderness (formerly called Minarets Wilderness) is known for its rugged country, but we'll be camping and working in a more gentle forested area on the west side of the wilderness. A seven-mile hike will bring us to our camp at Flat Lake (9,000), where we can view the Ritter Range, Ansel Adams Peak, and Yosemite National Park. On work days we will reroute an erosion-prone trail to Rutherford Lake and do some maintenance on other trails. The many lakes in the area provide good fishing and swimming for free days, and there are numerous peaks to bag for the energetic. The work will be hard, but overall this will be a moderate trip for the average hiker.

[212] Lost Creek Wilderness, Pike Forest, Colorado—August 16–26. *Leader, Wally Mah, 1301 W. Eddy St., Chicago, IL 60657.* Although only two and a half hours from Denver, the Lost Creek Wilderness area has yet to be discovered by the masses. The peaks in this area rise to 12,000 feet, so you'll have the feeling of being in the mountains. The hike to our 11,000-foot base camp gains 2,000 to 3,000 feet. The work involves rerouting portions of the trail and installing erosion control devices. Dayhikes on free days will offer Rocky Mountain wildflowers in a timberline meadow and, for the lucky, a glimpse of bighorn sheep. This is a moderate trip.

[213] Baxter Park Canoe and Bog-Bridging, Maine—August 17–24. *Leader, Terry Koch, 26 Cliff St., East Haven, CT 06512.* Day one we'll paddle in eight miles across

Cutting in a step on Goodale Pass Trail, Sierra (Dale Hekkuis)

Matagamon Lake and set up camp. Then, working with park trail personnel, we'll start building bog bridges from split and peeled cedar logs along the marshy last section of the Freezeout Trail. We may move camp once to keep close to the work. Baxter Park's 200,000 acres are a haven for wildlife; we should see moose, beaver, deer, and maybe bear. We may find blueberries as well. At trip's end we'll climb back out and have time for bagging Baxter Peak and traversing the famous (infamous!) Knife Edge. The trip will be moderately strenuous.

[214] Vogelsang Trail Maintenance and Roving Cleanup, Yosemite Park, Sierra—August 17–27. *Leader, C. E. Vollum, Route 5, Box 66A, Albert Lea, MN 56007.* A recent impact study indicated the need for a roving service trip in the Vogelsang-Merced area. Our work project will consist of fire-ring breakup in a high lakes area near Emeric, Bernice, Fletcher, and Evelyn lakes (among others). We will also do light trail maintenance and any other spontaneous projects requested by the National Park Service. Entering the backcountry at Tuolumne Meadows and exiting via Merced Lake to Yosemite Valley, we will cover a minimum of 27 miles. Work will be done at altitudes between 9,500 and 11,200 feet. This trip will be strenuous.

[215] Bowman Trail Maintenance Project, Eagle Cap Wilderness, Oregon—August 21–31. *Leader, Cathie Pake, 1727 E. 9th St., Tuscon, AZ 85719.* The Bowman Trail climbs steeply out of the Lostine River canyon, providing immediate access to the wilderness lakes to the west. We will be rebuilding a two- to three-mile section of this heavily traveled trail, cutting the tread back into the hillside. This is strenuous work, mostly with picks and hazel hoes. We will base camp in Brownie Basin (7,000), within easy hiking range of the high lakes and peaks. Free days can be spent birdwatching, botanizing, hiking, peakbagging, fishing, or swimming. Spring comes late to this area, so there will still be wildflowers to brighten your mountain photographs. If the work goes quickly we will probably backpack the long way out, past Steamboat Lake.

[216] Mt. Hood Timberline Trail Maintenance, Cascade Range, Oregon—August 24–September 3. *Leader, Rick Zenn, 2533 NE 64th, Portland, OR 97213.* One of the premier hikes in Oregon, the Timberline Trail circles Mt. Hood (11,245), passing alpine meadows, glacial streams, and dramatic ridges. The 40-mile trail and its stone shelters were built by the Civilian Conservation Corps in the 1930s. We will begin and end at Timberline Lodge, hiking around the mountain mostly at timberline (about 6,000 feet), sometimes dropping into deep woods or climbing over higher ridges. We will do brushing and trail maintenance, mostly on the north side of the mountain. A food cache will lighten our loads. The wildflowers should be at their peak this time of year.

[217] Grand Canyon, Kaibab Forest, Arizona—August 28–September 6. *Leader, Peter Curia, 1334 W. Willetta, Phoenix, AZ 85007.* The North Rim of the Grand Canyon, more isolated and much less frequented than the South Rim, contains a Canadian coniferous-type forest. We will be doing trail maintenance in the park, which is hard and demanding work, but we will have plenty of time to explore the area. This trip will be moderate to strenuous.

[218] Boundary Waters Canoe Area, Minnesota—August 29–September 7. *Leader, Wally Mah, 1301 W. Eddy St., Chicago, IL 60657. Cook, Conrad Smith.* This is our fourth consecutive year in the glacially sculpted Boundary Waters Canoe Area, the largest wilderness in the lower 48 states. We will canoe each day to the project site, where we will do hard work on the trail. On free days we can explore the routes followed by the fur trappers, or relax and fish. Loons are abundant, and we may see osprey, otter, mink, or bear. This is not a trip for the beginning canoeist. Rated moderate to strenuous.

[219] Baxter in Early Autumn, Maine—September 7–14. *Leader, Lance Kounitz, 300 W. 107 St., #3B, New York, NY 10025.* The first few maples along the water's edge should have just turned scarlet when we set up our base camp at South Branch Pond Campground. On the North Traveler Trail and others in the area, we'll be clear-

(W. A. Jackson)

ing brush and winter blowdowns, building stone steps on some of the steepest sections, and, if approved, beginning work on a new connecting trail. Swimming and canoeing on the pond will be a welcome option after each day's hard work, and there should still be some blueberries in the area. At week's end we'll take a day for the Katahdin Peaks and the exhilarating Knife Edge. This trip will be moderately strenuous.

The Morley Fund

The Morley Fund, created in 1951 by the bequest of Mrs. F. H. Morley, has money available to help defray the trip fees of teachers and other educators who could not otherwise afford to go on trips. If you think you might qualify, inquire by writing to the Outing Department, Sierra Club, 730 Polk St., San Francisco, CA 94109, for an application.

[220] Tuolumne Meadows Base Camp, Yosemite Park, Sierra—September 7–17. *Leader, Kevin Havlik, 1645 Princeton Ave., Salt Lake City, UT 84105. Cook, Jane Geddes.* Carrying on the work of a 1985 service trip, this group will concentrate on trail maintenance in the Dog Lake area, fire-ring breakup in the Elizabeth and Nelson lakes regions, and trash pickup near Tenaya Lake. Altitudes will range from 8,000 to 9,500 feet. The trip will be moderate to strenuous.

[221] Trampas Lakes Trail Maintenance, Pecos Wilderness, New Mexico—September 20–27. *Leader, Linda Buchser, 606 Alto St., Santa Fe, NM 87501.* These two small lakes lie just below timberline at 11,400 feet. There are lovely granite cirques to explore, and the possibility of cross-country dayhikes to other lakes and to the Truchas Peaks (13,000). Our project will involve rebuilding switchback barriers. A base camp will be established about six miles in. The crew is limited to ten to minimize environmental impact. Work and play days will alternate.

[222] Baxter Park Trails Project, Maine—September 20–28. *Leader, George Neffinger, 207 Lexow Ave., Nyack, NY 10960.* This will be our fourth year improving the trail system in the northern and central sections of Baxter. This year we will be building a new trail and clearing some old ones, giving us an opportunity not only to refurbish the old but to create something new. Under the direction of a park ranger, our strenuous work will be in timber stands and on rocky slopes. We can expect cool weather, few bugs, magnificient fall foliage, moose and loon for company, and canoes for fun on the ponds. Weather permitting, on our days off we can bag Katahdin, Black Cat, and Traveler peaks.

[312] Cumberland Island Seashore, Georgia—October 19–25. *Leader, Sarah Stout Gooding, 8915 Montgomery Ave., N. Chevy Chase, MD 20815.* Cumberland Island, the largest of Georgia's barrier islands, lies just north of the Florida border. Marine-oriented Indians lived on the island 4,000 years ago; now the seashore is permanently protected as a primitive area. We will clear and maintain existing trails using hand tools. On alternate days we will explore the undeveloped white-sand beaches and live oak forest. The Sound contains croaker, drum, trout, and red bass; surf fishing yields red bass, spotted trout, and bluefish. Dunes, salt marshes, birds, and wildlife provide opportunities for photographing and observing.

[313] Ozark Trail Building, Missouri—October 19–25. *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 the Mark Twain National Forest in southern Missouri. This is hilly, rugged country heavily forested with hardwoods. We will work from a base camp with time for dayhikes and exploration. One of our off days can be spent canoeing down the Eleven Point Wild and Scenic River.


(Bill Weinberg)

Cleanup Projects

[50] Superstition Wilderness Cleanup, Arizona—March 16–23. *Leader, John Ricker, 2610 N. 3rd St., Phoenix, AZ 85004.* The Superstition Wilderness, situated 50 miles from Phoenix, is one of the oldest wilderness areas. It is composed of three rugged mountain ranges from lower Sonoran desert to pine-clad peaks. In the springtime wildflowers and blooming cactus abound, streams are running, and the nights are cool and the days warm. Several thousand acres have recently been added to the wilderness, and our cleanup trip will be tearing down fences and cleaning up after demolition of farm buildings in this new area. If there isn't enough to do, we may build or repair some trail. There will be ample time to explore the region, bag a few peaks, or hike through Haunted Canyon.

[223] Mt. Agassiz Plane Wreck Removal, High Uintas Wilderness, Utah—July 16–25. *Leader, Jon Nichols, 338 W. Elvira, Tucson, AZ 85706.* This project will be in the western High Uintas, 100 miles east of Salt Lake City. We will first disassemble and move a small twin-engine plane wreck from the summit of Mt. Agassiz (12,428) to an area suitable for helicopter pickup. Time permitting, we will also remove an abandoned telephone line. Base camp will be within five miles of the trailhead at about 10,000 feet. On our free days there will be time for dayhikes, fishing, and relaxation in this newly designated wilderness. No special experience is necessary, but the project will require some rock-scrambling, and members must be in good shape due to the high altitudes at which we will be working.

Wilderness Restoration Projects

[224] Maroon Bells–Snowmass Wilderness Restoration, White River Forest, Colorado—July 21–31. *Leaders, Carol and John Sunsfield, Box 588, Monument, CO 80132. Cook, Regina Rubin.* The Maroon

Trip leader Ann Bode on an Idaho trail-maintenance project. (Laurie Ann Barbour)

Sierra Club's Own Trail Construction Project, Sierra [illegible]

Bells near Aspen, Colo., are among the nation's most spectacular sights. The wilderness gets heavy use, however, and is in need of work. On this trip we will work and play beneath the splendor of the 14,000-foot Maroon Bells and Snowmass peaks. Our work will be strenuous: trail maintenance, rock causeway construction, and campsite revegetation, all at elevations above 10,500 feet. The strenuous work and play make this a trip for seasoned, well-conditioned backpackers with high-mountain experience.

[225] Mowich Lake, Mt. Rainier Park, Washington—July 28–August 7. *Leader, Bob Hayes, 1891 Happy Ln., Eugene, OR 97401. Cook, Louise McCracken.* Our camp will be near the roadhead at Mowich Lake in the northeastern part of Mt. Rainier Park. We will hike about one and a half miles each day to the work project, which will include waterbar installation, revegetation, and eradicating man-made scars in heavily used areas. On free days the area offers dayhike opportunities to subalpine ridges with views of Mt. Rainier, or to lakes for fishing and swimming. Join us for a fun and rewarding trip.

[226] Denali Park Restoration Project, Alaska—August 1–11. *Leader, Bruce Horn, 2720 Shady Ave., #14, Pittsburgh, PA 15217. Cook, Laura Shaw.* Join us in the heart of Denali Park on the north slope of Mt. McKinley as we eradicate a road and other evidence of recent mining activity. Grizzly, caribou, and Dall sheep abound in this extremely wild area of Alaska. The Park Service will fly us to the work site; the hike out is a strenuous four days through the tundra. *Due to the anticipated demand for this trip, a lottery will be held by mid-February to allocate available spaces.*

River Projects

[53] Owyhee River Cleanup, Oregon—May 28–June 1. *Leader, Rick Zenn, 2533 NE 64th, Portland, OR 97213.* We will help maintain the pristine beauty of this remote area as we follow the Owyhee through a series of dramatic canyons. The river offers superb whitewater and geography that will remind you of the Grand Canyon. Our work will consist primarily of removing trash, debris, and excess fire circles. No prior rafting experience is necessary, only willingness to work and love of the wilderness. Our guides will provide all river gear and instruction in rowing.

[227] John Day River Row-It-Yourself Cleanup, Oregon—June 22–26. *Leader, Kelly Runyon, 475 Crofton Ave., Oakland, CA 94610.* The John Day, a little-known river in northeastern Oregon's desert country, is rapidly becoming more popular. Perfect for beginning rafters to learn boat-handling, the river also offers terrific birding and fossil-hunting opportunities. Group members will share the work and fun of boat-rowing, camp chores, and cleaning up environmental damage done by other wilderness users. Expect hot weather, solitude, fascinating rock formations, and an outstanding menu. No previous rafting experience or special preparations are needed to enjoy this trip.

[228] Salmon River Row-It-Yourself Cleanup, Idaho—August 24–28. *Leader, Kelly Runyon, 475 Crofton Ave., Oakland, CA 94610.* We will float portions of two of the nation's most famous rivers, the lower Salmon and the Snake. You will learn to guide a river raft through the many large but nontechnical rapids. In these deep, wide, beautiful canyons we will take time to explore old mines, Indian pictographs, and other interesting features. We will also have a variety of work to do, including camp chores, rigging the boats, and picking up debris left by others. No previous rafting experience or special preparations are needed to enjoy this trip.

[229] Rogue River Row-It-Yourself Cleanup, Oregon—September 21–25. *Leader, Rick Zenn, 2533 NE 64th, Portland, OR 97213.* 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 will be exposed. Our goal will be removal of any trash left behind by the season's rafters. Wildlife and wilderness scenery are abundant in this section of Zane Grey country in the Siskiyou Mountains. This is a participatory trip—our outfitter provides smaller two- to three-person rafts, offering those who are interested the opportunity to row their own. Participation in the work project and commissary chores is required.

SKI

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. Please see the Foreign Trip section for additional ski trips.

[396] Adirondack Ski Tour, New York—February 2–7. *Leader, Walter Blank, RD 1, Box 85, Ghent, NY 12075.* This trip takes us through the heart of the Adirondack forest preserve with a different destination each night. We traverse hidden valleys, ski through high mountain passes, and cross frozen wilderness lakes. Some of the scenery is the most spectacular in the eastern United States. Your baggage will be transported for you from inn to inn. The trip leader is a certified Nordic instructor.

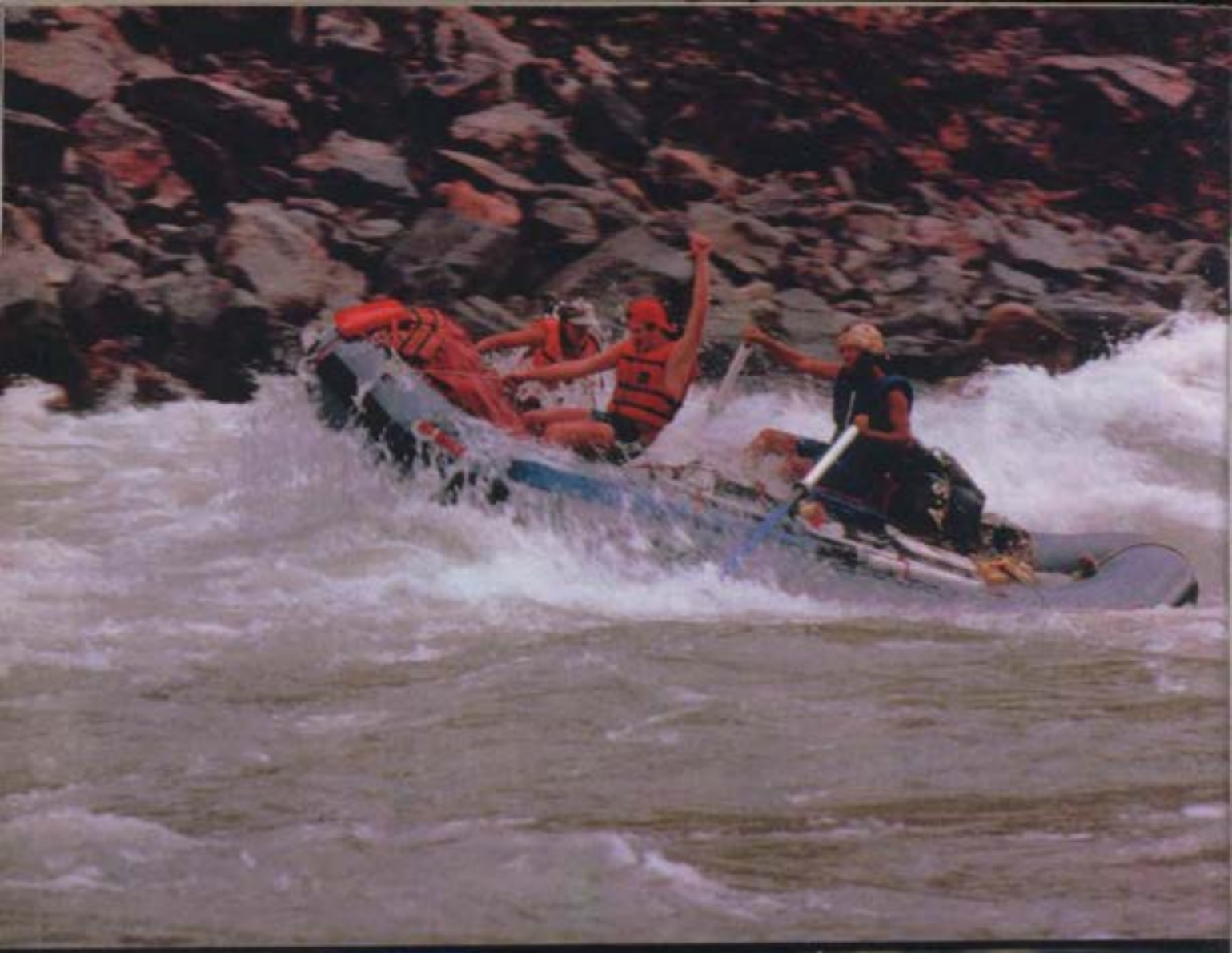
[397] Zealand Valley Cross-Country Ski, White Mountains, New Hampshire—February 15–19. *Leaders, Craig Caldwell and Jeanne Blauner, 12028 Gaylord Dr., Cincinnati, OH 45240.* North of Franconia and Crawford notches, the Zealand Valley provides outstanding cross-country touring. We can visit iced-over Thoreau Falls, climb Mt. Hale or Zealcliffs for the long winter views, and ski across beaver ponds and through groves of white birches. Without city lights we should have good views of Halley's Comet. We'll make our plans each day when we leave our lodging at AMC's Zealand Hut. Day one is tough: seven miles with full packs. Thereafter the trip is moderate with strenuous options. Skiers should be of intermediate level with experience off groomed tracks.

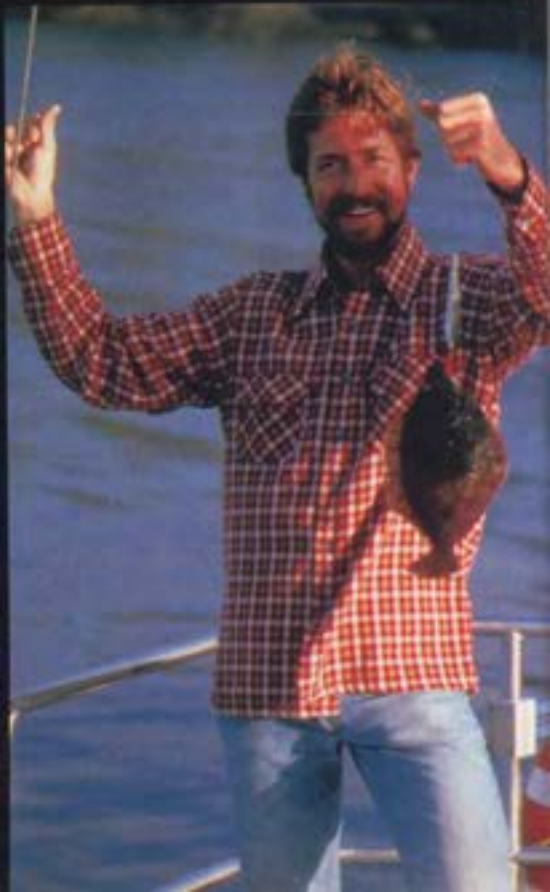
[54] Backcountry Ski Tour, Little Lakes Valley, Inyo Forest, Sierra—March 22–29. *Leader, Bob Paul, 13017 Caminito Mar Villa, Del Mar, CA 92014.* We will spend a week exploring the grandeur of the Sierra wilderness in winter. From a comfortable base camp we will day-ski into alpine areas surrounded by 12,000-foot peaks. The trip is moderately strenuous; we will ski with loaded backpacks only into and out of our base camp hut. Skiers should have beginning to intermediate skills with some experience in off-track travel. Expect lots of snow and good skiing.

[55] Crater Lake Cross-Country Ski Tour, Oregon—April 6–12. *Leader, Marriner Orum, 2389 Floral Hill Dr., Eugene, OR 97403.* With an average yearly snowfall of 50 feet, Crater Lake National Park offers outstanding spring ski touring with views of the lake's deep-blue water, cornice-topped cliffs on the crater's rim, and the mountains of southern Oregon. The first three days will be spent touring from a base camp. We will come out for a night in a lodge, then spend four days on the 38-mile tour around the lake. Skiers must have intermediate skills and backpacking experience. This trip will be moderately strenuous.

[56] Three Sisters Wilderness Area Ski Tour, Oregon—May 11–17. *Leader, Tim Odell, 750 W. Broadway, Eugene, OR 97402.* The Three Sisters are volcanoes, all over 10,000 feet with at least a dozen active glaciers covering their slopes. We will ski about 40 miles with our packs, crossing between the South and Middle Sisters and circling back around the North. On our two layover days we can ski the open bowls above timberline, with views extending the length of Oregon and beyond. Skiers must have intermediate skills and backpacking experience. This will be a strenuous trip.

(Carol Dienger)





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 adrenalin rush or a slackwater canoe trip at a much slower pace, closeness to nature is a constant.

Some of the rivers we run belong to the Wild and Scenic Rivers System; others are threatened by dams and the battle for their preservation continues. 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 experience often missing on commercial trips.

Raft Trips

Raft Trips combine the excitement of whitewater rapids with the natural wonders of wild river areas. The outfitters are carefully selected to provide safe equipment and good food. Boatmen are experienced and 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.

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

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

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[57] Gila River Raft and Class III Canoe Trip, New Mexico—March 23–29. *Leader, John Buchser, 606 Alto St., Santa Fe, NM 87501.* Catching the peak spring runoff, we will experience Gila River wilderness, whitewater, and possible snowstorms. We start at the forks of the Gila, run through about 50 miles of wilderness, and take out at Mogollon Creek. There will be at least one side trip to Turkey Creek Hot Springs. Acceptance of trip members will lean toward those with experience in whitewater, Class III canoeing (with flotation), and severe wilderness conditions. This will be primarily a row/paddle-it-yourself trip; however, outfitters could be arranged to take participants (at additional cost). Canoes, rafts, and other equipment can be obtained locally for those traveling too far to bring their own equipment.


(Steve Warble)

[398] Sea Kayaking, Baja, Mexico—March 29–April 5. *Trip Coordinator, Kurt Menning, 997 Lakeshire Ct., San Jose, CA*

WATER

Canoeing through some exciting whitewater (John Small)

95126. Kayak the Sea of Cortez along the Baja Peninsula between La Paz and Loreto, visiting offshore islands, isolated beaches, and remote *ranchos*. Opportunities abound for hiking, beachcombing, birdwatching, and exploring. The trip is designed for beginning as well as experienced paddlers. Expert instruction will be given and a safety support boat will accompany us. This cruise offers an ideal experience with the sea kayak, unique in its agility and closeness to the sea.

[59] Salt River Raft Trip, Tonto Forest, Arizona—May 4–10. *Leader, Nancy Wahl, 325 Oro Valley Dr., Tucson, AZ 85704.* Discover one of Arizona's best-kept secrets—the inner reaches of the Salt River Canyon. Enjoy six days on this beautiful and exciting river. Starting on the Apache Indian reservation, we will combine oar and paddle rafts to negotiate the many Class III and IV rapids. The trip will be leisurely, allowing plenty of time for hiking and exploring. Traveling down the river through the Sonoran desert means warm weather and possibly some desert flowers in bloom. Minimum age 13.

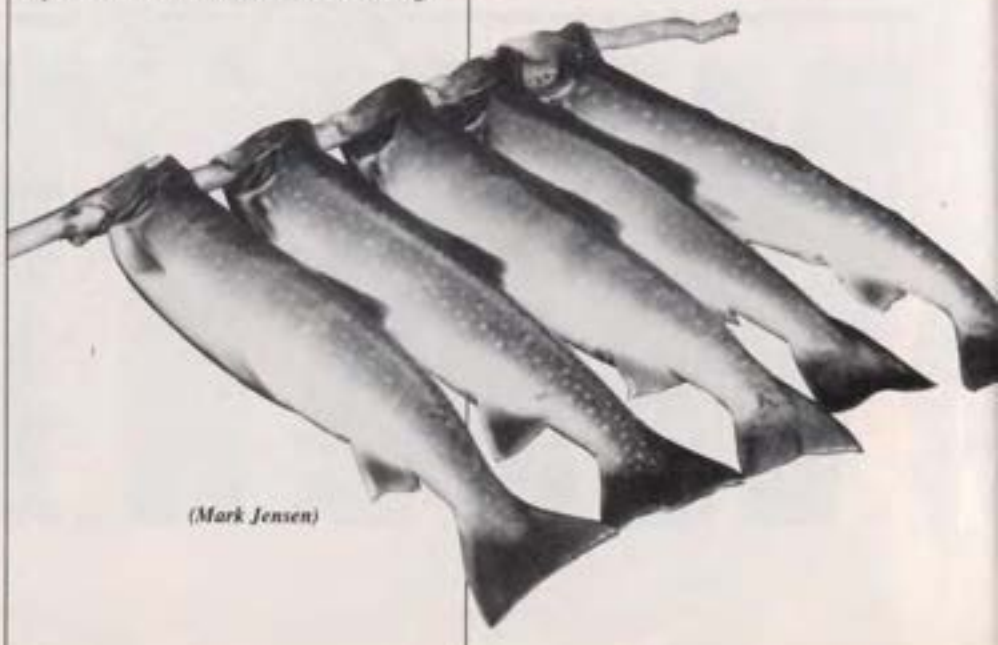
[60] Owyhee River Row-It-Yourself Raft Trip, Oregon—May 11–15. *Trip Coordinator, c/o Bill Gifford, 3512 NE Davis, Portland, OR 97232.* Flowing through a series of dramatic high-desert canyons in southeast Oregon, the Owyhee offers superb whitewater and continually changing geography reminiscent of the Grand Canyon. This is true wilderness, perhaps the most remote river trip in the state. Located on the Pacific flyway, the river is a birdwatcher's paradise. This trip is ideal for the beginning or intermediate rafter, but no rafting experience is necessary. Instruction in rowing and all river gear are provided. A geologist who has studied the area will accompany us.

[61] Birds of Prey Raft Trip, Snake River, Idaho—May 18–22. *Trip Coordinator, Robin Dunitz, 1015 Gayley Ave., #1050, Los Angeles, CA 90024.* On this distinctive trip we float through the Birds of Prey Natural Area on the Snake River, which features the highest density of nesting raptors—prairie falcons, golden eagles, kestrels, hawks, and owls—in North America. Birding enthusiasts can observe and photograph these raptors as they court, mate, and fledge their young. Wildflowers are abundant and nesting is most vigorous at this time of year.

[62] Rogue River Raft and Lodges, Oregon—May 19–23. *Trip Coordinator, c/o Bill Gifford, 3512 NE Davis, Portland, OR 97232.* 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 will be spent 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 ruffed grouse in the splendor of the wild Rogue wilderness.

[63] Upper Owyhee Raft, Idaho—May 19–25. *Trip Coordinator, Tris Coffin, 2010 Yampa Dr., Prescott, AZ 86301.* Flowing through a virtual wildlife sanctuary, this remote river is for those seeking solitude and desert-canyon beauty. Thousand-foot canyons contain bighorn sheep, golden eagle, and waterfowl. Classified a wild river, only one launch is allowed per day. Demanding rapids and at least one portage have kept most away from this dramatic landscape that resembles the Grand Canyon. Minimum age 15. The trip starts and ends in Boise, Idaho.

[64] The Grand Canyon–Colorado River Whitewater Adventure, Arizona—May 26–June 6. *Trip Coordinator, Ruth Dyche, 2747 Kring Dr., San Jose, CA 95125.*
[242] The Grand Canyon–Colorado River Whitewater Adventure, Arizona—July 16–27. *Trip Coordinator, Bruce Macpherson, 6263 Montecito Blvd., #6, Santa Rosa, CA 95405.*
[245] The Grand Canyon–Colorado River Whitewater Adventure, Arizona—August 11–22. *Trip Coordinator, Karen Short, 826 14th St., San Francisco, CA 94114.*
[247] The Grand Canyon–Colorado River Whitewater Adventure, Arizona—September 8–19. *Trip Coordinator, Carol Dienger, 3145 Bandera Dr., Palo Alto, CA 94304.* Descend 2 billion years back in time as we raft 225 miles down the Colorado River, one of the greatest whitewater rivers in the world. The Colorado has carved its way more than a mile deep into rock layers that have preserved the history of Earth's climate and life. No other river can compare to it as an unforgettable big-water raft experience; yet the Colorado has its quiet side, too. The gentle, natural flow of oar-powered rafts allows full appreciation of the grandeur and solitude of the canyon. Frequent stops and layovers will provide time for exploring some of the most magical elements of the canyon—its side streams and canyons. Minimum age 15



(Mark Jensen)

(18 solo). Cost includes round-trip transportation from Flagstaff, Ariz.

[65] Three Wild Rivers, California—June 3–7. *Leader, Kurt Menning, 997 Lakeshire Ct., San Jose, CA 95126.* Thrill to this intensive Northern California whitewater experience on a sampling of three rivers scheduled according to safe water levels. Professional river guides will take you for one day on the upper Sacramento, one day each on the upper Scott and the Scott Gorge run, and two days on the California Salmon. Base camps will be at Indian Scotty on the Scott and Oak Bottom on the Salmon. Previous rafting experience is desirable but not mandatory for the strong and brave.

[230] Red Walls, Dinosaurs, and Petroglyphs—Rafting the Yampa, Utah—June 18–22. *Trip Coordinator, Gary Dillon, 20244 Viewcrest Ct., San Jose, CA 95120.* If


(W. A. Jackson)

you want a beautiful initiation to the world of river wilderness, the canyon of the Yampa River offers excitement, variety, and color. The river gives pleasing contrasts of calm water, ruffles, and roller-coaster rapids. The banks are also a study in contrasts—lush, brilliant green against colorful sandstone cliffs. We will paddle 75 miles down this last free-flowing portion of the Colorado River system through the deep, arid canyons of Dinosaur National Park. This is an excellent trip for families; there will be time to swim, fish, and explore historical sites and Indian ruins. Minimum age ten. The trip begins and ends in Vernal, Utah.

[231] Adventure Above the Arctic Circle—Rafting the Kongakut, Alaska—June 21–30. *Trip Coordinator, Hunter Owens, 4320 Stevens Creek Blvd., #185, San Jose, CA 95129.* We will enjoy undisturbed wil-


Kenai Fjords Park sea kayaking, Alaska (Carol Dienger)

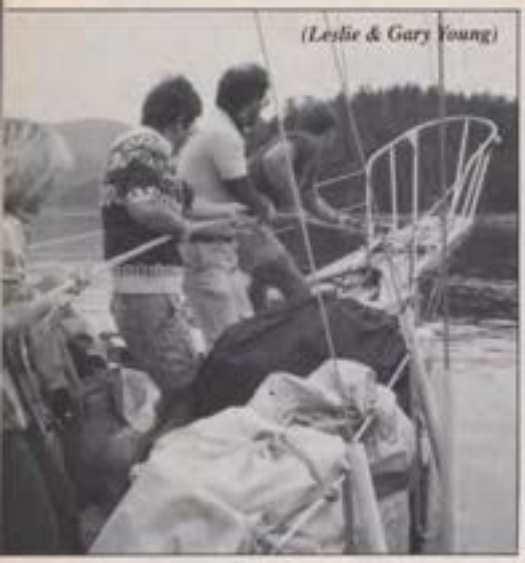
derness beauty on a grand scale as we float through a region of prolific arctic-alpine animal life and summertime floral explosion. The Kongakut passes towering peaks, luxuriant valleys, and colorful tundra as it flows north to the Arctic Ocean. Continuous sunlight allows plenty of time for hiking and photography as well as excellent fishing opportunities. We time the trip to coincide with the normal migration of 100,000 caribou from the Porcupine caribou herd, one of the last two remaining wild herds in the country. The animals mass annually to migrate north up the Kongakut Valley. The trip begins and ends in Fairbanks, Alaska.

[232] Rogue River Raft, Camp, and Lodges, Oregon—June 22–26. *Leader To Be Announced.* We will raft the Wild and Scenic Rogue River, camping out the first two nights and staying in wilderness lodges the remaining nights. We will spend five days on the Rogue in oar boats led by experienced river guides. At the lodges we will have home-cooked meals, clean beds, and hot showers. Come enjoy the awakening of spring in the splendor of the wild Rogue wilderness. The trip will begin and end in Grants Pass, Ore.

[233-E] The Grand Canyon—Nature Photography, Arizona—June 22–July 3. *Trip Coordinator, Mark Larson, 1265 Grant Ave., Arcata, CA 95521.* Nature-photography instruction and an unforgettable whitewater experience on 225 miles of the Colorado River are featured on this oar-powered raft trip. Each raft 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, and frequent stops will give us ample opportunity to explore and photograph many features often missed on commercial trips. The trip coordinator, a nature-photography instructor and freelancer, will share photography tips with the beginning and advanced photographer. Minimum age 15 (18 solo). Cost includes round-trip transportation from Flagstaff, Ariz.

[234] The Rogue River Family Trip, Oregon—June 23–27. *Trip Coordinator, Jon Kangas, 10141 Bon Vista Ct., San Jose, CA 95127.*

[244] The Rogue River Family Trip, Oregon—August 4–8. *Trip Coordinator, Gary Larson, 13777 Lava Dome Way, Nevada City, CA 95959.* The Rogue River is a classic scenic wilderness river with moderate and fun rapids, a marvelous introduction to whitewater rafting for both adults and children. These trips are tailored to families who want to share a wilderness river experience. Minimum age is eight for mature, water-safe children. For additional information on the Rogue River see trip #s 235 and 241.



(Leslie & Gary Young)

[235] Rafting the Rogue River, Oregon—June 30–July 4. *Trip Coordinator, Lynn Dyche, 2747 Kring Dr., San Jose, CA 95125.*

[241] Rafting the Rogue River, Oregon—July 14–18. *Trip Coordinator, Sallie Menning, 997 Lakeshire Ct., San Jose, CA 95126.* The Rogue River provides a perfect river-running experience. Rapids of varying intensity provide fun and excitement while calm stretches allow time for reflection and appreciation of the natural beauty of the Rogue River Canyon. The area is rich in the relics and history of Indians, settlers, and early miners. Wildlife is abundant in the canyon—sightings may include river otter, deer, bear, eagle, and osprey. An inflatable kayak and paddle raft will be available for those who seek the thrill of paddling their own raft. There will be ample time for swimming, hiking, and exploring. Minimum age is eight for mature, water-safe children.

[236] Lower Salmon/Locsha Rivers, Idaho—June 30–July 5. *Trip Coordinator, Chuck Fisk, P.O. Box 67, Blairsden, CA 96103.* Experience two great rivers in six action-packed days! Our first three days will be 40 miles of big-water fun on the Salmon River. Oar-powered and paddle rafts will provide plenty of excitement for everyone. From the Salmon we drive a few short hours to the Locsha (an Indian name meaning "rough water"), which is wild, explosive, and exhilarating. We float 60 miles through thick cedar forests aboard 16-foot rafts using stern-mount oar frames with six paddlers in front. This is the safest and most advanced method to paddle big, technical whitewater. Minimum age 15. The trip begins and ends in Lewiston, Idaho.

[237] A Wild and Scenic River—The Middle Fork of the Salmon, Idaho—July 3–8. *Trip Coordinator, Bill Bricca, P.O. Box 159, Ross, CA 94957.* This is an opportunity to raft one of the West's classic whitewater rivers at peak water period. From Dagger Falls to Corn Creek we run through 100 miles of primitive wilderness, experiencing churning whitewater, colorful canyons, and a bit of the old West. Professional oarsmen in four-person rafts guide us through well-known rapids such as Power House, Pistol Creek, and Haystack. We will camp on clean sandy beaches, hike the river trail, look for deer and mountain sheep, and enjoy some trout fishing.

[238] North Umpqua and Upper McKenzie Rivers Paddle Raft Trip, Oregon—July 6–10. *Leader To Be Announced.* We will spend the first two days on the beautiful and challenging McKenzie River near Eugene, learning teamwork and paddle-rafting skills. Then we will make a short drive to the famous North Umpqua River near Roseburg for three days of intensive, exciting Class IV whitewater. The North Umpqua, which has been recommended for national Wild and Scenic River status, offers some of the most challenging whitewater in the Northwest. The fishing is outstanding. This trip is for beginning to intermediate rafters who are in good shape and interested in exciting yet forgiving rapids.

[239] Grande Ronde River Benefit Trip, Oregon—July 13–17. *Leader To Be Announced.* Flowing through the heartland of Oregon's Wallowa Mountains, the Grande Ronde is a swift river with a kaleidoscope of scenery and some exciting Class III whitewater. We begin high in the mountains and float through a rugged forested canyon that changes dramatically to semi-arid terrain followed by sculptured, colored desert country. Wildlife includes elk, bear, deer, bald eagle, and many other game and waterfowl. This is an excellent family river trip; no previous experience needed. Instruction and river gear will be provided. The outfitter will donate a portion of its fee to Sierra Club conservation efforts in eastern Oregon.

[240] Gold Country Paddle—Trinity/Klamath Rivers, California—July 14–18. *Trip Coordinator, Linda Macpherson, 4443 Montecito Ave., Santa Rosa, CA 95404.* This trip offers rapids, wildlife, and the gold country. The Trinity River is one of the few Wild and Scenic rivers in California. You will plunge into Hell's Hole, slide down Triple Drop, and manuever through Fishtail, then enjoy the warm waters of the Klamath River. Come experience the thrill and excitement of paddling your own raft or inflatable kayak. When the river is calm you can enjoy the wildlife and unsurpassed scenery. The rapids provide many thrills, yet are fairly safe. Participants will be trained to paddle. Minimum age is 12 for mature, water-safe youngsters.

[243] Klamath River Paddle and Raft, California—August 4–8. *Trip Coordinator, Blaine LeCheminant, 1857 Via Barrett, San Lorenzo, CA 94580.* Imagine the exhilaration of challenging one of the West's best whitewater rivers in your own inflatable kayak. Rafts provide support and accommodate passengers as well. Our journey takes us up through the scenic southern Cascades, where moderate water temperatures provide invigorating swims after exciting days on the river. This remote area is home to eagle, osprey, deer, river otter, and bear. This exciting experience makes an excellent family outing. Minimum age is 12 for mature, water-safe youngsters.

[246] Deschutes River Family and Fishing Trip, Oregon—August 17–21. *Leader, John Edison, 5834 NE 75th, Seattle, WA 98115.* We will float the lovely Deschutes River in north-central Oregon, enjoying the desert and exciting yet safe whitewater. Special emphasis will be placed on family participation and fishing. Fly-fishing from the banks for brown trout and summer steelhead are the highlights of this world-famous fishing river. The Deschutes offers intermediate whitewater and hot sunny weather. We will float from Trout Creek Campground to the confluence of the Columbia River. This will be a row-it-yourself trip; instruction and all river gear are provided and no previous experience is necessary.

Canoe Trips

CANOEING is a unique do-it-yourself way to reach pristine wilderness. Experience the

(Tim Means)

tranquility of paddling placid water or the exhilaration of running wild water; add to this beach camping, side canyon exploring, swimming, and just plain relaxing, and you have the ingredients for a great wilderness experience.

Trips are scheduled for most months of the year in many parts of the country and are planned to accommodate a wide range of skills.

Food, river equipment, and some instruction are generally provided. Leader approval is required. You will be expected to share in the camp chores.

Participants must be in good health and, except where noted otherwise in the trip supplement, capable of paddling, kneeling, lifting, and swimming.

Canoe trips are graded as follows:

Grade A: No canoeing experience required.

Grade B: Some canoeing experience required.

Grade C: Canoeing experience on moving water required.

Grade D: Canoeing experience on whitewater required.

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[58] Dismal Swamp Canoe Base Camp, Virginia/North Carolina—March 23–29. *Leader, Connie Thomas, 128 Muriel St., Ithaca, NY 14850.* Southward from Norfolk, Va., into North Carolina, the Great Dismal Swamp comprises an area of lowlands, lakes, and rivers fed by tributaries of swamp origin. The swamp isn't really "dismal," and we should see or hear spring warblers and other birds, frogs, snakes, and budding flora while beating the mosquito season. Our base camp will be near the Northwest River, where exploratory day trips to tributaries and backwaters are planned along with trips to Lake Drummond, Merchants Mill Pond (with moss-draped cypress and tupelo), and the Outer Banks. This is a flatwater trip, but the possibility of high winds on open stretches requires that participants have some previous canoe experience. (Grade B)

[248] Main Eel for Beginners, California—June 2–7. *Leader, Charlie Doyle, P.O. Box 998, Ross, CA 94957.* This trip is for the beginning or flatwater paddler. The stretch from Alderpoint to South Fork is perfect for this purpose, taking us through surprisingly remote and outstandingly beautiful country. The water is clear and warm, and the rapids exciting but not too demanding. Basic canoeing techniques will be taught and river gear provided. (Grade A)

[249] Current River, Missouri—June 4–10. *Leader, c/o Faye Sitzman, 903 Mercer Blvd., Omaha, NE 68131.* Enjoy the scenery of the Missouri Ozarks by floating the clear, spring-fed Current River, one of our National Scenic Riverways. We will be going approximately 75 miles through oak and hickory forests and state natural areas. The moderate pace will allow time for birding and photography. Food will be good, companionship excellent, and weather mild, but somewhat unpredictable. Canoeing experience is required and rentals are available. (Grade C)

[250] Vancouver Island Ocean Canoe, British Columbia—July 1–11. *Leader, Mary Gale, 25430 Telarana, Carmel, CA 93923.* 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 tidepooling, birdwatching, beachcombing, and observing wildlife. No prior canoe experience is necessary; instruction will be provided for beginners. Water gear provided. (Grade A)

[251] Trinity River Touring, California—July 14–19. *Leader, Sharon Cupp, 4771 Granada Dr., Santa Rosa, CA 95405.* From Hawkins Bar to Weitchpec we will tour an exciting stretch of this truly beautiful river. We'll run challenging rapids, camp on clean beaches, swim in clear, warm water, and enjoy the ideal climate. River canoeing will be taught and river gear provided. (Grade C)

[252] Trinity/Klamath Whitewater, California—July 21–26. *Leaders, Molly and Bill Bricca, P.O. Box 159, Ross, CA 94957.* This trip is an excellent opportunity for intermediate canoeists to improve their skills while enjoying an exciting river experience. From base camps, we run selected stretches of both of these rivers without baggage but with flotation. The rapids are mostly Class II with some Class III. The area is scenic and the rivers clear, warm, and beautiful. Weather should be ideal. River gear is provided. (Grade C)

[253] Boundary Waters Voyageur Canoe, Boundary Waters Canoe Area, Minnesota—July 29–August 9. *Leader, Tom Sitzman, 903 Mercer Blvd., Omaha, NE 68131.* Relive the days of the Rendezvous as we paddle a ten-person voyageur canoe along the route of French fur traders. Today it is known as the Boundary Waters

Canoe Area—a land of interconnecting lakes and rivers shaped by the last glacier period. Experience the silence of the Northwoods, listen to the call of the loon, sit under the northern lights, photograph Indian pictographs, stalk wild moose, and live a way of life close to that of the past. Participants should be strong, feel young, and love adventure. (Grade A)

[254] Yukon/Teslin Rivers, Yukon Territory, Canada—July 29–August 12. *Leaders, Iila and Chuck Wild, 3862 Rosetta Ct., San Diego, CA 92111.* Run the Yukon/Teslin from Johnson Crossing to Dawson City, the gold rush capital of the Klondike. Canoe in the land of the midnight sun on the river that served as a gateway for the greatest gold rush the world has ever known. The river is mighty yet reasonably challenging. Canoe experience is preferred, but beginning canoeists of good spirit are welcome. River gear and basic canoeing instruction provided. (Grade A)

[255] Oswegatchie Wild River, Adirondack Forest Preserve, New York—August 17–23. *Leader, John L. Kolp, 453 Warren St., Brooklyn, NY 11217.* The Oswegatchie River flows through the heart of the Great Northwoods—an area of majestic old forest, gentle hills, and lovely meadows and ponds. We will paddle upriver from Cranberry Lake, watching for deer, grouse, and beaver. There will be time for swimming, fishing, and hiking on our two layover days. A short portage around High Falls will enable us to explore upriver as far as the beaver dams permit. This is a moderate trip with no whitewater. Beginning canoe experience is recommended. (Grade B)

[256-E] Boundary Waters Canoe Area Wilderness, Minnesota—August 17–23. *Leader, Paul Regnier, Route 1, Indianola, IA 50125.* Experience the loon's eerie laughter, the breathtaking natural beauty of the Northwoods, and the crystal-clear waters of upper Minnesota. This seven-day, naturalist-led canoe trip includes an educational component for those who wish to learn more about wilderness and the natural world, a layover day, and plenty of time for fishing, swimming, and personal observations. Basic canoeing skills required. (Grade B)

The beauty of Alaska's Kenai Fjords Park (Carol Dienger)

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 on the natural history of the marine environment and on conservation issues.

• • •

[395] Baja Whalewatching, Magdalena Bay, Mexico—January 25–February 1. *Trip Coordinator, Wheaton Smith, 243 Ely Pl., Palo Alto, CA 94306.* We will explore one of the three great calving and breeding areas of the California gray whale. Our mobile exploration base will be the 80-foot *Don Jose*, which we will board at the bay to avoid the long sea voyage down the coast. From this base and its smaller skiffs we can hear whales breathe and watch them spyhop, breach, and fluke. Miles of mangrove channels provide excellent birdwatching opportunities. There will be time to hike the giant rolling sand dunes that separate the bay from the Pacific Ocean and enjoy miles of isolated beaches. The trip price is from La Paz, Mexico.

[258-E] Totems, Sails, and Killer Whales—A Northwest Sailing Odyssey, British Columbia—July 15–24. *Trip Coordinator, John Garcia, 124 Romero Circle, Alamo, CA 94507.* Motor and sail the waters of northern Vancouver Island aboard the new 68-foot *Island Roamer*. The trip offers very comfortable accommodations, excellent food, hiking, swimming, fishing, participatory sailing, and time to relax. A naturalist will accompany us as we watch *Orcinus orca* (killer whale) off Robson Bight, a new marine ecological reserve. We will also visit old Indian villages and archaeological sites, go tidepooling and birdwatching, and learn more about the natural history of this fascinating region.

[259] San Juan–Gulf Islands Orca Sailing Adventure, British Columbia—September 7–12. *Trip Coordinator, Victor Monke, 9033 Wilshire Blvd., #403, Beverly Hills, CA 90211.* This sailing adventure runs at an ideal time, with summer crowds gone and the weather still warm and mellow. We board the beautiful *Island Roamer* in Vancouver and motor-sail among the sheltered, lush Gulf Islands of Canada and the San Juan Islands of the U.S. Expect meetings with orcas, minke whales, porpoises, sea lions, and many species of seabirds. Among other stops we plan to visit the Orca Whale Museum at Friday Harbor, Sydney Spit with its deer and pheasant populations, and the city of Victoria with its world-class provincial museum. There will be ample time to hike, fish, clam, swim, or loaf. The trip ends in Victoria.

MEMBERSHIP NO.	TRIP NO.	TRIP NAME	DEPARTURE DATE

YOUR NAME

STREET ADDRESS

CITY STATE ZIP

YOUR HOME PHONE ( )

YOUR WORK PHONE ( )

WOULD YOU PREFER YOUR ADDRESS/PHONE NOT BE GIVEN OUT TO OTHER TRIP MEMBERS? ☐ YES ☐ NO

HAVE YOU RECEIVED THE TRIP SUPPLEMENT? ☐ YES ☐ NO

PLEASE PRINT YOUR NAME AND THE NAMES OF OTHER FAMILY MEMBERS GOING ON THIS TRIP	MEMBERSHIP NO.	AGE	RELATIONSHIP	HOW MANY OUTINGS HAVE YOU BEEN ON? Chapter	National
1.			SELF		
2.					
3.					
4.					

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

M 001

I would like to help the Sierra Club continue its work! Here is my contribution of:

☐ $15 ☐ $25 ☐ $50 ☐ $100 ☐ Other $_____

PLEASE MAKE CHECK PAYABLE TO SIERRA CLUB

MAIL TO: SIERRA CLUB OUTING DEPT., DEPT. #05618, SAN FRANCISCO, CA 94139

MEMBERSHIP NO.	TRIP NO.	TRIP NAME	DEPARTURE DATE

YOUR NAME

STREET ADDRESS

CITY STATE ZIP

YOUR HOME PHONE ( )

YOUR WORK PHONE ( )

WOULD YOU PREFER YOUR ADDRESS/PHONE NOT BE GIVEN OUT TO OTHER TRIP MEMBERS? ☐ YES ☐ NO

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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 Outing Dept.
   Dept. #05618
   San Francisco, CA 94139

   Please note that this is a new address.

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6. Applications for trip space will be accepted in the order that they are received at the following address:

   Sierra Club Outing Dept.
   Dept. #05618
   San Francisco, CA 94139

   Please note that this is a new address.

TRIP SCHEDULE

Trip Number — E = Educational Outing; • = Leader approval required — Backpack Rating Key: L = Leisure Trip, M = Moderate Trip, S = Strenuous Trip

Alaska Trips (See Service and Water Trips for other Alaska outings.)

Trip Number		Date	Rating	Trip Fee (including Deposit)	Deposit	Leader
380	•Dog Sled Ski Tour, Mt. McKinley, Alaska	March 17-27		890	70	Beverly & Les Wilson
68	Kenai Fjords Park Sea Kayaking, Alaska	June 21-July 4		1075	70	Sharon & Bob Hartman
69	•North of the Arctic Circle, Brooks Range Backpack, Alaska	July 20-Aug. 1		755	70	Carol & Howard Dienger
70	Kenai Highlight, Kenai Wildlife Refuge, Alaska	July 28-Aug. 6		785	70	Jerry Clegg
71	•Noatak River Float and Exploration, Gates of the Arctic Park, Alaska	Aug. 3-16		940	70	Carol Dienger
72	•Wrangell-St. Elias Park, Alaska	Aug. 10-22		755	70	Russ McCubbin

Backpack Trips (See Alaska and Foreign Trips for other Backpack outings.)

40	•Phantom Valley, Zion Park, Utah	March 9-15	M-S	220	35	Dave Mowry
41	•Galiuro Wilderness, Galiuro Mountains, Coronado Forest, Arizona	April 6-12	M-S	200	35	Sid Hirsh
66	•Grand Gulch Primitive Area, Utah	April 6-12	M	195	35	Randy Klein
42	•Devil's Peak, Ventana Wilderness, Los Padres Forest, California	April 18-26	L-M	170	35	Bob Berges
43	•Canyons of Navajoland, Utah	April 20-26	M-S	310	35	Jim De Veny
74	•Paria Canyon–Vermilion Cliffs Wilderness Area, Arizona/Utah	April 21-27	M-S	265	35	Bob Audretsch & Susan Barbieri

Leader Profiles

Quite a few factors are involved in making Sierra Club Outings particularly special. Of utmost importance are the leaders. These men and women got involved with the Club because of their love of the wilderness. They are not only willing to share their outdoors skills but are aware of the conservation issues and history of the areas in which they lead.

Len Lewis (trip #s 34 & 80) has been leading both beginning and experienced hikers into the wilderness since 1977, mostly on backpack outings. In recent years his leadership commitment has expanded to include highlight and foreign trips. Like other leaders in the Outing Program, Len also leads trips with his local chapter. Since retiring from his job with a San Francisco Bay Area water district, he has more time to pursue his outdoor interests such as hiking, photography, and fishing, and his indoor interests such as attending the theater and ballet. He also finds that committing himself to outing leadership each year gives him the impetus to keep himself in good physical shape.

Trip Number	E = Educational Outing • = Leader approval required Backpack Rating Key: L = Leisure Trip M = Moderate Trip S = Strenuous Trip	Date	Rating	Trip Fee (including Deposit)	Deposit	Leader
44	•Kanab Canyon/Thunder River, Grand Canyon, Arizona	April 26-May 3	S	190	35	Peter Curia
45	•King Range Lost Coast and California Coastal Redwoods	April 28-May 4	L-M	145	35	Bob Posner
46	•Sierra San Pedro Martir, Baja California, Mexico	May 5-14	L-M	405	35	Wes Reynolds
47	•Nankoweap Canyon, Grand Canyon, Arizona	May 10-17	S	155	35	Bert Fingerhut
48	•Snowbird Wild Area, Nantahala Forest, North Carolina	May 17-24	L	240	35	Bob Temple
49	•Fish and Owl Creek Canyons, San Juan Resource Area, Utah	May 25-31	L	255	35	Pete Nelson
75	•Mt. Rogers Scenic Backpack, Jefferson Forest, Virginia	June 7-14	L-M	235	35	Marilyn & Cliff Ham
77	•Parunauweap Canyon, Utah	June 8-14	M	240	35	John Ricker
78	•Gila Wilderness High Country, New Mexico	June 15-21	L-M	250	35	Richard Taylor
79	•Hyatt Bald, North Carolina/Tennessee	June 17-23	M	195	35	Jim Absher
80	•Trinity Alps Leisure Loop, California	June 19-29	L	270	35	Len Lewis
81	•Black Elk Wilderness, Black Hills Forest, South Dakota	June 21-27	L-M	255	35	Faye Sitzman
82	•"Cloudland," Cherokee and Pisgah Forests, Tennessee/North Carolina	June 21-28	M	225	35	Chuck Cotter
83	•Susquehannock State Forest, Pennsylvania	June 21-29	L	295	35	Erica & Len Frank
84	•Vermont's Green Mountains	June 22-28	M-S	280	35	Dan Nelson
85	•Classic Klamath Sampler–Salmon-Trinity Alps Primitive Area, California	July 5-13	L	230	35	Jenny Holliday
86	•Glacier Peak Wilderness, Stehekin Valley, Washington	July 6-13	M-S	360	35	Rodger L. Faulkner
87	•Rutherford Lake, Ansel Adams Wilderness, Sierra	July 13-20	L-M	205	35	Fred Schlachter
88	•Around the Clark Range, Yosemite Park, Sierra	July 13-22	M-S	275	35	Cal French
89	•Huckleberry Lake Discovery, Emigrant Wilderness, Stanislaus Forest, Sierra	July 14-21	M	205	35	John Bird
90	•Gorge of Despair, Kings Canyon Park, Sierra	July 14-23	M-S	225	35	Jim Watters
91	•Yosemite and Ansel Adams Wilderness, Sierra	July 17-24	M-S	200	35	Howard Drossman
92	•Granite Peak, Absaroka-Beartooth Wilderness Area, Montana	July 18-26	M	320	35	Dwight Taylor
93	•Lake George Backpack, New York	July 20-26	L	285	35	Bob Dolson
94	•Yosemite Park Beginner's Backpack, Sierra	July 20-26	L	185	35	Suzanne Swedo
95	•High Lakes and Peaks of the Sangre de Cristo, Colorado	July 20-29	M-S	325	35	Dave Derrick

Julie Davies and **Tom Busch** (trip # 143) are both attorneys living in Sacramento, Calif. Julie comes from a Sierra Club family and has been involved in outings since childhood. Tom joined the Club in 1981 and enjoys using maps to navigate through the backcountry. They share a great love and respect for wilderness in general and the Sierra in particular, and they enjoy sharing their affinity for the wilderness with others, especially those who are new to the experience. Both are skiers, rock climbers, and mountaineers who have assisted in the Angeles Chapter Basic Mountaineering Training Course.

Ellen Howard (trip # 135) joined the Sierra Club as a teenager to participate on a burro trip and support the Club's conservation effort. Since then most of her involvement with the Outing Program has been as a leader or assistant leader of backpack and junior backpack trips. Ellen can also be found lending her talents to many outing-related meetings as "scribe" nonpareil. She finds great satisfaction in sharing the wilderness with people of diverse backgrounds who have a common cause in conservation. Ellen traveled in France and Italy while studying art, and has taken three mountain treks in Asia. She now works as an artist in the San Francisco Bay Area, but the mountains of California are still her second home.

Trip Number	E = Educational Outing • = Leader approval required Backpack Rating Key: L = Leisure Trip M = Moderate Trip S = Strenuous Trip	Date	Rating	Trip Fee (including Deposit)	Deposit	Leader
96	•Stehekin—The Way Through, North Cascades Park, Washington	July 21-29	M	415	35	Patrick Colgan
97	•Trinity Alps, Mines and Lakes, Salmon-Trinity Alps Primitive Area, California	July 19-26	L-M	185	35	Jean Ridone
98	•Indian Lakes Peakbagging, John Muir Wilderness, Sierra	July 25-Aug. 2	M	210	35	Vicky Hoover
99	•Piute–Pinnacles Panorama, John Muir Wilderness, Sierra	July 26-Aug. 3	M	255	35	Joe Donaldson
100-E	•Blossom Lakes Natural History, Mineral King, Sierra	July 28-Aug. 5	L-M	300	35	Louise & Cal French
101	•Cloud Peak Wilderness, Bighorn Forest, Wyoming	July 31-Aug. 7	M	295	35	Faye Sitzman
102	•McGee Lakes, Kings Canyon Park, Sierra	July 31-Aug. 9	L	265	35	Mac Downing
103	•Moon Lake–French Canyon, Sierra Forest, Sierra	July 31-Aug. 9	L	285	35	Phil Gowing
104	•High Mountain Basins, John Muir Wilderness, Sierra	Aug. 1-10	L-M	220	35	Diane Cook
105	•Beginner's Backpack for Women, Ansel Adams Wilderness, Sierra	Aug. 2-10	L-M	235	35	Carol Hake
106	•Gemini Loop, John Muir Wilderness, Sierra	Aug. 2-10	M-S	210	35	Leslie & Gary Young
107	•New Fork Lakes Leisure Loop, Bridger Wilderness, Wyoming	Aug. 2-11	L	295	35	Dave Bennie
108	•Hunter–Fryingpan Wilderness, Colorado	Aug. 3-9	M	295	35	Fred Gunckel
109	•Collegiate Peaks, San Isabel Forest, Colorado	Aug. 3-9	L-M	225	35	Al Ossinger
110	•Triple Divide Peak Leisure Loop, Southern Yosemite, Sierra	Aug. 4-12	L	240	35	Lois & Walt Goggin
111	•Sixty Lake Loop, Kings Canyon Park, Sierra	Aug. 5-14	L-M	280	35	Bill Walsh
112	•Pacific Crest Trail, McGee Creek to Tuolumne Meadows, Sierra Forest, Sierra	Aug. 9-17	M-S	205	35	Jim Carson
113	•Miter Basin, John Muir Wilderness and Sequoia Park, Sierra	Aug. 10-17	M	215	35	Jim Gilbreath
114	•Koip-Kuna Crest Peakbagging, Yosemite Park, Sierra	Aug. 10-17	M-S	190	35	Frannie Hoover
115	•Silver Divide, John Muir Wilderness, Sierra	Aug. 10-17	M	205	35	Andy Johnson
116	•Peakbagging in Evolution Country, Kings Canyon Park, Sierra	Aug. 11-20	M	235	35	John Ingvoldstad
117	•Mineral King Lakes, Meadows, and Passes, Sequoia Park, Sierra	Aug. 13-21	L-M	245	35	Joe Davis
118	•Gardiner Basin, Kings Canyon Park, Sierra	Aug. 13-22	M	235	35	Bill Engs
119	•The Sierra High Route, Yosemite Park, Sierra	Aug. 16-22	M-S	205	35	Carol Shapiro

Sharon and **Bob Hartman** (trip #s 68 & 303) have been exploring the great wilderness areas of the United States, Canada, and Mexico with other Sierra Club members since 1975, when they led their first backpack trip in the Sierra. Since then they have led bicycle trips in the Canadian Rockies and the Maritime Provinces and a 150-mile backpack trip in Alaska. Bob has led trips in British Columbia, Baja California, and throughout the Southwest. He currently serves as vice-chair of the Southern California Regional Conservation Committee. Sharon works as a budget analyst and is a pianist and avid gardener. This year Bob will lead a backpack trip in Baja California, and he will team up with Sharon to lead a sea kayak trip in Alaska.

Jim Watters (trip # 90) went on his first national outing in 1956. He identified so strongly with the aims of the Sierra Club that he decided to lead a trip the following year. Thus began the career of one of our most tireless and dedicated volunteers. Jim has led numerous backpack and foreign trips. Besides contributing time and energy as a leader, Jim brings to the Outing Program his expertise as an administrator. In 1966 he became a member of the Outing Committee. He held the position of Outing Committee Secretary from 1966 to 1977, then took on the formidable task of coordinating our Leader Training Program. Jim has led the annual Leader Training Trips for the past 12 years. He has held the position of Knapsack Subcommittee Chair for 19 years, and he also serves as Outing Committee Vice-Chair. Jim is a bank officer and spends any time off with his family.

Trip Number	E = Educational Outing • = Leader approval required	Backpack Rating Key: L = Leisure Trip M = Moderate Trip S = Strenuous Trip	Date	Rating	Trip Fee (including Deposit)	Deposit	Leader
120	•High Peaks Traverse, Glacier Peak Wilderness, Wenatchee Forest, Washington		Aug. 16-24	S	275	35	Mary Sutliff
121	•Cottonwood Lakes Leisure, Golden Trout Wilderness–Sequoia Park, Sierra		Aug. 17-23	L	185	35	Hal Fisher
122	•Yosemite's Scenic Magnificence; A Beginner's Backpack for Women, Sierra		Aug. 17-23	L-M	180	35	Carolyn Steinmetz
123	•String of Pearls, Kings Canyon Park, Sierra		Aug. 18-26	M-S	205	35	Marilyn & Dan Smith
124	•Middle Fork of the Kings, Kings Canyon Park, Sierra		Aug. 21-30	M	235	35	Gordon Peterson
125	•Milestone Basin, Sequoia–Kings Canyon Parks, Sierra		Aug. 22-31	M-S	245	35	David Reneau
126	•Sequoia Lakes and Canyons, Sequoia Park, Sierra		Aug. 29-Sept. 6	M	205	35	Don Lackowski
127	•Baxter State Park, Maine		Aug. 31-Sept. 6	M-S	335	35	Allan Blair
128	•Tahoe Rim Trail, West El Dorado Forest, Sierra		Sept. 4-10	M	220	35	Serge Puchert
129	•"O Be Joyful," Gunnison Forest, Colorado		Sept. 6-13	L-M	285	35	John Lutz
130	•Joe Devel Peak Loop, Inyo Forest, Sierra		Sept. 7-13	M	190	35	Bob Madsen
131	•Medley Lake, John Muir Wilderness, Sierra		Sept. 13-21	M	225	35	Paul Cavagnolo
132	•Adirondack Fall Colors, New York		Sept. 21-26	M-S	295	35	Craig Caldwell & Jeanne Blauner
133	•Navajo Mountain/Rainbow Bridge, Arizona		Sept. 21-27	M	255	35	Nancy Wahl
300	•Capitol Reef, Utah		Sept. 27-Oct. 4	M	235	35	Lynn Krause & Susan Groth
301	•Gila Wilderness, New Mexico		Sept. 28-Oct. 4	M	235	35	George Mader
302	•Kanab Creek/Deer Creek/Thunder River, Grand Canyon, Arizona		Oct. 4-12	S	195	35	Bert Fingerhut
303	•Picacho del Diablo, Sierra San Pedro Martir Range, Baja California, Mexico		Oct. 11-18	S	335	35	Bob Hartman
304	•Southern Utah Slickrock Canyons		Oct. 11-18	S	300	35	Don McIver

Junior Backpack Trip

135	•Tablelands, Sequoia Park, Sierra		Aug. 16-22	M	190	35	Ellen Howard

Base Camp Trips (See Family, Foreign, Hawaii, and Water Trips for other Base Camp outings.)

26-E	Arroyo San Pablo, Sierra San Francisco, Baja, Mexico		Jan. 27-Feb. 7		540	70	Daniel Plambeck

Carol Dienger (trip #s 69, 71, 247, & 880) first learned about Sierra Club activities while still in college. Both Ansel Adams and Will Colby helped her with her master's thesis. She participated on her first national trip in 1962 and began leading family backpack and canoe trips with her husband Howard and their children soon after. She continued to lead family trips until her children were grown, then began leading Alaska trips of all kinds. Carol has given a great deal of time and energy to the Outing Program—she currently serves as Outing Committee Secretary and has contributed many photographs for use in Outing catalogs in *Sierra*. Her hobbies include photography, guitar, natural history, cross-country skiing, and Oriental cooking.

Walt Goggin (trip # 110) has been active in the Sierra Club for about 20 years. He has participated in many chapter and national outings as a trip member and leader. In addition to Sierra Club experience, Walt has been backpacking on his own in the western United States, Hawaii, and New Zealand. His traveling experience includes New Guinea, the Philippines, and Japan (courtesy of the U.S. Army). When he's not writing, reading, dayhiking, or leading a Sierra Club trip, Walt works as a manager of properties in Northern California's East Bay Municipal Utility District. In 1986 Walt and his wife Lois will co-lead a backpack trip in southern Yosemite.

Trip Number	E = Educational Outing • = Leader approval required	Date	Trip Fee (including Deposit)	Deposit	Leader
29	East Mojave Scenic Area, California	March 22-29	205	35	Joanne Barnes
28	Rogue River Trail Lodges Base Camp, Oregon	March 23-29	645	70	c/o Bill Gifford
32	Rogue River Trail Lodges Base Camp, Oregon	April 27-May 3	645	70	c/o Bill Gifford
33-E	Zion/Bryce Photo Base Camp, Utah	May 2-9	285	35	Dolph Amster
35	Rogue River Trail Wilderness Lodges, Oregon	May 12-17	600	70	c/o Bill Gifford
137	Canyonlands-Colorado Plateau, Arizona	May 17-26	395	35	Carolyn & Bob Marley
37	Spring in Canada's Coast Mountains, Tweedsmuir Park, British Columbia	May 26-June 1	610	70	Dennis Kuch
38	Rogue River Trail Wilderness Lodges, Oregon	May 28-June 2	600	70	Susanna & Jim Owens
39	Rogue River Trail Lodges Base Camp, Oregon	June 1-7	645	70	c/o Bill Gifford
138	Rogue River Trail Wilderness Lodges, Oregon	June 4-9	600	70	Susanna & Jim Owens
139	Rogue River Wilderness Lodges, Oregon	June 15-20	635	70	c/o Bill Gifford
140	Rogue River Wilderness Lodges, Oregon	July 5-10	635	70	c/o Bill Gifford
141-E	Thousand Island Lake Photography, Ansel Adams Wilderness, Sierra	July 5-12	375	35	Howard Drossman
142	Stehekin Valley, North Cascades, Washington	July 13-19	405	35	c/o Bill Gifford
143	Waugh Lake, Inyo Forest, Sierra	July 17-26	380	35	Julie Davies & Tom Busch
144	Summer in Canada's Coast Mountains, Tweedsmuir Park, British Columbia	July 28-Aug. 3	680	70	Dennis Kuch
145	Glacier Divide Alpine Camp, John Muir Wilderness, Sierra	July 28-Aug. 5	360	35	Sue J. Estey
146-E	Donner-Tahoe Exploration, Sierra	Aug. 2-9	375	35	Marjorie Broussard
147	Rangeley Lakes, Maine	Aug. 2-9	295	35	Bob Holcomb
148	Golden Creek, Sierra	Aug. 2-10	360	35	Betty Watters
149	Rogue River Wilderness Lodges, Oregon	Aug. 3-8	635	70	c/o Bill Gifford
150-E	Historical Meadow Lake, Tahoe Forest, Sierra	Aug. 10-16	240	35	Serge Puchert
151	Stehekin Valley, North Cascades, Washington	Aug. 17-23	660	70	Bill Gifford
152	Canyon de Chelly, Canyon de Chelly Monument, Arizona	Aug. 22-29	385	35	Carol & Tom Baker
153	Chain Lakes–Paradise Found, Southern Yosemite, Sierra	Aug. 23-Sept. 1	370	35	Frances Colgan

Chuck Fisk (trip # 236) was persuaded by the leader of a 1968 Sierra Club raft trip through the Grand Canyon to take the training necessary to become a leader himself. In 1970 he led his first trip on the Yampa and Green rivers. In subsequent years he has led numerous water trips, including raft and canoe trips on the Rogue River and rafting trips on the Salmon, Trinity, Colorado, and Snake rivers. Chuck feels that much of the beauty along a river lies in its side canyons, and he enjoys exploring them. Outings give him a chance to share insights on wilderness and conservation with fellow Club members as well as take photographs and sing folk songs around the campfire. Chuck works as a teacher and is also an active Scouter, having hiked the John Muir Trail and most of the Grand Canyon trails with Scout troops. This year he will lend his considerable whitewater expertise to the Lower Salmon/Lochsa rivers trip in Idaho.

Dave Simon (trip # 202) has been actively involved with the Service Trip Program for the past ten years. He led his first service trip in 1977 and has led one every year since, doing mostly trail work. Dave served as Finance Officer for the Service Trip Subcommittee for eight years, and just last year took over as chair of that subcommittee. Because he enjoys teaching newcomers wilderness skills, the two service trips he has led for beginning campers have been most special to him; he is co-leading another this year with Susan Liddle. Dave is vice-president of research and development for a computer software firm. He is also an amateur musician—his violin has accompanied him on almost all of his trips. Dave is a long-time member of the Club, having been signed up by his father when he was just five years old.

Trip Number	E. = Educational Outing • = Leader approval required	Date	Trip Fee (including Deposit)	Deposit	Leader
154	Stehekin Valley, North Cascades, Washington	Sept. 7-13	405	35	Ed Honton
155	Rogue River Wilderness Lodges, Oregon	Sept. 13-18	635	70	c/o Bill Gifford
306	Everglades Park, Florida	Dec. 26-31	300	35	Vivian & Otto Spielbichler

Bicycle Trips

(See Family and Foreign Trips for other Bicycle outings.)

157	•Cycling Cape Cod and the Islands, Massachusetts	May 11-17	280	35	Eileen O'Connor
158	•Chesapeake Bay Bicycle Tour, Eastern Shore, Maryland	June 8-14	275	35	John Arthur
159	•Vermont Bicycle Tour	June 15-21	295	35	Bill Lankow
160	•East-West Wisconsin Bicycle Tour	July 12-19	265	35	Alice Van Deburg
161	•Seattle to the San Juans Bicycle Tour, Washington	July 13-20	325	35	Bill Lande & Grace Voss
162	•Cascade Mountains Bicycle Tour, Washington	July 27-Aug. 3	275	35	JoAnn & Paul Von Normann
163	•Acadia Park/Mt. Desert Island Bike and Hike, Maine	Aug. 10-16	295	35	Edith Schell
164	•Finger Lakes "Grand Tour," New York	Sept. 7-13	270	35	John L. Kolp

Burro Trips

*Individual adult price $420

			Two Parents and one child	One Parent and one child	Each addl. child*		
30	•Panamint Mountains, Death Valley, California	March 29-April 5		390		35	Steve Akeson
166	•Remote Yosemite, Sierra	July 26-Aug. 9		695		70	Dan Holmes & Don Bain
167	•Ten Lakes Family Trip, Yosemite Park, Sierra	Aug. 9-16	1065	685	265	35	Ted Bradfield
168	•Grand Canyon of the Tuolumne, Sierra	Aug. 16-23		370		35	Don White
169	•Yosemite and the Ritter Range, Sierra	Aug. 23-30		370		35	Jack Holmes

Family Trips

(See Burro, Base Camp, and Raft Trips for other suitable Family outings.)

			Two Parents and one child	One Parent and one child	Each addl. child		
WILDERNESS THRESHOLD TRIPS							
171	•Golden Trout Wilderness Threshold, John Muir Wilderness, Sierra	July 26-Aug. 2	995	645	250	35	Ellen & Jim Absher

John Ricker (trip #s 50 & 77) is a familiar name in the Outing Program, having served as Outing Committee Chair from 1976 to 1980. He is currently chair of the Southwest Subcommittee, a position that involves overseeing and organizing all national outings in the Southwest states. John has devoted the last 34 years to the Outing Program, leading his first trip in 1952 and leading or assisting on 54 trips since then. In addition to his duties as an Outing Committee member and trip leader, John is also a member of the executive committee of the Grand Canyon Chapter and works as a hand surgeon. He has apparently set a good example for his family; both his sons Rodney and Jim are active in the Outing Program as service and backpack trip leaders.

Frances Colgan (trip #s 153 & 740) has been an avid outdoorsperson and world traveler all her life. During the 1960s she was active in supporting the new Sierra Club chapter in Boston, and when she moved to San Francisco in the early 1970s she immediately began leading trips for the San Francisco Bay Chapter. Frances joined the national Outing Program as a backpack trip leader in 1975. Since 1981 she has led numerous foreign trips, both alone and with her husband Patrick, including a bicycle trek in central China and a bicycle tour of Yugoslavia's Dalmatian Coast. In addition to pursuing her leadership career with the Club, she took time out to get a master's degree in computer science, give birth to two children, and develop her career as a senior consulting engineer in energy management systems.

Trip Number	E = Educational Outing • = Leader approval required	Date	Trip Fee (including Deposit)			Deposit	Leader
			Two Parents and one child	One Parent and one child	Each addl. child		
172	•Clair Tappaan Family Week, Sierra	July 4-10	970	625	240	35	Beth & Bob Flores
173	•Canada's Coast Mountain Wilderness, Tweedsmuir Park, British Columbia	Aug. 11-17	1085	695	270	35	Dennis Kuch
FAMILY CANOE TRIPS							
174	•Main Eel Family Trip, California	June 15-21	760	495	200	35	Jenny Dienger
175	•Restigouche River Exploration, Northern New Brunswick, Quebec	July 12-20	1440	920	360	35	Wanda & Tom Roy
FAMILY BIKE TRIP							
176	•Door County, Wisconsin	Aug. 10-16	645	430	175	35	John Arthur

Foreign Trips

680	•New Zealand, Featuring Fiordland	March 6-30	1780	100	Vicky Hoover
685	•Langtang Trek, Nepal	March 17-April 12	1420	100	John Garcia
687	•Beginning Ski Touring, Austria	March 30-April 13	1455	100	Wayne R. Woodruff
690	•Manaslu Circle Trek, Nepal	April 21-May 24	1130	100	Peter Owens
695	•Annapurna Circle Trek, Nepal	June 7-July 7	1130	100	Peter Owens
700	•Leisure Bike and Hike in Holland	May 1-13	1465	100	Thelma Rubin
705	•Walking in the West Country and Lake District, England	May 10-24	1220	100	Dick Terwilliger
715	The Mountains of Portugal for Walking and Hiking	May 25-June 14	1880	100	Mildred & Tony Look
720	Peru: Land of the Inca	May 25-June 16	1930	100	David Horsley
725	Turkey: A Classic Overview	June 18-July 11	2075	100	Ray Des Camp
730	Inland Waterways of England	May 31-June 14	1430	100	Marleen S. Van Horne
735	Tanzania Wildlife Safari: Zanzibar to Serengeti	June 20-July 4	1995	100	Mary O'Connor
740	Bike and Hike in Ireland	June 22-July 5	1395	100	Frances & Patrick Colgan
745	Bolivia—Quiet Jewel of the Andes	June 22-July 13	1795	100	Charles Schultz
750	The Unknown Pyrenees, Spain	June 29-July 12	1120	100	John Doering

Phil Gowing (trip #s 103 & 845) began taking an interest in the outdoors with the Boy Scouts, and this interest continued through college, when he worked in Yosemite during the summer and used his time off for wilderness exploration. He joined the Club in the early 1960s to participate in its outdoor activities and has been actively involved ever since, leading chapter trips for 17 years and backpack trips with the Outing Program for ten years. Three years ago Phil led his first foreign trek (in Nepal), followed by another trek in Nepal in 1985. His commitment to the Outing Program has also included a three-year stint as Finance Officer of the Knapsack Subcommittee, where he sometimes spends more time behind a calculator than in the wilderness. Phil is currently an official mountaineering advisor for the Hong Kong Federation of Hiking Groups.

Jane and **John Edginton** (trip # 825) are life members of the Sierra Club and have been outing leaders for the past two decades. They have common interests in botany, birding, photography, and fishing, and have done a great deal of traveling in the United States and in a number of foreign countries. John, who has served on the Outing Administration Committee since 1968, is currently legal advisor to the Outing Committee. He has served as chair of the Highlight Subcommittee and filled various other roles in the Outing Program, including Outing Committee representative to the Club's Budget Committee and Council. Jane worked as an employee of the Outing Department in the late 1960s and early '70s. In recent years the Edgintons have led many foreign outings while remaining active in the domestic outing program.

Trip Number	E = Educational Outing • = Leader approval required	Date	Trip Fee (including Deposit)	Deposit	Leader
755	•Photographing the Alps	June 29-July 14	1995	100	Dolph Amster
760	France: The Southwest	June 30-July 11	1715	100	Lynne Simpson
770	Slovenian Alps, Yugoslavia	July 13-26	960	100	Fred Gooding
772	•Hindu Raj and Karakoram Trek, Pakistan	July 13-Aug. 8	2475	100	Bud Bollock
775	Basqueland Adventure, France and Spain	July 14-27	1270	100	Nancy Auker
780	The Lotschental: A View of Rural Switzerland	July 21-31	1135	100	Ray Simpson
785	•The First Foreign Service Trip, England and Wales	July 21-Aug. 7	595	100	Don Coppock
790	•Wilderness and Culture of the Great Manchurian Basin, China	July 27-Aug. 17	2395	100	Jack Holmes
795	•Ladakh to Kashmir Trek, India	Aug. 4-29	1480	100	Peter Overmire
800	Kenya Adventure—A Wildlife Odyssey, Africa	July 14-Aug. 5	2995	100	Ruth Dyche
805	Cycling the French Lake and Spa Region, France	July 22-31	1695	100	Richard Weiss
810	•Mountain Hiking in Swedish Lappland	Aug. 21-Sept. 5	1790	100	Bob Paul
815	•Hiking in the Austrian Alps: Vorarlberg and Tirol	Sept. 11-20	995	100	Ann Hildebrand
820	Autumn Walks in Japan	Sept. 20-Oct. 11	TBA	100	Mildred & Tony Look
825	•Trekking in the Dragon Kingdom, Bhutan	Sept. 27-Oct. 25	3000	100	Jane & John Edginton
830	Mediterranean Sailing Adventure	Sept. 29-Oct. 12	1770	100	John Garcia
835	Oktoberfest in the Rhineland, West Germany	Oct. 1-11	1180	100	Bud Bollock
840	•Mt. Everest Base Camp/Backpack and Chitwan Park, Nepal	Oct. 11-Nov. 3	TBA	100	Mike Brandt
845	•China Recycled—Bike and Hike	Oct. 12-Nov. 1	2195	100	Phil Gowing
847	Sea Kayaking, Sea of Cortez, Baja California, Mexico	Oct. 19-25	TBA	100	Ron Miller
850	•Jugal Himal, Nepal to Xixapangma, Tibet	Oct. 27-Nov. 28	3140	100	Wayne R. Woodruff
860	•Rolwaling Valley, Nepal	Nov. 15-Dec. 6	1280	100	Patrick Colgan
865	•Annapurna Christmas, Nepal	Dec. 20, 1986-Jan. 3, 1987	TBA	100	Peter Owens
870	Bicycling in New Zealand	Dec. 21, 1986-Jan. 5, 1987	TBA	100	Betty & Paul Tamm
875	Bicycling in New Zealand	Jan. 5-17, 1987	785	100	Betty & Paul Tamm
880	Cross-Country Skiing in the Austrian and Swiss Alps	Jan. 25-Feb. 8, 1987	TBA	100	Carol Dienger
890	Kenya Wildlife Walking Safari, Africa	Feb. 1-20, 1987	2565	100	Emily Benner
895	•Ski Touring in Norway	Feb./March, 1987	TBA	100	Bob Paul

Trip Number	E = Educational Outing • = Leader approval required	Date	Trip Fee (including Deposit)	Deposit	Leader
Hawaii Trips					
27	Island of Hawaii	March 21-29	520	70	Lynne & Ray Simpson
178	•Hulopoe, Hana, and Haleakala: Beach and Crater	May 16-24	580	70	Steve Griffiths
179	Camping and Hiking Kauai	Aug. 2-10	545	70	Donna and Larry Crabbe
180	•Big Island Coasts Backpack	Sept. 8-19	540	70	George Winsley
308	Christmas on Hawaii, Volcanoes and the Sun	Dec. 20, 1986-Jan 1, 1987	855	70	Judy Nelson
Highlight Trips	(See Alaska and Base Camp Trips for other Highlight-type outings.)				
31	Grand Gulch Primitive Area, Utah	April 20-26	1165	70	Marlo & Ron Miller
34	Hells Canyon Leisure, Oregon	May 8-17	720	70	Len Lewis
36-E	Oregon's High Desert: Llama Trek and Natural History Field Seminar	May 18-24	535	70	Stosh Thompson
182	Navajo Rims and Canyons, Navajo Reservation, Arizona	June 1-9	585	70	Don Lyngholm
183	Kalmiopsis Wilderness Llama Trek, Siskiyou Forest, Oregon	June 15-20	535	70	Marilyn Gifford
184	Ruby Mountains, Humboldt Forest, Nevada	July 26-Aug. 2	540	70	Serge Puchert
185-E	Llama Trek/Photography Seminar, Eagle Cap Wilderness, Wallowa–Whitman Forest, Oregon	July 27-Aug. 1	535	70	Martha Murphy
186	Kings-Kern Divide Loop, Kings Canyon and Sequoia Parks, Sierra	Aug. 9-24	830	70	Emily & Chris Benner
187	Three Sisters Wilderness Llama Trek, Willamette Forest, Oregon	Aug. 21-30	975	70	c/o Tom Landis
188	Humphreys Basin, Sierra	Aug. 22-Sept. 1	785	70	Bob Miller
189	Uinta Crest, Ashley Forest, Utah	Sept. 11-19	755	70	Jerry Clegg
190	Indian Heaven Wilderness Llama Trek, Gifford Pinchot Forest, Washington	Sept. 14-19	535	70	Bill Gifford
310	Mojave Desert Special, California	Jan. 11-17, 1987	290	35	Dolph Amster

Victor Monke (trip # 259) is an experienced water-trip leader. Since 1965 he has led 14 raft trips down the Colorado River of the Grand Canyon and has done a great deal of kayaking on rivers in the eastern United States and Canada. He feels a strong sense of responsibility toward nature and derives great satisfaction in teaching trip members respect and admiration for the places they visit. He also enjoys the work of planning a trip and seeing it through to completion. Victor works as a psychiatrist and is active in organizational work for the Psychiatric Society in Southern California.

Lynne and **Ray Simpson** (trip # 27) have been interested in the Outing Program since a Sierra Club trip to Hawaii in 1968—they were welcomed by a hurricane, and their hike in Haleakala was delayed because of snow! Both persevered, and now Ray coordinates all trips to Hawaii and the South Pacific while Lynne coordinates all trips to France, Spain, and Portugal. Lynne has long had a love for France and may often be found leading trips to that country (trip # 760) when she is not in Hawaii with Ray. Ray chairs the Hawaii Subcommittee and is an active leader of Hawaiian outings. This year he will be bringing his Hawaiian shirts to Switzerland (trip # 780). These widely traveled folks live in Sacramento, Calif. Each especially enjoys the planning aspects of trip leadership.

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

Service Trips (Also see Foreign Trip #785)

TRAIL MAINTENANCE PROJECTS

51	•Alder Creek Trail Project, Four Peaks Wilderness, Tonto Forest, Arizona	March 29-April 5	90	35	Rod Ricker
192	•Kanab Creek Trail Maintenance, Kaibab Forest, Arizona	April 10-19	100	35	Tim Wernette
52	•Red Rock Trail Maintenance, Coconino Forest, Arizona	April 27-May 3	90	35	Jim Ricker
193	•Rose River Loop, Shenandoah Park, Virginia	June 1-7	100	35	Paul Torrence
194	•Blue Range Primitive Area, Apache Forest, Arizona	June 7-14	100	35	Rod Ricker
195	•Elk Creek, Marble Mountain Wilderness, Klamath Forest, California	June 16-26	100	35	Jack Brautigam
196	•Kenai Trail Construction Project, Chugach Forest, Alaska	June 16-26	260	35	Bill Weinberg
197	•Sierra Club's Own Trail Maintenance Project, Sierra Forest, Sierra	June 20-30	100	35	To Be Announced
198	•Sierra Club's Own Trail Construction Project #1, Sierra Forest, Sierra	July 1-11	100	35	Flint Ellsworth
199	•Teton Wilderness, Wyoming	July 5-15	100	35	Tom Gefell
200	•One-Mile Lake Trail Maintenance, Marble Mountain Wilderness, Klamath Forest, California	July 7-17	100	35	John Albrecht
201	•Hamilton Camp Women's Trip, Marble Mountain Wilderness, California	July 16-26	100	35	Diane Jackson
202	•Fourth Annual Beginning Camper's Trip, Inyo Forest, Sierra	July 19-27	100	35	David Simon & Susan Liddle
203	•White Mountain Service Trip—Appalachian Mountain Club Collaboration, New Hampshire	July 20-27	110	35	John Rogers
204	•Targhee Tetons Trail Maintenance Project, Targhee Forest, Idaho	July 21-31	100	35	Bob Wolf
205	•Pine Creek, Inyo Forest, Sierra	Aug. 1-11	100	35	Scott Larson
206	•High Uintas Wilderness Roving Trail Project, Wasatch Forest, Utah	Aug. 3-13	100	35	Jon Nichols
207	•Cloud Peak Wilderness, Big Horn Forest, Wyoming	Aug. 5-15	100	35	John Albrecht
208	•Washakie Wilderness, Greybull River, Wyoming	Aug. 5-15	100	35	Edwin Thomas
209	•Sierra Club's Own Trail Construction Project #2, Sierra Forest, Sierra	Aug. 9-17	100	35	To Be Announced

Kelly Runyon (trip #s 227 & 228) has been involved with the national Outing Program since 1973, but his first Sierra Club outing was a chapter canoe trip in Missouri one year earlier. He has been most active with the Service Trip Program, serving as chair of that subcommittee from 1980 to 1982. Kelly has participated in a number of plane wreck cleanups, but now prefers to concentrate his efforts on trips that help to preserve the beauty and wilderness character of wild rivers. He is also active in the San Francisco Bay Chapter, where he devotes his time, energy, and river-rafting expertise to the chapter's Inner City Outings program. A resident of Oakland, Calif., Kelly's daily wilderness experience is a commute to San Francisco, where he is employed as a "garbologist," an engineer working in solid waste management.

Bud Bollock (trip #s 772 & 835) feels that one of the most important aspects of leadership is the chance to guide people to new and exciting places and teach them the finer points of wilderness living and enjoyment. He has been doing this for the past eight years as an outing leader, but his involvement with the Outing Program began 23 years ago when he participated on a two-week highlight trip with his young son. This involvement led to his current position as chair of the Base Camp Subcommittee, a position he's held since 1983. Bud's extensive travel experience includes 47 countries and 49 states. Having recently retired from Levi Strauss & Co. after 25 years, he now has more time to devote to trip leadership.

Trip Number	E = Educational Outing • = Leader approval required	Date	Trip Fee (including Deposit)	Deposit	Leader
210	•Long Mountain Lake Trail Maintenance Project, Panhandle Forest, Idaho	Aug. 10-20	100	35	Bob Hayes
211	•Minarets Trail Maintenance Project, Ansel Adams Wilderness, Sierra	Aug. 15-25	100	35	Laurie-Ann Barbour
212	•Lost Creek Wilderness, Pike Forest, Colorado	Aug. 16-26	100	35	Wally Mah
213	•Baxter Park Canoe and Bog-Bridging, Maine	Aug. 17-24	110	35	Terry Koch
214	•Vogelsang Trail Maintenance and Roving Cleanup, Yosemite Park, Sierra	Aug. 17-27	100	35	C. E. Vollum
215	•Bowman Trail Maintenance Project, Eagle Cap Wilderness, Oregon	Aug. 21-31	100	35	Cathie Pake
216	•Mt. Hood Timberline Trail Maintenance, Cascade Range, Oregon	Aug. 24-Sept. 3	100	35	Rick Zenn
217	•Grand Canyon, Kaibab Forest, Arizona	Aug. 28-Sept. 6	100	35	Peter Curia
218	•Boundary Waters Canoe Area, Minnesota	Aug. 29-Sept. 7	100	35	Wally Mah
219	•Baxter in Early Autumn, Maine	Sept. 7-14	110	35	Lance Kounitz
220	•Tuolumne Meadows Base Camp, Yosemite Park, Sierra	Sept. 7-17	100	35	Kevin Havlik
221	•Trampas Lakes Trail Maintenance, Pecos Wilderness, New Mexico	Sept. 20-27	100	35	Linda Buchser
222	•Baxter Park Trails Project, Maine	Sept. 20-28	115	35	George Neffinger
312	•Cumberland Island Seashore, Georgia	Oct. 19-25	100	35	Sarah Stout Gooding
313	•Ozark Trail Building, Missouri	Oct. 19-25	100	35	Rick Rice
CLEANUP PROJECTS					
50	•Superstition Wilderness Cleanup, Arizona	March 16-23	90	35	John Ricker
223	•Mt. Agassiz Plane Wreck Removal, High Uintas Wilderness, Utah	July 16-25	100	35	Jon Nichols
WILDERNESS RESTORATION PROJECTS					
224	•Maroon Bells–Snowmass Wilderness Restoration, White River Forest, Colorado	July 21-31	100	35	Carol & John Stansfield
225	•Mowich Lake, Mt. Rainier Park, Washington	July 28-Aug. 7	100	35	Bob Hayes
226	•Denali Park Restoration Project, Alaska	Aug. 1-11	260	35	Bruce Horn
RIVER PROJECTS					
53	•Owyhee River Cleanup, Oregon	May 28-June 1	200	35	Rick Zenn
227	•John Day River Row-It-Yourself Cleanup, Oregon	June 22-26	250	35	Kelly Runyon
228	•Salmon River Row-It-Yourself Cleanup, Idaho	Aug. 24-28	250	35	Kelly Runyon
229	•Rogue River Row-It-Yourself Cleanup, Oregon	Sept. 21-25	250	35	Rick Zenn

Ski Trips (See Alaska and Foreign Trips for other Ski outings.)

396	•Adirondack Ski Tour, New York	Feb. 2-7	335	35	Walter Blank
397	•Zealand Valley Cross-Country Ski, White Mountains, New Hampshire	Feb. 15-19	275	35	Craig Caldwell & Jeanne Blauner
54	•Backcountry Ski Tour, Little Lakes Valley, Inyo Forest, Sierra	March 22-29	490	35	Bob Paul
55	•Crater Lake Cross-Country Ski Tour, Oregon	April 6-12	215	35	Marriner Orum
56	•Three Sisters Wilderness Area Ski Tour, Oregon	May 11-17	180	35	Tim Odell

Water Trips

RAFT TRIPS (See Alaska and Service Trips for other Raft outings.)

57	Gila River Raft and Class III Canoe Trip, New Mexico	March 23-29	230	35	John Buchser

Trip Number	E = Educational Outing • = Leader approval required	Date	Trip Fee (including Deposit)	Deposit	Leader
398	Sea Kayaking, Baja, Mexico	March 29-April 5	730	70	Kurt Menning
59	Salt River Raft Trip, Tonto Forest, Arizona	May 4-10	240	35	Nancy Wahl
60	Owyhee River Row-It-Yourself Raft Trip, Oregon	May 11-15	395	35	c/o Bill Gifford
61	Birds of Prey Raft Trip, Snake River, Idaho	May 18-22	615	70	Robin Dunitz
62	Rogue River Raft and Lodges, Oregon	May 19-23	660	70	c/o Bill Gifford
63	Upper Owyhee Raft, Idaho	May 19-25	895	70	Tris Coffin
64	The Grand Canyon–Colorado River Whitewater Adventure, Arizona	May 26-June 6	1315	70	Ruth Dyche
65	Three Wild Rivers, California	June 3-7	505	70	Kurt Menning
230	Red Walls, Dinosaurs, and Petroglyphs—Rafting the Yampa, Utah	June 18-22	445	35	Gary Dillon
231	Adventure Above the Arctic Circle—Rafting the Kongakut, Alaska	June 21-30	2260	70	Hunter Owens
232	Rogue River Raft, Camp, and Lodges, Oregon	June 22-26	755	70	To Be Announced
233-E	The Grand Canyon—Nature Photography, Arizona	June 22-July 3	1395	70	Mark Larson
234	The Rogue River Family Trip, Oregon	June 23-27	395	35	Jon Kangas
235	Rafting the Rogue River, Oregon	June 30-July 4	395	35	Lynn Dyche
236	Lower Salmon/Locsha Rivers, Idaho	June 30-July 5	670	70	Chuck Fisk
237	A Wild and Scenic River—The Middle Fork of the Salmon, Idaho	July 3-8	695	70	Bill Bricca
238	North Umpqua and Upper McKenzie Rivers Paddle Raft Trip, Oregon	July 6-10	440	35	To Be Announced
239	Grande Ronde River Benefit Trip, Oregon	July 13-17	440	35	To Be Announced
240	Gold Country Paddle—Trinity/Klamath Rivers, California	July 14-18	295	35	Linda Macpherson
241	Rafting the Rogue River, Oregon	July 14-18	395	35	Sallie Menning
242	The Grand Canyon–Colorado River Whitewater Adventure, Arizona	July 16-27	1395	70	Bruce Macpherson
243	Klamath River Paddle and Raft, California	Aug. 4-8	495	35	Blaine LeCheminant
244	The Rogue River Family Trip, Oregon	Aug. 4-8	395	35	Gary Larson
245	The Grand Canyon–Colorado River Whitewater Adventure, Arizona	Aug. 11-22	1395	70	Karen Short
246	Deschutes River Family and Fishing Trip, Oregon	Aug. 17-21	440	35	John Edison
247	The Grand Canyon–Colorado River Whitewater Adventure, Arizona	Sept. 8-19	1395	70	Carol Dienger
CANOE TRIPS (See Alaska, Family, and Service Trips for other Canoe outings.)					
58	•Dismal Swamp Canoe Base Camp, Virginia/North Carolina	March 23-29	190	35	Connie Thomas
248	•Main Eel For Beginners, California	June 2-7	295	35	Charlie Doyle
249	•Current River, Missouri	June 4-10	240	35	c/o Faye Sitzman
250	•Vancouver Island Ocean Canoe, British Columbia	July 1-11	865	70	Mary Gale
251	•Trinity River Touring, California	July 14-19	295	35	Sharon Cupp
252	•Trinity/Klamath Whitewater, California	July 21-26	325	35	Molly & Bill Bricca
253	•Boundary Waters Voyageur Canoe, Boundary Waters Canoe Area, Minnesota	July 29-Aug. 9	495	35	Tom Sitzman
254	•Yukon/Teslin Rivers, Yukon Territory, Canada	July 29-Aug. 12	1015	70	Iila & Chuck Wild
255	•Oswegatchie Wild River, Adirondack Forest Preserve, New York	Aug. 17-23	290	35	John L. Kolp
256-E	•Boundary Waters Canoe Area Wilderness, Minnesota	Aug. 17-23	395	35	Paul Regnier
SAILING TRIPS (See Foreign Trips for other Sailing outings.)					
395	Baja Whalewatching, Magdalena Bay, Mexico	Jan. 25-Feb. 1	1105	70	Wheaton Smith
258-E	Totems, Sails, and Killer Whales—A Northwest Sailing Odyssey, British Columbia	July 15-24	1395	70	John Garcia
259	San Juan–Gulf Islands Orca Sailing Adventure, British Columbia	Sept. 7-12	795	70	Victor Monke

*A Sierra Club Environmental Workshop for Educators** [A Family Camp Experience]

Saturday, July 12– Friday, July 18, 1986 Clair Tappaan Lodge in the Sierra at Norden, California

- Field explorations of diverse habitats, including forest, stream, lake, and bog.
- Teaching techniques for investigating ecosystems, including the human environment of the Lake Tahoe Basin.
- Seminars with experts in the environmental education and environment advocacy fields.
- Special electives, including hiking and other outdoor skills.

This workshop is designed to serve environmental education professionals and volunteer leaders and their families. The week-long workshop offers a broadly diversified exposure to the communities—natural and built—which comprise our total environment.

The staff will include former Sierra Club President Joe Fontaine, instructors of the Watson Ecology Workshop, including Hy and Joan Rosner (instructors from the University of New Mexico), Dr. Arthur Shapiro, University of California, Davis, and Pat Suiter, Sierra Club National Education Chair. Also participating will be Sierra Club President Michele Perrault.

COST:

Adults	$185.00
Teens (13-17)	175.00
Children (6-12)	125.00

(This includes room, board, tuition, insurance, trips, snacks, and counselors for children.)

DEPOSIT: (NON-REFUNDABLE)
$50 for adults and $10 for teens or children. Send deposit by May 1st, 1986 (late fee $10 extra).

MAIL DEPOSIT CHECK TO:
Sierra Club Environmental Workshop
c/o Executive Office
Sierra Club
730 Polk St.
San Francisco, CA 94109

Please indicate if you are interested in receiving teacher advancement credit.

For information call 415-776-2211.

**Conducted in affiliation with the Watson Ecology Workshop, Inc., a non-profit corporation.*

RESERVATION & CANCELLATION POLICY

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

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

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

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

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

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

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

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

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

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

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

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

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

The trip price does not include travel to

River-Raft, Sailing & Whalewatching Cancellation Policy

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

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

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

For More Details on Outings

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

Clip coupon and mail to:
Sierra Club Outing Department
730 Polk St., San Francisco, CA 94109

Sierra Club Member Yes No

Send supplements:

_____ # _____ # _____
(BY TRIP NUMBER)

NAME _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

Enclosed is $_____ for extra supplements at 50 cents each. Please allow 2–4 weeks for delivery. **Please do not mail cash.**

and from the roadhead or specialized transportation on some trips (check trip supplement). Hawaii, Alaska, foreign, and sailing trip prices are all exclusive of airfare.

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

Confirmation: A reservation is held for a trip applicant, if there is space available, when the appropriate deposit has been received by the Outing Department. A written confirmation is sent to the applicant. Where leader approval is not required, there is an unconditional confirmation. Where leader approval is required, the reservation is confirmed, subject to the leader's approval. Where there is no space available when the application is received, the applicant is placed on the waitlist and the deposit is held pending an opening. When a leader-approval trip applicant is placed on the waitlist, the applicant should seek immediate leader approval, so that in the event of a vacancy we can confirm reservations of applicants who have leader approval. When a person with a confirmed reservation cancels, the person at the head of the waitlist will automatically be confirmed on the trip, subject to leader approval on leader-approval trips. The applicant will not be contacted prior to this automatic reservation confirmation, except in the three days before trip departure.

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

A cancellation from a leader-approval trip, when the Outing Department has confirmed the reservation subject to leader approval, is treated exactly as a cancellation from any other type of trip, whether the leader has notified the applicant of approval or not.

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

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

The Outing Committee regrets that it cannot make exceptions to the Cancellation Policy for any reason, including personal emergencies. Cancellations for medical reasons are often covered by traveler's insurance, and trip applicants will receive a brochure describing this type of coverage. You can also obtain information from your local travel or insurance agent.

Time or Event of Cancellation	Amount forfeited per person	Amounted refunded per person
1) Disapproval by leader (once leader-approval information has been received) on leader-approval trips	None	All amounts paid toward trip price
2) Cancellation from waitlist, or the person has not been confirmed three days prior to trip departure	None	All amounts paid toward trip price
3) Trip cancelled by Sierra Club	None	All amounts paid toward trip price
4) Cancellation from confirmed position or confirmed position subject to leader approval		
a) 60 days or more prior to trip departure date	$35	All amounts paid toward trip price exceeding forfeited amount
b) 14–59 days prior to trip departure date	10% of trip fee, but not less than $35	As above
c) 4–13 days prior to trip departure date if replacement can be obtained from waitlist	10% of trip fee, plus $35 processing fee, but in no event more than 50% of total trip fee	As above
d) 4–13 days prior to trip departure date if replacement *cannot* be obtained from waitlist (or if there is no waitlist at the time of cancellation processing)	40% of trip fee, plus $35 processing fee, but in no event more than 50% of total trip fee	As above
e) 0–3 days prior to trip departure date	Trip fee	No refund
f) "No-show" at the roadhead, or if participant leaves during trip	Trip fee	No refund

Trip leaders have no authority to grant or promise refunds.

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

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

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

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

Emergency Care: In case of accident, illness, or a missing trip member, the Sierra Club, through its leaders, will attempt to provide aid and arrange search and evacuation assistance when the leader determines it is necessary or desirable. Except for foreign outings, cost of specialized means of evacuation or search (helicopter, etc.) and of medical care beyond first aid are the financial responsibility of the ill or injured person. Medical and evacuation insurance is advised, as the Club does not provide this coverage for domestic trips. Professional medical assistance is not ordinarily available on trips.

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

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

Mail checks and applications to:
Sierra Club Outing Department
Dept. #05618, San Francisco, CA 94139
Mail all other correspondence to:
Sierra Club Outing Department
730 Polk St., San Francisco, CA 94109
(415) 923-5630

Just as it was in Will Colby's and John Muir's day, so it remains true in ours that "wilderness will be saved in direct proportion to the people who know it firsthand." The Club's Outing Program was founded on this belief; the conservation cause is best served by persons knowledgeable of outdoor life in general, and of certain (often threatened) wilderness areas and issues in particular. Acting on this belief, the Sierra Club has developed a large and varied Outing Program for the main purpose of promoting the conservation cause. Each outing, in its own way, is designed to inform members of conservation issues and to encourage their active participation in the fight to save America's great outdoors.

As a result of their Outings' experiences, many trip members become active conservationists. In this way, the Outing Program makes an important contribution toward safeguarding our wilderness and encouraging the activism of its members.

OUTINGS

(Galen Rowell)

How to keep a level head in the wilderness...

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German engineering and careful craftsmanship are combined to create camera platforms of unparalleled stability! Cullmann tripods incorporate design principles that permit exquisitely fine adjustments, reduced weight, and keep them rock-steady at extreme extensions. This compact, easy-to-carry tripod kit for outdoor photography will hold your camera securely in any terrain or situation. The Outdoors Kit contains (Fig. 1) a **combination tripod**, (Fig. 2) a **wood screw**, (Fig. 3) a **universal clamp**, (Fig. 4) a **ground spike** and (Fig. 5) a **suction base**. Like all of the twelve Cullmann tripod models, the Outdoors Kit is **guaranteed for five years.** See it at your dealer soon, or write for information.

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Nuclear Exchanges

♦ Review by more than a hundred scientists in the fields of chemistry, physics, astronomy, biology, meteorology, geology, and climate dynamics finds the theory of nuclear winter to be robust.

♦ Nuclear winter is part of the inevitable end of Earth as we know it and as was prophesied by the Apostle John from the island of Patmos. That we have now discovered the means by which this end will come is proof that it is very near. Nuclear war is God's will, and there is nothing we can do to stop it. In the meantime our responsibility is to preach the gospel of redemption. We need not be concerned about the physical world, because a much greater spiritual world awaits us.

♦ Only 100 megatons of the more than 14,000 megatons of firepower in the nuclear arsenals of the United States and Soviet Union would be required to bring about nuclear winter and the possible extinction of *homo sapiens*.

♦ A first strike is no longer possible, because even if the opponent could not retaliate, the initiator would suffer the horrors of nuclear winter: nearly total darkness and subfreezing temperatures lasting several months and possibly even years.

♦ *The solution is simple:* We surround our cities with rockets carrying payloads of tiny needles about one micron long. When dispersed in the atmosphere, these needles will resonate with radiation in the infrared window, and the enhanced greenhouse effect will offset the cooling caused by the thick clouds of smoke.

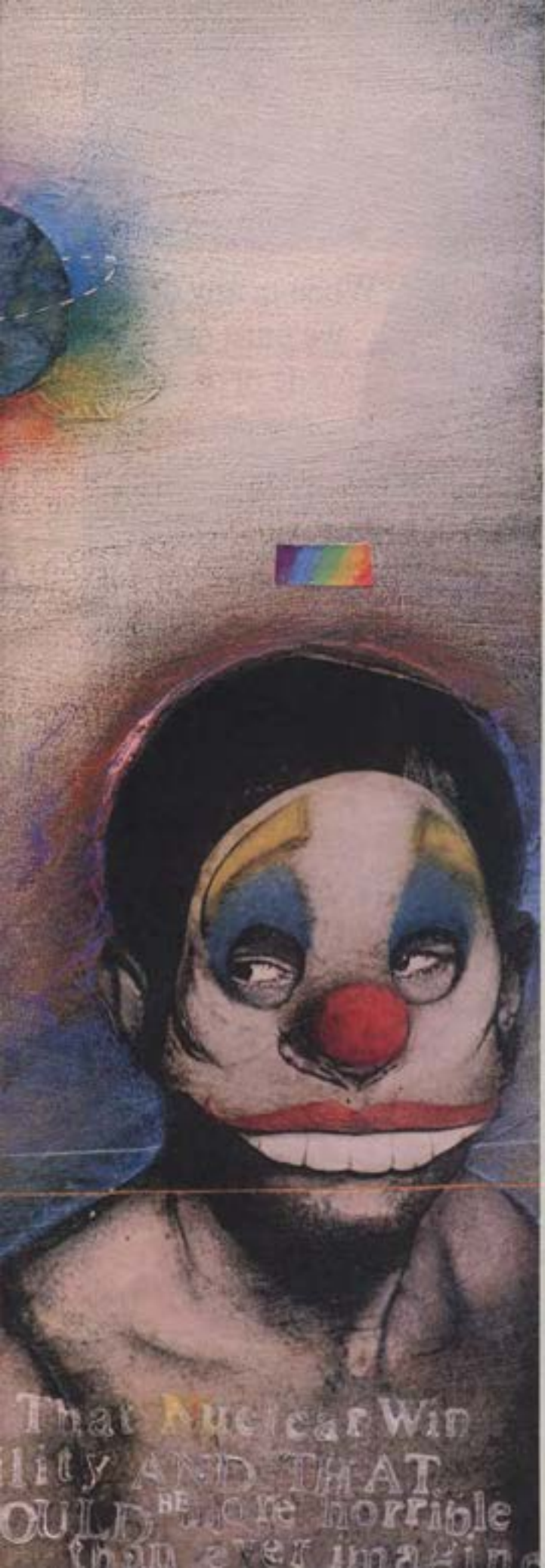
♦ Our study concludes that nuclear winter is a real possibility; we now know that nuclear war is even more horrible than we had ever imagined. There are no policy implications, however. We have always prevented nuclear war by means of deterrence. What we need are more MX missiles, Stealth bombers, and Trident submarines. Nuclear winter also underscores the prudence of the Strategic Defense Initiative.

♦ Nuclear winter will not occur, because the heat from burning cities will offset the cooling.

♦ We in the arms-control community have worked tirelessly for years to protect the world from nuclear war. To our credit, this holocaust has not yet occurred. The issues of nuclear weaponry are extremely complex and not easily understood by the public. We must be patient and negotiate carefully. It took us 40 years to get into this situation, and it could take us just as long or longer to get out. Please don't confuse us with nuclear winter.

♦ If the theory of nuclear winter is correct, how could it have been overlooked for so many years?

David Lash



♦ The first logical step toward reducing nuclear weapons is to stop producing them. A ball tossed upward must come to a complete halt before returning to the ground. What we need first is a mutually verifiable nuclear weapons freeze.

♦ It would be foolish—and, considering nuclear winter, dangerous—to freeze our production and deployment of nuclear weapons while the Soviets are clearly ahead. To negotiate with the Russians, we must first be in a position of strength.

♦ Worrying about nuclear winter is like worrying about lead poisoning when you've been shot.

♦ If a nuclear war begins, I want to be at ground zero.

♦ Uncertainties in the theory of nuclear winter are enormous: the amount of fuel burned, the quantity of smoke produced, its distribution and transport in the atmosphere, the optical properties of dust and smoke, the aerosol size distribution and microphysical properties, the degree to which it would be rained out, and the response of the atmosphere to such an enormous perturbation. Nuclear winter is as uncertain as the weather itself.

♦ The beauty of nuclear winter is its uncertainty. Until now war planners used computers to project the results of particular scenarios with precision. Because of nuclear winter, nuclear war is no longer quantifiable, and the chance of actually fighting a nuclear war is greatly reduced.

♦ What we need is a research program to narrow the uncertainties. An interagency program involving NSF, DOE, NCA, NASA, and EPA could be administered through the CPO of NOAA. We could bulldoze the buildings of an abandoned army base into the right configuration and set it ablaze to simulate an urban fire. We would need properly instrumented towers and airplanes to observe, sample, and make measurements within the fire plume. This would also be a great opportunity to obtain funding for the climate-modeling groups at NCAR, LANL, and LLNL.

♦ If the nuclear winter theory is true, then it is the perfect deterrent, and we should not reduce our nuclear stockpiles below the threshold for nuclear winter.

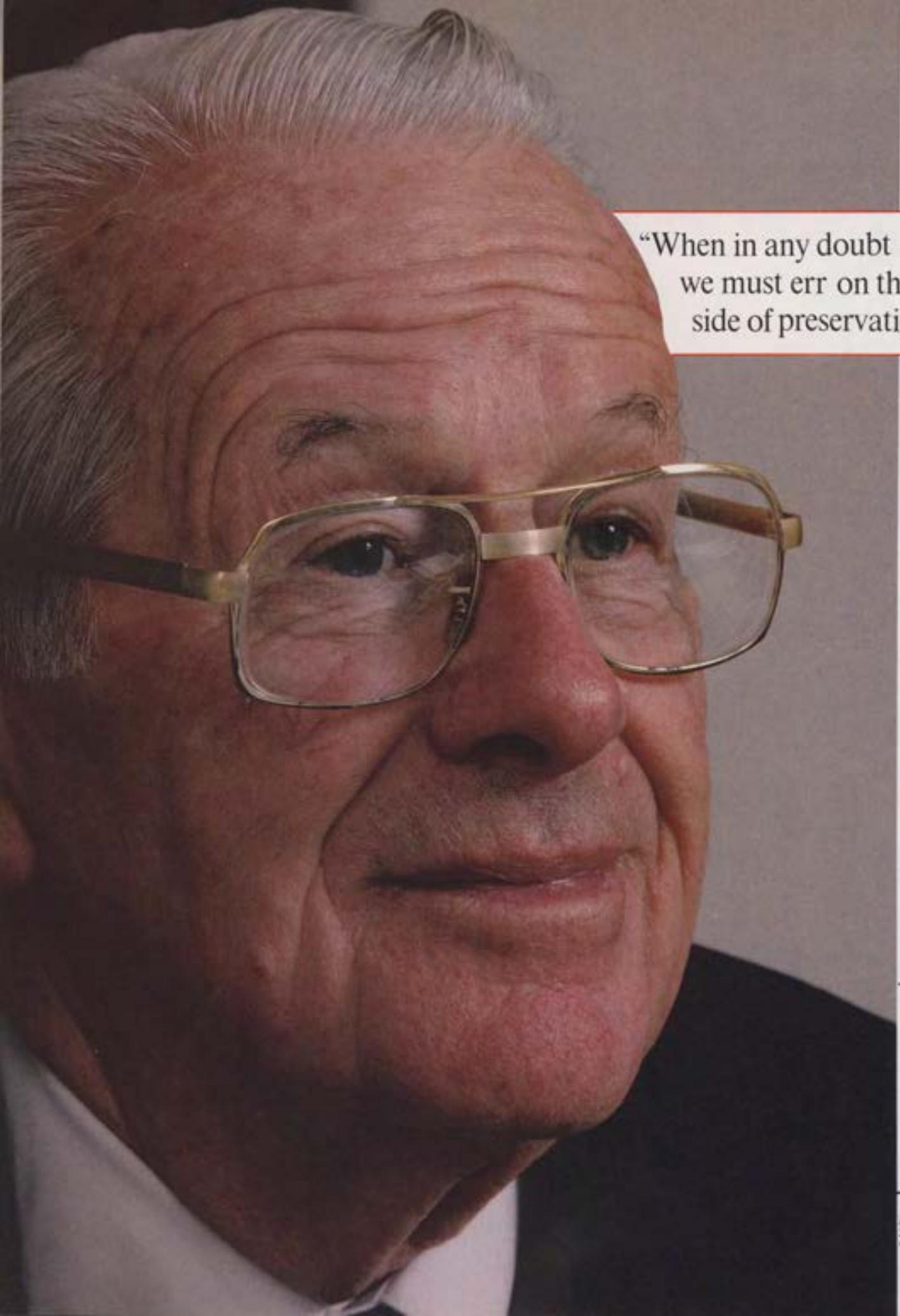
♦ We should place our ground missiles in the midst of oil refineries and coal deposits, where fuel loading is greatest. The fires would burn for long periods of time and the smoke would be rich in highly absorbent elemental carbon.

♦ There will probably be a nuclear war in my lifetime.

♦ *The solution is simple:* We will use missiles with deep penetration. The collateral damage will be minimized and the fire area reduced. This will require a larger number of warheads of smaller average yield. New, more accurate delivery systems will need to be designed.

♦ One has to view the situation in terms of geological time. If all of time is represented as the length of a football field, humans are but a blade of grass on the zero yard line. Even if nuclear winter renders humans extinct, intelligent life will evolve again. □

JOHN BIRKS *is a professor of chemistry at the University of Colorado, Boulder, and a member of the Sierra Club Committee on War and the Environment. In 1982 he and Paul Crutzen discovered that nuclear war could cause the atmospheric effect now referred to as nuclear winter. Birks wrote this article with his wife, Karen.*


"When in any doubt
we must err on the
side of preservation."

MR. MOTT GOES TO WASHINGTON

A SIERRA INTERVIEW • JOAN HAMILTON

MONTHS LATER, it still seems remarkable: The president who appointed James Watt and Anne Burford has also welcomed to Washington William Penn Mott, Jr., a National Park Service director with a clear conservationist bent.

Mott's zest for parks has been compared to that of the premier Republican conservationist, Teddy Roosevelt. An able administrator with 50 years of parks experience, Mott is expected to give strong leadership to an agency that has lacked direction for decades. He has delighted conservationists by declaring, "When in any doubt, we must err on the side of preservation." Edgar Wayburn, the Sierra Club's Vice-President for National Parks, says Mott "could become the best Park Service director we've ever had."

Mott has a lot to live up to—perhaps too much for any person now in Washington. It's clear he is not the swashbuckling outdoorsman that the Teddy Roosevelt analogy might imply. His style is dark-suit-and-tie conservative, not flamboyant. But on certain subjects there is an intensity—an edge to his voice, even a clenched fist—that suggests Rooseveltian convictions about conservation. This is a man who relishes big ideas, who has a broader view of the role of the Park Service than many of his conservationist supporters.

Mott is new to the ways of Washington. "Some people don't like me around here because I say what I think," he says. But he has excellent connections. Mott served eight years under Gov. Ronald Reagan as director of the California Department of Parks and Recreation. He rose to that job after six years of running the East Bay Regional Parks District in Oakland, Calif., and 17 years of administering the Oakland city parks.

Whereas Watt and his team closed the doors to the Interior Department, Mott has put out a welcome mat. "It is especially important that the Sierra Club join the effort to protect our national parks at this time," he said in a September 1985 letter to Sierra Club Executive Director Douglas P. Wheeler. "It may be a unique window of opportunity that now awaits us."

As state park director, Mott managed to double the acreage of the California park system despite a bare-bones budget. This and other bits of alchemy he worked on the state park system give conservationists reason to hope for significant improvements in the national system. So does Mott's long, cordial association with President Reagan. Some even see Mott's age as an advantage: They figure that at 76, he has no need to compromise to keep his future job options open. As Wayburn puts it, "All he's got to think about is his place in history."

Mott has already proven himself too vigorous and outspoken to be dismissed as mere environmental window-dressing for the Reagan administration. But for all his personal strength, the new director faces enormous obstacles. How much can he do under a president who proposed a cut of almost one third in the Park Service's 1986 budget and told Congress that no money is needed for new park acquisitions? How much will he be allowed to do by his immediate boss, Assistant Secretary of the Interior William Horn, formerly one of James Watt's loyal deputies? Time could also work against Mott. Since Reagan will leave office in January 1989, he likely has just three years to accomplish his ambitious goals.

But it is Mott's supporters who point to these obstacles, not Mott himself. When *Sierra* visited him in late October, he had been on the job almost five months. His desktop obscured by more than a dozen neat stacks of paper, Mott talked for 90 minutes, and his rapid-fire sentences eventually filled 45 pages of unedited transcript. He remained the stubborn optimist throughout, apparently undaunted by all that Washington has served up so far.

SIERRA: *Why do we need national parks?*

MOTT: We need parks for the health and welfare of people. Without our great park systems we would not be able to provide the kind of productivity that is needed in this country.

But there's another element that I've learned about in the last few months: The national parks represent stability. We're rebuilding cities, people are moving up and down and across the country. But we know that Yosemite is going to be there, Yellowstone is going to be there, the Washington Monument is going to be there. That's why people come back to parks over and over again. They give people roots, something that they know will be there in the future.

SIERRA: *How did you get into the park business?*

MOTT: Well, I got my master's degree from the University of California at Berkeley. It was right at the height of the Depression, and the only jobs for landscape architects were in the National Park Service. So I went to work for them planning Lassen, Crater Lake, and Death Valley.

SIERRA: *Were you an outdoorsman at a young age?*

MOTT: I actually grew up in big cities, like Philadelphia. When I was in high school my mother died, and I went to live with my aunt in Jonesville, Michigan. There I got acquainted with the out-of-doors and all the things that you do in a small town that you don't do in a city.

SIERRA: *In the 12-point plan you drafted last summer, you talk about "rededicating" the Park Service to the goal of park protection. Why is rededication necessary?*

MOTT: I think that in the rapid expansion of the National Park Service, we haven't been as concerned about the preservation and protection of our natural and cultural values. With the slowing of acquisition, I think we need to be concerned now.

SIERRA: *We've had a period of emphasis on acquisition, and we're moving into an era where the emphasis will be on . . .*

MOTT: . . . management and interpretation and research. We're still going to be buying certain specific lands. And we're going to be concerned not only about the resources within the park, but what's happening outside the park boundary.

SIERRA: *Why are you emphasizing park research?*

MOTT: We need research to back up our decisions. You see, now we say, "This is not good. You shouldn't do this." But we don't have the research backup, so other people can say, "How do you know that?" and we don't know for sure—we don't have the facts. But we will have them with this new research emphasis.

SIERRA: *What do you mean by interpretation?*

MOTT: I think we need to help people to understand, for example, what gene pools are. In my mind one of the reasons we are setting aside wilderness areas is to protect gene pools that may be of tremendous value in the future. We also need to do more to explain what acid rain is all about. What constitutes acid rain? What do we know about it today? What damage is being caused?

I think we need to expand our interpretive program beyond just our own units, but that may affect us overall, because everything is interrelated and interdependent. The people in the poor countries of the world who are picking up sticks for energy are not concerned about wind power or nuclear power or oil power; they are interested in energy from a few sticks. What is that doing? It's making millions of acres of desert that will ultimately affect us. So we've got to look at the total world picture and be able to explain to the public what this is all about, so they are better informed and can make better decisions—and give us the kind of support we need.

William Mott in 1935, a young landscape architect wearing his first Park Service hat.

SIERRA: *You'll be a strong force for environmental education?*

MOTT: Right. Absolutely.

SIERRA: *Your goals in the 12-point plan are stated in very general terms. What will you do to implement those goals?*

MOTT: The 12-point plan is the basic umbrella. We'll have a second publication that will be a whole series of programs for the implementation of each one of the 12 points.

We're asking people to become involved. We're sending this plan to every employee, asking them for suggestions. We're sending it to our consitutent groups, asking them for suggestions. And then they will get the action program and be able to see whether we're doing the job or not.

SIERRA: *Is the National Park System now complete?*

MOTT: No, I don't think so. National treasures like Gettysburg, like Grand Canyon, like Mesa Verde—there aren't any more of those. So we're going to be looking at new kinds of areas, such as the tallgrass prairie in Oklahoma and a national park built around a natural, wild, total river system.

SIERRA: *I understand that you're not considering Alaskan rivers as a site for this park. Are you finding suitable candidates elsewhere?*

MOTT: Well, you know, we started looking at this, and we found that there were 300 wild natural rivers in the [lower 48] United States. Some of them are relatively short. We are now narrowing that list down to the longest rivers, the ones with the greatest cultural, visual, and aesthetic values, and so forth, and we'll select one of those—maybe two of those.

We've got several rivers up in Alaska that are pretty well protected. But I want to get at the ones here [in the Lower 48] before they disappear.

SIERRA: *What about the tallgrass prairie preserve in Osage County, Oklahoma?*

MOTT: We haven't decided whether it's going to be a national park or a national preserve. We understand that to manage a tallgrass prairie is different from managing the redwoods or Grand Canyon: To maintain prairie conditions you either have to burn it off or graze it off. That's what created the original prairie.

SIERRA: *Are you considering using native species to do the grazing job for you?*

MOTT: Yes, that's one of the things we're thinking about—that we ought to bring back the buffalo and the elk. This is an unplowed area, but it has been grazed off by cattle. They've done the job that's required to keep it in good shape.

SIERRA: *Will domestic cattle be allowed within the boundaries?*

MOTT: We're looking at approximately 50,000 acres of core area, and then about 50,000 acres around that core that might be under a contract that would allow us to control development [but not own the land]. Maybe around the outside, cattle would be permitted, whereas in the core area we would use native animals.

SIERRA: *What else is on your list of areas to complete the system?*

MOTT: I don't have anything else right now. But I have been toying with the idea of a complex to tell the story of what the United States was like prior to the white man's coming. What was the land ethic of the Indians, their culture and their relationship to Mother Earth? How did they protect the resource, live harmoniously? We could tell that story from Alaska to Hawaii to the Lower 48 to the Virgin Islands.

SIERRA: *Would this complex be one spot on the map or several?*

MOTT: I don't know. This is a concept and an idea that we're thinking about. We're not sure just how it would be developed.

There are probably other areas that we ought to be looking at. For example, I understand there are some 3 million acres of what might be called derelict [worn out] land in the United States. Maybe we ought to be picking that up and letting nature heal those lands, which 50 years from now will make marvelous park sites.

SIERRA: *How about an East Mojave National Park, an area carved out of the Bureau of Land Management scenic areas in the East Mojave Desert?*

MOTT: I've heard that that's a possibility, that we ought to look at that as an area representing the high-desert ecosystem. We will be looking at something like that; we don't have anything in the system that represents that particular area.

SIERRA: *What about a park at Columbia River Gorge?*

MOTT: There's quite a bit of discussion on that now—whether it should be a national park or a national forest area. The problem there is that it's in two states, and there

> "As I said to President Reagan, 'Let's do the things we can agree on, and let's get on with it and get things done. Time is running out on us.'"

doesn't seem to be complete agreement on the part of the two states as to what should be done. We are standing by on that. I think it's a question of people getting together and deciding what they want to do.

SIERRA: *Do you have any plans for a Great Basin Park?*

MOTT: I haven't heard any comments on that, but we'll look into it. As part of our 12-point program I've asked people to tell us about some of these areas.

I've heard someone say that we also ought to look at the question of a shortgrass prairie tied in with Buffalo National River [a park system unit in Arkansas]. That's another possibility.

SIERRA: *Do you have a favorite park? Or can a Park Service director afford to play favorites?*

MOTT: We can no longer talk about the 12 crown jewels—Yosemite, Yellowstone, Grand Canyon, Mt. Rainier, and so forth. We have 337 jewels in the crown and each one of them is important.

I went down to Maggie Walker's home [Maggie L. Walker National Historic Site] in Richmond [Va.], a two-story building. What's important about Maggie Walker? She was the daughter of a slave living in Richmond right after the Civil War. Developed a penny bank that went right through the Depression without failing, developed an emporium, developed a school. What a tremendous personality she was.

What does that mean? It means that people can go there and hear that story and be inspired: "By golly, I can do it if she can do it!" That's as important as going to Yosemite.

SIERRA: *The Reagan administration asked for no money in the parkland acquisition budget for 1986, but I understand that Congress is going to give you some anyway. How much money is needed for the 1987 budget?*

MOTT: I suspect that in 1987 we will probably be asking for money for the tallgrass prairie acquisition. How much that is I can't answer at this point. But as near as I can tell, the Secretary is supporting the tallgrass prairie, knowing that it's going to take some funding, and I think that we will be getting funding.

We're also going to be asking for money to buy some of the inholdings in existing units of the National Park System. We want to eliminate these inholdings, particularly where they are owned by people who are willing sellers. We know of about $3 million worth of land with owners willing to sell their land and get out, which would help manage those areas much more effectively.

We are not going to get the large amounts that we had in past acquisitions budgets, however, simply because we're not going to have as much to acquire. And we are going to have to depend on more creative types of land protection.

SIERRA: *The Conservation Foundation recently published a book that suggests that $200 million a year should be spent on acquisition for the next ten years. [About $100 million a year has been spent for the last four years.] What do you think of that figure?*

MOTT: We're pretty much in agreement with that book. A number of activities that it recommends fit in very nicely with our 12-point plan.

SIERRA: *Does the $200 million figure seem realistic?*

MOTT: I don't know. We'll have to test that with Congress and the administration.

SIERRA: *Let's talk about the creative land acquisition schemes that you mention. In a time of austerity, easements to secure public access or development rights to private property sound like a good idea. But do they give the federal government enough control?*

MOTT: I think so. If they are handled correctly, they will assure that those lands will not be used for purposes that conflict with open-space protection.

SIERRA: *When you get that kind of control, doesn't the cost of the easement rise almost as high as the cost of the land?*

MOTT: It could. It depends on location. In California, acquiring development rights was almost as expensive as fee title. In such cases we would then go to fee title.

SIERRA: *I asked if the National Park System is complete; I should probably also ask you if there are any units in the system that don't belong there.*

MOTT: Well, I'm looking at that question. We have some small units that have been brought into the system through Congress

that are really not worthy. I'm not sure how to get rid of those. If we've got a park that ought to belong to the state, we ask the state to take it. If the state is not in good financial shape, then it won't accept it, so we've got to hold it.

I think that as population increases, every unit of open space is going to be valuable to the people of the United States. We have no right to dispose of land, even though it doesn't fit our criteria.

SIERRA: *I understand that you've proposed a trade of the federal lands in the Santa Monica Mountains for some state lands that could be added to Redwood National Park. Is that an indication that you feel the Santa Monica Mountains don't belong in the national system?*

MOTT: I feel that Prairie Creek added to Redwood would benefit the national park and give it the substance that it needs. The Santa Monica Mountains, on the other hand, could probably best be handled by the state, primarily because the state owns about 60,000 acres of the Santa Monica Mountains and the federal government only owns about 9,000 acres. Why have a dual management program?

Now the people in Los Angeles feel that if the National Park Service doesn't continue its acquisitions, that acquisition may come to a halt. Fine, I'm relaxed about it. I think these urban recreation areas are very important to the National Park Service—maybe not as scenic areas or areas of great cultural value, but they give us an opportunity to work with urban people and tell them our story. And I think that's critical.

One other thing that I think is critical is that we build constituents within these great urban areas. As I see it, in the next 25 years most of the chairmen of the major congressional committees are going to come from urban areas. They're going to be concerned about the problems of the city. They may not be too interested in national parks and open space. So we need to build a constituency.

That's the advantage of Cuyahoga [Valley National Recreation Area in Ohio], Golden Gate [NRA in California], Gateway [NRA in New Jersey and New York], Santa Monica Mountains [NRA in California], and other big urban areas: We can build a constituency there. We can do a tremendous job of education.

SIERRA: *What's the status of that proposed land trade then? Is it on a back burner?*

MOTT: Oh, yes. I'm not pushing that at all. And if we can increase the land acquisition down there, working with the state, that's great. I think getting land is more important than anything else.

SIERRA: *It seems the big question, even among your most ardent supporters, is how you will do the things you've proposed. How can you keep your promises in an era of 30 percent budget cuts and with an administration that sometimes doesn't support your preservationist plans?*

MOTT: We have to conform to the administration's program. Obviously, this tremendous federal debt has to be erased—everybody agrees on that. But I think we can use some very creative thinking to accomplish a lot of our objectives. In austerity you sometimes do more creative thinking and accomplish more than when you've got lots of money. I think you'll see things happening. They are already starting.

SIERRA: *Have you lost any park battles to members of Congress?*

MOTT: Congress has been good to us. On that 30 percent cut, Congress has put back practically everything. Congress recognizes the need for national parks. [When this interview took place, the Senate Appropriations Committee had recommended a 12 percent cut and the House a 5 percent cut in the Park Service's billion-dollar budget for fiscal 1985. At press time the issue had not been resolved.]

SIERRA: *What park battles have you lost within the administration so far?*

MOTT: I haven't lost any.

SIERRA: *None?*

MOTT: Not yet.

SIERRA: *In June you called for development and adoption of a regional plan to protect the Greater Yellowstone Ecosystem, which you've defined as some 6 million acres of wild lands adjacent to Yellowstone National Park. But last week at the House Interior Committee hearing on the project, you called for a review of "the concept of ecosystem planning and management." It seems as though something has been lost in the five months since you started.*

MOTT: I think that the first step, not only at Yellowstone but at every other unit in the National Park System, is for the federal agencies that have land surrounding the national parks to get together and recognize each other's mission and manage these resources so we don't destroy the very resources we're trying to protect.

I'm going to be working with [Forest Service Chief] Max Peterson in connection with the forestlands in the Yellowstone area. I think we're going to be able to get together on a memorandum of understanding [interagency agreement], and we're going to do the job correctly. If we don't, I think Congress will step in and do it legislatively, which may not be the best way. Sometimes legislation doesn't accomplish much, it only creates more problems.

SIERRA: *The oil and gas issue seems like a tough one. Where an exploration lease has been issued, the Interior Department has never refused to take the next step—issuing a permit to drill. How can this policy be changed?*

MOTT: I think that the Secretary is very conscious of the importance of protecting these units of the National Park System, their natural and cultural values. He's said this over and over again. We have a very good working relationship in this regard.

SIERRA: *Are you still calling for a regional plan for the Greater Yellowstone Ecosystem?*

MOTT: No, I think the plan has been fairly well defined by the Greater Yellowstone Coalition [which includes the Sierra Club]. The next step is for the agency heads to get memorandums of understanding that would protect those areas.

SIERRA: *In the Grand Canyon area, people are concerned about air flights . . .*

MOTT: I am too; I started this whole thing! When I read that there were 90,000 flights near the Grand Canyon, I said we've got to get this straightened out and stop it.

It's going to be hard. People are already accusing me of having made up my mind, so what's the sense of all these public hearings? But we have to go through that process. Maybe some recommendation will come out of it that I don't understand at this point. But obviously, the pilots and the people who are making money on these flights are going to be very concerned.

SIERRA: *What can the Park Service do about this?*

MOTT: Well, we can't do it alone. We have to do it through the Federal Aviation Administration. But if we can put together a good bunch of information after these hearings, I think we can win that battle. It's going to be difficult, though.

SIERRA: *What plans do you have to increase park protection in Alaska?*

MOTT: I don't know that I can really answer that, other than to say that we are developing these master plans and there's probably some need for land exchanges. But probably the best defense we have is research. We're up in Alaska with brand new park areas—almost virgin country. We can't afford to make a mistake.

SIERRA: *Recent reports, including one by the National Park Service in 1980, have*

"We're going to be concerned not only about the resources within the park, but what's happening outside the park boundary."

painted a bleak picture of the National Park System. Do you think things are improving?

MOTT: Yes, I'm absolutely sure of that. And they will continue to improve. For instance, we're moving all the campgrounds away from the sequoias in Sequoia National Park to a new location. Construction will be starting next year.

At Yosemite the meadows are better than they were ten years ago because of the way we're handling it. We are limiting the number of cars. We've also eliminated 650 parking spaces and replanted those areas. We will also be moving a lot of other buildings out of the valley.

We are arguing against a dam in the Merced River by a private entrepreneur who wanted to sell electricity to Pacific Gas & Electric. [See "News," November/December 1985.] And yet we were going to spend $11 million fixing up our dam [on the Merced River]. I said, that doesn't make any sense. So we're going to pull our dam out and put the river back into natural shape again.

It's going on all the time. I think the parks that I've been to are in better condition today environmentally than they were ten years ago. And I think that improvement is going to continue.

SIERRA: *What changes can we expect to see by the end of the Reagan presidency?*

MOTT: Well, we're going to have new entrance fees.

SIERRA: *Will Congress let you raise them?*

MOTT: I'm sure it will. That money will be used specifically for research, maintenance, and interpretation. And I think the public will be very happy to pay that. What is it now to go to Yosemite, $3 for two weeks? And at Yellowstone it's $2 for two weeks and you can go to Grand Teton besides. Crazy. So you're going to see that change. You're also going to see an improvement in the quality of our campgrounds and areas.

SIERRA: *Any other changes?*

MOTT: I think we will put more emphasis on management of people. I think that we understand the resource management problems, but unless we can manage people, we may lose the battle on resource management. I think we will also be doing a much better job in cultural resource protection and inventorying artifacts.

SIERRA: *What can concerned citizens do to help you?*

MOTT: They can support us. They can write to their congressman when they've had a good experience—when they go to a park and they've enjoyed the park.

Most people are accepting our decision to restrict the number of people in Yosemite and in Yellowstone. But I got a letter the other day from a guy who said, "I'm comin' through. It's my park, and you're not going to stop me," and he wrote his congressman along these lines. But the people who say, "We want a quality experience" don't write their congressman to support limiting the number of automobiles in Yosemite.

SIERRA: *What about the Sierra Club? You've worked with the Club over the years: Is there any particularly useful role that the Sierra Club can play?*

MOTT: I think the Sierra Club can identify areas where we are deficient in preserving the natural and cultural heritage of this country. The Sierra Club can help us in this whole question of how we manage resources in our parks, particularly the wildlife resources, so that they're here forever.

We've also got to educate the public so that they don't think of park wildlife as poor little Bambis. I would hope the Sierra Club could help us in this regard. We've got 2,000 wild burros in Death Valley that we've got to get rid of. The elk herd and the buffalo herd in Yellowstone have built up in the last few years because we've had very mild winters. We've got wild pigs in the Great Smokies [Mountains National Park in North Carolina and Tennessee] and in Pinnacles [National Monument in California], we've got them in Hawaii creating all kinds of problems. It's got to be dealt with.

I think the Sierra Club can help us a great deal in determining the direction for the parks in Alaska as well as other parks. People need to understand that we cannot make every park available to everybody, that some parks cannot do everything, that we're going to have to restrict use to preserve and protect some areas.

I think that within the Sierra Club there are people who understand these things who could give us a great deal of help.

.....

As I said to President Reagan, "Let's forget about what we don't agree on. Let's do the things we can agree on, and let's get on with it and get things done. Time is running out on us." □

JOAN HAMILTON, *associate editor of* Sierra, *interviewed Mott on October 28, 1985.*

A NATURALIST'S JOURNAL

HANNAH HINCHMAN

Most of us, sorting through childhood memories, have noticed that it isn't always the significant event or the important day that we remember. It is more likely an apparently random detail, like the pattern in a dress your mother wore, or the smell of dust on a hot street when the first drops of rain hit.

Even though I don't remember who came to my fourth birthday party, I have vivid childhood recollections of the seasons: the flash of lightning bugs, the scent of mown grass and broken acorns on summer evenings in Ohio. The random details cohere, forming memories that are distinct, unique, and eternally fresh.

It's interesting to examine the way people gather and store impressions over the course of a day. Even the most organized mind shifts incessantly from watching its surroundings to imagining a past or future event, making a judgment, checking the time, or noting hunger or thirst. Attention is fluid—not given to strict step-by-step processes, often too restless to light with intensity on anything.

What is it about a child's mind that allows it to register these impressions with such clarity? It does not have a more sophisticated way of gathering information. Children use the same fluid, haphazard process that adults do. But receptivity diminishes over the years; adults learn to channelize their lives to get along in the adult world.

Before that channelization begins, children can linger in self-forgetfulness. They stand and gaze or listen, and live in the gazing or listening. Nothing is held back; they are all eyes and ears. Nor are they generalizing or classifying. They are being impressed.

Part of the yearning many adults feel for wilderness is a yearning for the kind of immersion they knew as children. In wild places the rhythm of walking, paddling, or just living through the passage of the day can help lead an adult back toward the child's intensity of perception.

How to invite that immersion—how to arrive at it more readily? Henry David Thoreau was famous for his keen eye. A meadow, far from being an undifferentiated green, was to him an intricate profusion of specific plants and creatures whose forms, colors, and habits he knew well. Thoreau, John Muir, Gilbert White, and many other well-known naturalists were journal-keepers. The sketchbooks of wildlife artists such as Glen Loates and John Busby reveal the same kind of roving, observant eye. They all discovered a simple but highly effective tool for deepening perception: keeping records of what they observed—written, drawn, or both.

Most people who spend time outdoors begin to accumulate a body of lore. If you become well acquainted with one place, it's a pleasure to notice where or when certain plants appear and when birds arrive and depart, comparing year to year. Traveling provides the challenge of getting to know a new place, looking carefully for clues about weather, geology, and animal life, making conjectures and piecing

Journal photos by Tom Woodward

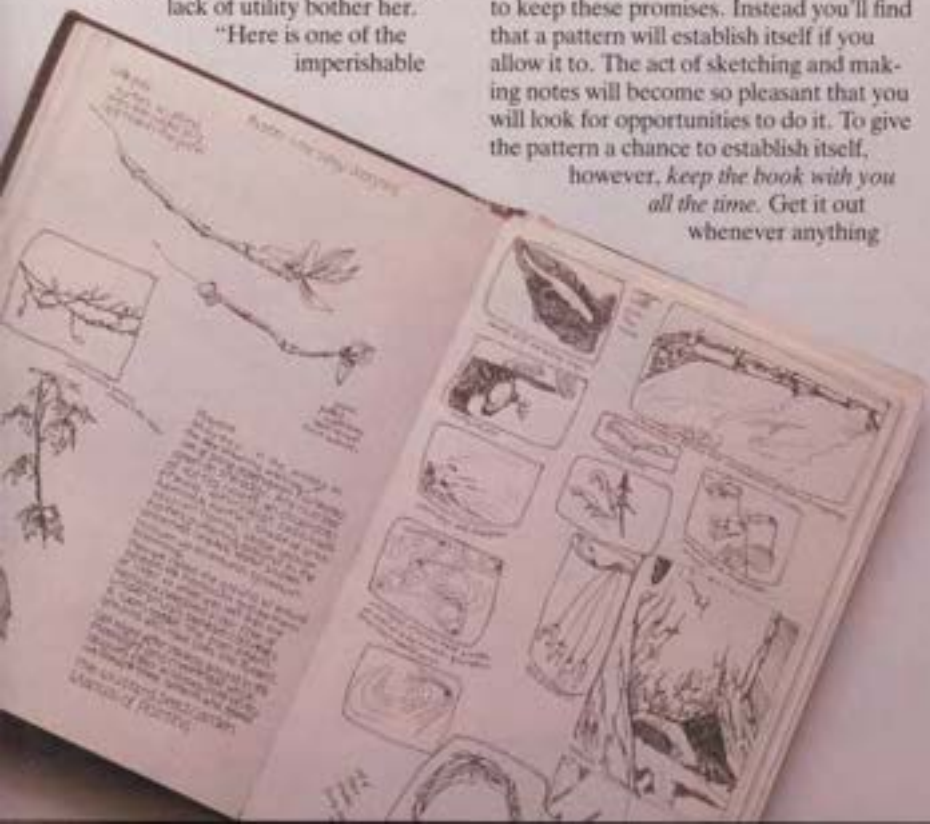
together the story of the place.

Keeping a record of the lore you've gathered in the field can also become a powerful thread of continuity in your life. I began my first field journal 15 years ago during a summer internship at a nature center. Over the years the content of the journals has broadened to include every aspect of my life. I try to see it all as natural history, and have become a naturalist on the trail of my own life.

If you've never kept a journal before but feel the urge to begin, there are a few obstacles you will have to overcome. You may discover a side of yourself that considers journal-keeping a frivolous waste of time. The French author Colette, observer nonpareil, did not let her writing's lack of utility bother her. "Here is one of the imperishable portraits that chance has brought together in my memory, that collection of clear, brightly colored pictures that gets me nowhere at all," she wrote. "Things that are of no use can be endlessly satisfying."

Anyone who has come to value wild places already has an allegiance to "things of no use." Still, you'll be surprised how that conviction withers when up against the internal taskmasters most of us invent to run our adult lives.

The same internal taskmaster will likely try to extract from you a promise to make entries in your journal every day, religiously, and to make each entry perfect. Nothing will better ensure that your journal will wind up blank in a desk drawer than to try to keep these promises. Instead you'll find that a pattern will establish itself if you allow it to. The act of sketching and making notes will become so pleasant that you will look for opportunities to do it. To give the pattern a chance to establish itself, however, *keep the book with you all the time.* Get it out whenever anything strikes you, wherever you are, if only for a few seconds.

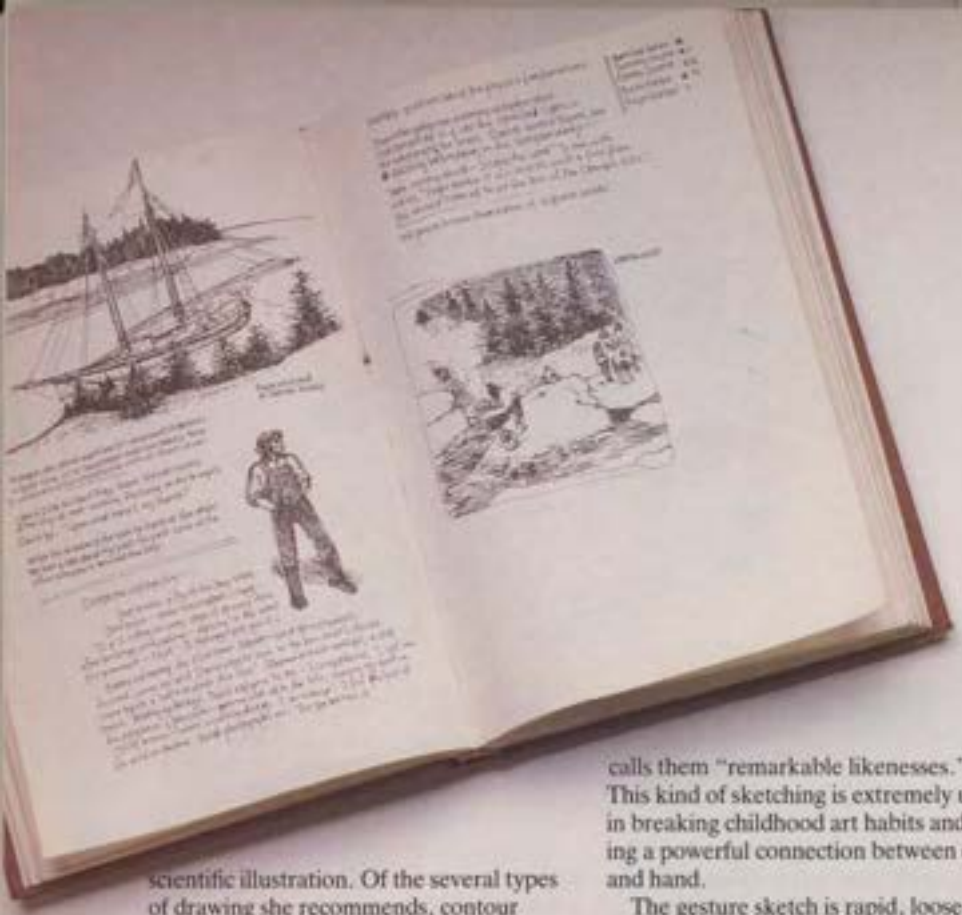


In a journal there is no such thing as a mistake—it's all useful. You are not making a book that anyone else will judge. With practice your eye and hand will become more alert and responsive. It's inevitable.

Initially the blank pages may seem intimidating. The best way to overcome this problem is to choose a random spot on the page and begin a sketch, a diagram, or a note. The rest of the area will form itself naturally around the beginning.

It doesn't matter if you've had little or no drawing experience. Before long you will develop a way of sketching that will suit your purposes. Just keep in mind that your journal is for recording things that interest you, things you have questions about. It is a way of examining details of form or movement; a place to condense and encode whole scenes and atmospheres so they will spring into life years later. Don't insist that each sketch be "finished" or beautiful in the way you've been taught to think drawing ought to be. A fragment, a line, a diagram, a combination of words and images may be enough to catch the essence of what you are experiencing.

The artist-naturalist Clare Walker Leslie has written two splendid books, *Nature Drawing, a Tool for Learning* (1980) and *The Art of Field Sketching* (1984), both from Prentice-Hall, that are full of helpful ideas and techniques. Leslie's basic sketching exercises combine the loose and spontaneous methods now taught in art schools with the careful note-taking of



scientific illustration. Of the several types of drawing she recommends, contour drawing and the quick gesture sketch are probably least like any artwork you've done before.

A contour drawing is almost pure observation: You do not look at the page or your hand at all. As your eye follows the contour—which is not simply the outline but all the ins and outs of the form—your hand follows, almost as if you were touching the object. These drawings may appear nonsensical until you examine them. Then you will see lines that are full of the personality of your subject; Leslie calls them "remarkable likenesses." This kind of sketching is extremely useful in breaking childhood art habits and forging a powerful connection between eye and hand.

The gesture sketch is rapid, loose, economical, and vital in the field, where light conditions change and animals move. With practice you'll be able to get down essential marks in less than a minute, and come away with a satisfying set of notes that can be expanded later or not, as you wish.

Part of the lure of keeping a journal is the world you enter when you open it.

> Working in it sets up an island
> of quiet and deliberateness to
> which you will long to return.

Learn the looseness of the quick gesture sketch, but also linger awhile; get carried away transcribing the design of milkweed flowers or the way a dead sparrow is decomposing and who is at work on it. As you linger, make brief notes about the general look of the day, the tenor of your life, what's happening around you, and any other ideas that occur to you. It may all seem so obvious and immediate that it needs no comment, but nothing could be further from the truth. You are gathering from the random and forming a constellation of observations that is invested with meaning because *you* choose the elements and invent a way to put them down. Years later you will be amazed that you assembled something so vivid, specific, and alive.

Marcel Proust once said that we must "rediscover that reality from which we become separated as the formal knowledge we substitute for it grows in thickness and imperviousness—that reality which there is grave danger we may die without having known, and yet which is simply our life."

A journal is not meant to be a magnum opus with an overall design. It is an accumulation of moments of true wakefulness, when you bridge the distance Proust described. Face to face with an aspen grove, a complex sky, or an animal's gaze, you are able to pierce through the formal knowledge. By making a record of what you have seen with a note, a phrase, a sketch, or even a lengthy, absorbed drawing or many pages of exploration, you make it your own. Next time you turn to look again, the world will be a degree richer and more distinct, and you will belong to it more completely. □

HANNAH HINCHMAN, *an artist and amateur naturalist, lives on a ranch near Dubois, Wyo.*

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YELLOWSTONE BY THE NUMBERS

A Park Managed for Visitors First, Nature Second?

LISA MIGHETTO

Yellowstone: A Wilderness Besieged, by Richard A. Bartlett. University of Arizona Press, 1985. $24.95, cloth.

University of Wyoming Archives—American Heritage Cen

OF THE CONTROVERSIAL issues affecting the National Park Service today, none is more significant than the question of preservation versus enjoyment. Yellowstone Park provides an excellent case study, for it is not only the country's first and largest national park but also one of the most heavily visited. From the park's inception in 1872, Yellowstone's tourists "always came too fast and too many," according to this professor of history at Florida State University. In *Yellowstone* Bartlett puts the onrush of visitors into the park in historical context.

Post–Civil War America was a nation of "frenzied expansion" and "productive energy," and Yellowstone could not have remained inviolate for long without protection. But even those who defended the park on aesthetic grounds were primarily concerned with protecting it for *use*—albeit recreational—by humans. Publicists hailed the therapeutic quality of its springs while patriotic supporters pointed to monumental canyons, geysers, and mud pots that "Europe could not duplicate." Similarly, hunters, whose activities in Yellowstone were later restricted, favored preservation of the big game rapidly disappearing outside the park. Spiritual rejuvenation was another celebrated use. In fact, the appreciation of nature for its own sake was hardly a consideration in the establishment of the park; in Bartlett's estimation, visitors "have been of first importance in Yellowstone's history."

Despite its remoteness, by the 1870s the region was already under siege with the first

influx of tourists. Indiscriminate hunting depleted wildlife, vandals defaced delicate formations, and forest fires set by careless visitors raged uncontrolled. Geyser-jamming seems to have been a favorite activity. One group, hoping to witness a spectacular eruption, dropped a thousand pounds of rubbish into Old Faithful. Yet the author takes a sympathetic attitude toward these early visitors, most of whom lived in the West. He remarks that, unlike tourists today, they came from "a sparsely populated land in which many were still fighting a battle with the wilderness. . . . To them nature's abundance was so obvious, so overwhelming, that restrictions upon abuse of the natural order seemed ridiculous."

Early visitors certainly endured many hardships on trips to Yellowstone. In addition to the arduous journey into the park by horse or stage, there was the threat of horse thieves, highwaymen, and renegade Indians. Bartlett tells the story of one hapless visitor who was attacked by Nez Percé Indians, burned by his cooking fire while trying to recuperate, and thrown from his carriage when he was rescued, which broke open his wounds. Finally the unfortunate man's hotel bed collapsed, dumping him on the floor. Here, says Bartlett, was a true pioneer tourist.

Later visitors did not have to rough it to reach the park. Railroad construction in 1882 made Yellowstone accessible to a new breed of tourist: affluent easterners drawn by advertisements from the Northern Pacific Railroad. These genteel folk "considered 'doing Yellowstone' a part of life's adventure," but they did not expect to suffer much discomfort. Accommodations were still crude in the early 1880s: One English lady who was forced to stay in a room without a door complained that "every snore was audible." When the park began to cater to this wealthy clientele, some of the romance of a trip to Yellowstone was lost. The journey around the park had become almost dull. "Bear-feeding at the hotels constituted the most exciting event," writes Bartlett, "especially after a few geysers and hot springs had been observed."

But it was the growth of auto tourism that had the most dramatic effect on Yellowstone. By the 1920s, cars had become the most prevalent means of transportation into the park. Recognizing that motorists meant lucrative business, park concessionaires pressured Congress for funds to construct better roads. So inadequate were existing roads, moaned one lobbyist, that his "spread-eagle Americanism" drooped in shame.

At no point does Bartlett question the desirability of these roads. "Mankind loves technology," he explains; "to fight it is not unlike sweeping the tide back into the sea." Besides, the automobile allowed more ordinary Americans access to the park, and "who can deny that the attainment of mobility and material things by a greater number was not significant and good?" These new visitors required yet another change in park facilities as emphasis shifted from the lavish hotels of the railroad era to expanded public campgrounds and less expensive accommodations.

From that era to this day, the National Park Service (established in 1916) has continually had to confront the problem of "preserving a wilderness in the face of overwhelming numbers of human beings." The author's assessment of the agency's accomplishments is consistently favorable. He defends its early support of the concessionaires at Yellowstone by pointing out that Stephen Mather, the first director of the Park Service, was a businessman and millionaire. Similarly, Horace Albright, Yellowstone's first superintendent, realized that objecting to excessive profits would not be politically expedient. Both men were particularly effective lobbyists for the park. Yet Bartlett does note that for all his lobbying in favor of preservation, Mather's "was not a contemplative nature. Inspiration Point would have held his attention for less than five minutes."

He is more critical of Yellowstone's history of wildlife policy. Modern understanding of ecology makes us cringe at the thought of introducing exotic animals into the park; past attempts at predator elimination seem equally lamentable. Moreover, the bear-feeding grounds (abolished in 1941) added a carnival atmosphere that seems degrading

Wildlife-management efforts in the national parks were hindered by a public that perceived bears and other creatures as objects of amusement and sport.

to these noble animals. Confrontations between people and bears have always been a problem at Yellowstone.

While the park has certainly suffered from human impact, it is nonetheless tourists who have been its most important supporters. This well-researched history, supplemented by period photographs, weaves a remarkable and entertaining story. Yet readers may be disturbed by the author's ready acceptance of crowding in the park. Despite the preservationist bent indicated by the book's subtitle, Bartlett is far more solicitous of the tourist than of the resource. He is bothered by the inadequacy of "necessary services," and much space is devoted to lamenting the "quality of food and housing, treatment by personnel, and prices."

To be sure, Bartlett regrets the spirit in which many visitors approach Yellowstone. Modern tourists, he complains, have little capacity for wonder, and he asks wistfully whether today's visitor would view a geyser eruption with the same enthusiasm as one pioneer tourist who "sprang from the river bank, waded waist-deep to the other side, stood under the shower . . . , waved his hat over his head and shouted 'Hurray!' until he was hoarse." Unfortunately, Bartlett himself appears more concerned with the construction of facilities for the comfort of the tourist than with preserving the wilderness of our most popular national park.

LISA MIGHETTO *is a lecturer in American environmental history at the University of Washington. She wrote "Muir Among the Animals" for the March/April 1985* Sierra.

PARKS REPORT IS A MIXED BAG OF NEW AND OLD IDEAS

MICHAEL McCLOSKEY

National Parks for a New Generation: Visions, Realities, Prospects. The Conservation Foundation, 1985; $19.95, paper.

A MOMENT OF great opportunity faces all who care about this country's National Park System. As William Penn Mott takes charge of the Park Service, change is in the air and fresh initiatives are possible. But where should he head, and what does the environmental movement suggest he do?

What better place to look than in a new report from the Conservation Foundation —exquisitely timed—that Mott himself fortuitously hails as a veritable "cornucopia of good ideas"?

The report is the latest in a distinguished series on this subject from the Conservation Foundation, which last issued a major report on parks in 1972. The organization is not alone in proffering advice, however. Last year the Sierra Club joined with The Wilderness Society and the National Parks and Conservation Foundation in publishing a report on the future of the system. The new report from the Conservation Foundation is longer, provides more background on the system's development, and is more journalistic in tone than the earlier report, but it also reads less like a set of recommendations from the environmental movement than a literate report from the General Accounting Office. It looks not only at the great issues but at the minutiae of such questions as concessionaire contracts. It also provides a wealth of detail about visitation trends, funding levels, and acquisition needs.

Some of the details are startling. Private parties own 3 million acres in the National Park System (excluding Alaska); 2 million acres in the system are grazed; coal exists on 963,000 acres of private holdings in the system that are subject to pressure for mining; the number of freshwater wading birds in the Florida Everglades has declined by more than 90 percent over the past 40 years. But there is good news, too: A poorly performing concessionaire was finally turned out of a major park (Yellowstone), in 1979; over the years, 1.5 million acres have been purchased for the system from the Land and Water Conservation Fund (at a cost of $1.9 million); and 27,000 people volunteered their time in 1984 to help improve our national parks.

The authors of the report believed that the best perspective would come from a systematic review of the record and a series of field interviews. Not all of the effort yields pay dirt, but some solid recommendations do emerge. They reflect an underlying belief that the Park Service should put less emphasis on buying land outright, that it should be more involved in cooperating with the communities where parks are found, that more opportunities should be provided for public participation, and that historical and cultural resources should be given equal billing within the system.

The centerpiece is a recommendation for

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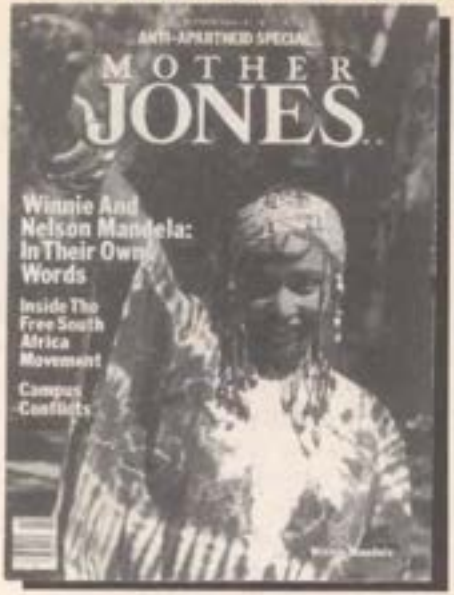

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a new ten-year program the Conservation Foundation tags "Preservation '95," designed to improve protection of park resources. Envisioned as a counterpart to James Watt's PRIP program for upgrading park facilities, the program would call for special appropriations of $50 million per year. This money would be used to pursue 175 high-priority projects, such as fencing out feral animals, stabilizing sand dunes, and removing trees from battlefields. Funds would also be earmarked for monitoring, research, training, and better reporting.

This idea is exciting and timely in concept, but not all of the proposals will strike everyone as environmental progress, and the discussion obscures the question of whether funds would be used to meet the problem of threats to the parks head-on. More than half the documented threats come from sources outside the parks, and such spending projects would seem to offer little hope of averting them.

But the report does make important recommendations about how to deal with external threats: delineating "areas of critical park importance" (with financial incentives for local cooperation), requiring adjoining federal land-managing agencies to develop plans consistent with park needs, denying federal subsidies to developers of nearby projects, and appealing to a "God Committee" (as under the Endangered Species Act) to resolve disputes among federal agencies. But it is not clear whether Preservation '95 would fund this effort or go largely for undertakings that seem far less urgent.

The report also calls for reauthorizing the Land and Water Conservation Fund (which expires in 1989) and appropriating at least $200 million per year for acquisition of both new areas and unacquired tracts in existing parks (306,000 acres). Well-conceived recommendations are made for new area studies: a register of places needing preservation, inventories targeted according to themes, and updated reports on opportunities. The report doesn't attempt its own inventory, but does mention such long-pending ideas as Tall Grass Prairie and Great Basin parks, and cites the Columbia Gorge, Hudson Valley, Lake Tahoe, Florida Keys, Big Sur, and New York's Thousand Island area as possibilities.

Much of the report's hope for the future is focused on the "greenline" park approach in use at Cape Cod, New Jersey's Pine Barrens, and in the Adirondacks: a core of public land surrounded by private land held under land-use restrictions. While the strategy makes sense for "living landscapes" where private operation of farms is the objective, the rationale is otherwise less than compelling. The acquisition budget can conceivably be stretched by buying cheaper "less than fee" interests, but the bargain may be illusory in the long run. The report seems to be afflicted with schizophrenia in discussing this concept, as if the project's directors were supposed to favor it while the authors were not really convinced. For every argument in its favor, a counterargument is advanced.

The report also includes a few ideas that are downright dubious: "socioeconomic impact statements" on proposed new parks (a Heritage Foundation-like idea) and a delisting of supposedly subcaliber parks (a persistent idea that has done more harm than good).

Overall, the Conservation Foundation's report is a serious, thoughtful contribution with a wealth of data and some very good ideas. However, the joint report issued by the Sierra Club and others last year ("Toward a Premier National Park System") offers a more philosophically coherent blueprint for the future of our parks. We can only hope that Bill Mott reads and heeds the best parts of both of them.

MICHAEL MCCLOSKEY *is Chairman of the Sierra Club.*

AND THEN WHAT?

PETER WILD

Filters Against Folly, by Garrett Hardin. Viking, 1985. $15.95, cloth.

EVER SINCE "The Tragedy of the Commons" appeared in *Science* magazine 17 years ago, Garrett Hardin's books and articles have been serving environmentalists in a most complementary way: making them feel uncomfortable by forcing them to evaluate and thus strengthen the premises they hold dear. In his latest volume, the picaresque biology professor from the University of California–Santa Barbara begins by swinging into action against self-righteous ecologists who "ravish language"—and logic—for political ends.

For who among us has not virtuously gnashed choppers over the Earth-destroying antics of this or that politician, concluding that the promulgator is an ecological Beelzebub bent on frustrating what we see as good for our sweet planet? While generally supporting environmentalists' aims, Hardin sees things differently, and by flipping common wisdom on its back offers new insights into old problems.

Acid rain, for example. Sulfur compounds belched into the air by the indus-

trialized nations are turning forests brown around the world. Yet the politicians of the offending nations drag their feet, slyly suggesting more studies rather than quick action. Are these supposed guardians of the public weal greedy ghouls and fiendish Mephistopheleses, as the environmental press regularly characterizes them?

Possibly. But it is also possible that this harsh observation is a mere convenience on our part, an escapist approach to a complex problem. As students of ecology we should know better, and Hardin keeps reminding us that situations are never simple, never isolated from their contexts. In this case as in all others, the holistic view is in order. The old comforting saw—that politics is the art of compromise, or worse—deludes us. The real crux, as Hardin limns it, is that the job of the politician who wants to stay in office is "to *not* solve problems . . . (while giving the appearance of trying to do so)."

At first glance this may strike us as a witty restatement of what we already know. But Hardin commits himself to more than entertainment; his job is to instruct. He explores new territory by taking on the burden of explaining nothing less than the nature of human folly. To put it in ecological terms, "Why is it so difficult to save something for our children?" Wouldn't all but the most debased politicos care for the forests and lakes their own sons and daughters will inherit?

Of course they would. The difficulty lies not with their morals but with their perceptions of reality. Most people assume that the future will be much like the past, that the familiar forests and fish will be there ten, twenty, a hundred years from now. This outlook served us well in ages past, when it held true. But in a rapidly changing world, such an assumption can be deadly for posterity.

RIGOROUS THINKER that he is, Hardin isn't satisfied with this conclusion, however. He keeps probing the roots of human behavior for the reasons behind the reasons. Why are we so limited? It has to do with the very nature of the human condition. Faced with an overwhelming barrage of information, the mind erects filters (hence the title of the book) "for reducing reality to a manageable simplicity." The parts we can't or won't see—such as nuclear radiation, forests browning from tainted rains, or any of a host of other Earth-wreckers—can do us in.

Hardin suggests three types of filters. The first and oldest is language. Ordinarily we think of language as conveying information, but the author notes that words can obscure as well as clarify. In the early days of nuclear development, Lewis Strauss, the chair of the Atomic Energy Commission, peered wide-eyed into the future and saw electricity "too cheap to meter." In the same breath the heady prophet forecast "an age of peace" for our children. Who could be against those things? Yet his words defied logic, linking two unexamined and not necessarily related concepts. Appealing to the imagination rather than to reality, language can dazzle and blind.

Trafficking in similar devices, corporations as well as politicians may camouflage their motives. They profit at public expense while deceiving with saccharine slogans. Popularizers of ecology take their lumps on this score, for in Hardin's opinion they, too, sweeten the truth with words. Presenting grand visions of blue skies and endless forests, they often gloss over humanity's complex relationship with nature. Witness the plagues that have ravished humankind for millennia: Nature is not always the genial force we'd like (and like others) to believe.

Numbers, too, can act as filters in games of make-believe. The Rasmussen report of the 1970s crunched thousands of figures. Its conclusion: A person was more likely to be hit by a meteor than hurt by a nuclear-reactor accident. Then came Three Mile Island. Because of numbers-induced myopia, this study, like many others, ignored human unreliability—an essential but not easily quantifiable element.

Are we, then, doomed by our heuristic blinders? Hardin thinks not. The key is that up to now we have been satisfied, as a nation and as a planet, with asking the wrong questions. The language filter asks, "What are the words?"; the numbers filter, "What are the numbers?" Too often we blithely take the resulting answers at face value. The path out of this morass lies in posing a different issue entirely: "And then what?" In other words, what Hardin calls the ecolate filter keeps probing for the long-term consequences of our actions, whether they be building nuclear reactors or letting industrial wastes loose to roam our skies.

Hardin is also quick to admit that his is a far from popular question. We are an impatient, hurried people, eager for quick results, whether they be for profit or emotional fix. Not one to avoid issues, Hardin brings his argument to bear on a dramatic problem currently much in the news.

Feeding the world's malnourished may make us glow with generosity. "And then what?" Hardin persists in asking. How long can we go on feeding the 2 billion hungry people of the globe? And then what? We squirm. It's easier for us to treat the issue as a temporary shortage of food or water than as a chronic aspect of a crisis that is driving whole nations into environmental bankruptcy. It's easier to deal with the emotions

generated by the problem than with the problem itself.

Like all memorable thinkers, Garrett Hardin addresses unsettling questions. He does so with the verve of an old-fashioned professor who, with kindly insistence, pushes us in the direction of conclusions we'd rather avoid.

PETER WILD *is a frequent contributor to* Sierra.

FIRST AID BY THE BOOKS

STEVE DONELAN

Medicine for Mountaineering (3rd ed.), edited by James A. Wilkerson. The Mountaineers, 1985. $10.95, paper.
Medicine for the Outdoors, by Paul S. Auerbach. Little, Brown and Co., 1986. $24.95, cloth; $12.95, paper.

SINCE 1935, climber-physicians have been teaching backcountry first-aid (including emergency medical techniques) to members of The Mountaineers. When the Seattle-based mountaineering club published the first edition of *Medicine for Mountaineering* in 1967, it raised important issues that all those who venture into the backcountry must face. Not since our pioneer days have so many Americans spent so much time in potentially hazardous situations, far from medical help. In case of injury or illness on a backcountry trip, what are mountaineers' responsibilities to themselves, their companions, and others they may meet?

Urban-oriented first-aid training is widely available, but it may not be enough. Even wilderness first-aid courses usually stop short of medical techniques. How many physicians, after all, are willing to teach these techniques to lay people? But who else is qualified to teach medicine?

The growth of paramedic training among ambulance crew members, park rangers, and others has shown that nonphysicians can be trained to do some medical procedures safely. Most people, however, lack even this level of training. Are there circumstances in which one should take the risk of putting a dislocated shoulder back in joint, for example? Or of administering prescription drugs?

There are now two books that respond to these questions by presenting backcountry medical knowledge to the general public. The revised and rewritten third edition of *Medicine for Mountaineering*, by James Wilkerson and his collaborators, and *Medicine for the Outdoors*, by Paul Auerbach, were both written by physicians with extensive backcountry experience. Both contain clear and authoritative discussions of backcountry injuries and ailments, defining medical terms in plain English. Both are full of cautions about the dangers of some of the techniques they describe. Both warn their readers that a book is no substitute for practical training.

Basic principles of first-aid (from a physician's standpoint) are included in both books, but you will not find much detail in either on bandaging or splinting, for example, or even how to do a physical exam. Some first-aid training is assumed by both books; Auerbach also assumes that the reader has "a basic knowledge of how the body and its parts (brain, heart, lungs, etc.) are supposed to work."

Perhaps because of the latter assumption, Auerbach has divided much of his material into two big treatment-oriented sections on "major" and "minor" medical problems, each of which alternates injuries with ailments. Readers whose knowledge of anatomy and physiology are shaky may find it challenging to read these sections through. Wilkerson and his collaborators divide the corresponding material into sections on traumatic injuries and nontraumatic diseases, giving the topics more coherence. Explanations of what goes on in the body during injury or illness are especially good.

Though well-organized for reference purposes, *Medicine for Mountaineering* aims at teaching readers to understand what can happen to them—how to prevent it, if possible, and how to deal with it when necessary. One senses the presence of an educator with material and presentation tested and refined by generations of classes for lay mountaineers. In contrast, *Medicine for the Outdoors*, dense with information and injunctions, seems to lend itself more to reference use than continuous reading. Here one senses the specialist in emergency medicine anxious to give his readers as much good advice as possible and to help them avoid a seemingly infinite number of possible blunders.

In the long section on disorders related to specific environments, the broader scope of *Medicine for the Outdoors* is apparent. An enthusiastic scuba diver, Auerbach covers diving illness and hazardous marine life. He also has a short but excellent section on wildland fires, and a very detailed chapter on wild plant poisoning—both lacking in Wilkerson's book except for a mention of poison ivy. Wilkerson's section on environmental injuries focuses on the classic mountaineering stresses of heat, cold and alti-

tude, with one chapter on (terrestrial) bites and stings.

New to the third edition of *Medicine for Mountaineering* is a long chapter on psychological responses to accidents that is much more detailed than Auerbach's brief discussion. These responses, which occur in rescuers as well as victims, can be devastating. Recognizing such effects as tunnel vision and muffled hearing as serious disorders (instead of just reacting to them in an emotional way) can avert disaster in a rescue. Wilkerson also includes some cautious remarks about the legal ramifications of first-aid—a tangled subject that deserves more discussion. Both books have long, detailed appendices on prescription drugs for the backcountry, grouped according to use, that will be invaluable to those going on serious expeditions.

Wilkerson's book has one dangerous error, which may be corrected by the second printing. When doing the Heimlich maneuver to expel a foreign body blocking a choking victim's airway, one's fist should be placed slightly above the navel and below the rib cage, not "in the top of the 'V' formed by the ribs," as the book prescribes. Readers can find correct descriptions of first-aid for choking in American Red Cross textbooks.

STEVE DONELAN *is an instructor in wilderness first-aid. He wrote "Blood, Sweat, and Chill" in the January/February 1985* Sierra.

AN ATTITUDE APART

ANN LAGE

Rediscovering America: John Muir in His Time and Ours, by Frederick Turner. Viking, 1985; $25, cloth.

HOW DID A Scottish immigrant turned Wisconsin farmboy, condemned by his tyrannical father to a 16-hour workday and deprived of intellectual or social discourse, become the founder and patron saint of the modern conservation movement? How was the man who entered Yosemite Valley in 1869 as "an unknown itinerant laborer looking for work" able to leave it five years later "a naturalist with standing in American scientific circles, the acknowledged expert on the life of the Sierras, and a writer of reputation"? How did this self-styled tramp, this youthful mechanical genius, develop and project a vision of humans and nature that rejected the pervasive mechanistic, land-hungry attitudes of his adopted homeland?

These are some of the questions addressed by Frederick Turner in *Rediscovering America*. For those who have not yet read John Muir's works or one of the several biographies still in print, this well-documented account is a good place to begin. The avid student of Muir and Muiriana will also appreciate Turner's gracefully written and compelling narrative.

As Turner acknowledges, his thorough review of the documentary record of Muir's life turned up no startling new discoveries. The strength and contribution of his book is twofold. He creates a full picture of John Muir the man—the development of his thoughts and feelings about the natural world, his relationships with family and close friends, his impact on others, his public persona. At the same time Turner skillfully places the man within the context of his times.

Thus, Muir's boyhood view of America and his father's decision to emigrate from Scotland are seen against the background of Scottish economic conditions, European political upheavals, and the prevailing information in mid-19th-century Scotland about the California Gold Rush and the vast American wilderness. Muir's educational experience at the University of Wisconsin is framed by the Civil War and its impact on university-age Wisconsin youth. His escape from an Indianapolis machine shop (where his mechanical genius threatened to imprison him) to make a thousand-mile walk through the war-torn South is related to both his personal history and to the intellectual climate of the time.

As an isolated farm youth, Muir found in literature his path to freedom: It showed him a way to reach the wider world and provided him with his formative role models. On his trip south the image of the geographer Alexander von Humboldt—now forgotten but in Muir's time a heroic figure—constantly drew him on. To his mentor and lifelong supporter Jeanne Carr he wrote, "How intensely I desire to be a Humboldt." In fact, if it had not been for his near-fatal bout with malaria on the Gulf Coast, Muir might have found his Yosemite in South America, where he was headed in emulation of his great hero.

Yet even as he was shaped by his times, Muir stood apart from pervasive American attitudes. As he "rediscovered" America by establishing intimacy with a huge block of the natural world—magnificent Yosemite Valley and the high country surrounding it—he rejected the prevailing view of wilderness and the public domain as areas for land speculation and spoliation. Turner ably traces Muir's evolution from moun-

tainer and naturalist to protector of the wilds, an evolution made possible by his early conclusion that "mountains and red-berry bushes [are] equal with humans in the eye of the Creator." This outlook, Turner submits, became the bedrock principle of the American environmental movement.

Turner sees the mid-1870s as a turning point in Muir's life, a time when he ceased being a dweller in the mountains and became a visitor to them. At this point Muir began to search for the appropriate relationship between civilization and wilderness, to develop a land ethic, and to become a part of civilized society in order to work for the protection of wild lands. These were the years of family and fruit farming, national fame as a nature writer, the campaigns for the establishment and protection of Yosemite National Park, and the founding of the Sierra Club. In telling of these years, Turner emphasizes the meaning of Muir's life for us today. He convinces us that this one-time reclusive and idiosyncratic wanderer in the end lived his life for us. And he maintains that Muir's "rediscovery of America may also be our own."

Turner set out to write a biography based solely on documented facts. But while immersing himself in the records and retracing the paths of Muir's wanderings, he came to the point where he believed himself capable of some Muir-must-have-thought passages. These often ring true and add to the impact of the book, as in descriptions of the Wisconsin experience of weather, field, and swimming hole. Bolstered by Turner's own boyhood experiences in Wisconsin, the passages contribute to our understanding of the development of Muir's relationship with nature. But in a few instances these passages fail, as when Turner comments on Muir's possible thoughts upon the death of former rival Clarence King, thoughts not substantiated by the written record.

Turner treats Muir's last 14 years—the apogee of his national influence—relatively briefly. This final chapter includes his camping trip under Yosemite skies with Theodore Roosevelt ("creative truancy in the wild heart of the New World"); his intense campaign to prevent the damming of Hetch Hetchy Valley and to protect the idea of national parks; and the split between Muir and Gifford Pinchot, a paradigm of the tensions that persist within the conservation movement today. It also covers the death of Muir's wife; his travels to Europe, Russia, Manchuria, Siberia, the Indian Himalaya, Egypt, Australia, New Zealand, South America, and Africa; his later writings; and his death. A fuller treatment of these final years would have been appreciated.

I quarrel with Turner's facts in only a few instances. For example, he describes the

Sierra Club's long-time Secretary, William Colby, as "most instrumental in the formation of the club," when in fact Colby did not join the Club until 1898, six years after its founding. But these occurrences are few and do not detract from Turner's presentation of the larger truths about Muir's life and its meaning for our time.

ANN LAGE *is former chair of the Sierra Club History Committee.*

PERPETUATING SUBSISTENCE

ALISON C. HORTON

Village Journey, by Thomas R. Berger. Hill and Wang, 1985. $16.95, cloth.

THE CONCERNS OF indigenous people and environmentalists intersect throughout the world. Whether it's the destruction of tropical rainforests or the intrusion of large-scale development on tundra habitats, environmental damage often goes hand in hand with the dislocation and sometimes eradication of tribal relationships with the land.

In Alaska the complex story of native peoples and the land is once again in transition. *Village Journey* explores this story in the context of the "Fourth World" of indigenous societies everywhere, caught within the confines of other nations. Thomas R. Berger is a Canadian native-rights advocate and former British Columbia Supreme Court justice. He gained renown (and a Sierra Club award) for a 1977 report instrumental in the Canadian government's decision not to proceed with the Mackenzie Valley natural gas pipeline.

Berger spent two years visiting more than 60 villages in Alaska, holding public hearings in each, collecting testimony from more than 1,400 witnesses, and building a reputation as a listener and observer. Experts from the United States and circumpolar countries as well as leaders of indigenous societies elsewhere discussed issues ranging from sovereignty to land protection mechanisms. This book, the report of the Alaska Native Review Commission, sponsored by the Inuit Circumpolar Conference, is Berger's distillation and amplification of what he has heard regarding three predominant concerns: sovereignty, land, and subsistence.

Village Journey is a description of a culture—its values, its traditions, its past and anticipated changes—much of it brought

alive in the words of Alaskan natives. The book is a history lesson in U.S.-Indian relations. It discusses the deviations that federal policy took in Alaska; and it grapples with political theory, fitting the sovereignty of native people into the framework of the U.S. Constitution and the liberal democratic tradition of individual equality.

The author turns to the opinions of fellow jurist Chief Justice John Marshall for precedents legitimizing native sovereignty. Marshall had characterized Indian tribes as "domestic, dependent nations"; from there Berger makes his case against unwelcomed assimilation.

This history lesson is particularly valuable in the Alaskan context, because the settlement of native land claims here took on the aura of a great new social experiment, providing an *entrée* to corporate America. Forty-four million acres of land and $962.5 million were allocated to Alaska natives in compensation for extinguishment of all aboriginal rights to land and resources. For-profit corporations were created to cover 12 regions across the state and for all eligible villages. The money and land were distributed to the corporations, and, through 1991, certain protections regarding stock sales and taxes have been invoked.

For the most part, Berger leaves it to the reader to draw conclusions about the environmental implications of his work. These are not hard to find; they are integral to the web of social, political, and economic factors he discusses. Land, wildlife, fish, and birds are at the crux of the great debates over sovereignty, traditional values, and the role of native corporations.

In exploring these debates, Berger seems to be inclined to oversimplify to make his point. He reports a single voice from village Alaska calling for protective control of land and resources. But the native community does not speak with one voice; seemingly irreconcilable ambivalences exist within all individuals, to say nothing of larger social units. This does not negate Berger's recommendations, but it does increase the difficulty of implementing them.

Berger suggests that there is a conflict between native rights to land use and wilderness protection. This is an important point, and I wish he would go on to explore possibilities for its resolution. The author feels that native subsistence activities are and should continue to be a part of the natural order of things in wild country, but he does not tackle the real conflicts between wilderness values in parks and refuges and such trappings of contemporary subsistence as snow machines, powerboats, and high-powered rifles.

Village Journey advocates native control over fish and wildlife, saying that "unwrit-

ten laws and beliefs . . . operate effectively without any system . . . except self-imposed restrictions." But again Berger does not address the dilemmas that foster present-day regulations, or the fact that individual abuses of resources do occur. Yet his conclusion seems to hold up: Alaska natives need an authoritative role in fish and wildlife regulation. Institutionalized tribal government working in conjunction with U.S. government agencies would make that possible. Compliance and enforcement will be best where responsibility is shared among those affected.

Berger recommends that subsistence activities be handled in new ways, that tribal government be available as an alternative to native corporations, and that native lands—particularly those associated with villages—be transferred from corporate ownership to perpetual tribal jurisdiction. Congress will have to amend the Alaska Native Claims Settlement Act to make these changes possible, a move Berger supports, characterizing the original 1971 settlement as "an attempt to re-create Main Street on the tundra."

This is a challenge that Congress should not ignore. As Berger points out, international aid institutions such as the World Bank have begun to recognize that large-scale, capital-intensive development is not always the best way to foster well-being, and that protection of subsistence economies is vital. If these lessons can be applied to bush Alaska, I think the chances improve for some special qualities of wild country and indigenous ways of life to perpetuate themselves harmoniously for generations to come.

ALISON C. HORTON, *a former public-lands lobbyist with the Audubon Society, followed the Berger Commission's work while earning her master's degree in environmental policy from Duke University.*

BRIEF REVIEWS

Backpacking: A Hedonist's Guide, by Rick Greenspan and Hal Kahn. Moon Publications (P.O. Box 1696, Chico, CA 95927), 1985. $6.95, paper.

MORE THAN OTHER general guides to backpacking, this book encourages readers to plan and equip themselves for their treks with the same sense of adventure that they bring to the wilderness itself. Rather than expect that all backpackers will use expensive tents and hiking boots, the authors suggest a philosophy of "functional shabbiness": maybe an old shower curtain and a pair of hightop sneakers will do for you, at less weight and cost than conventional gear.

True to its title, this hedonist's guide features wonderful tips on how to enjoy yourself in the wild. Sections on fishing, cooking, and stargazing are filled with good information and are, like the rest of the book, well written and illustrated. One flaw of importance to conservationists: While the authors generally do a good job of advocating low-impact backpacking, they should be stripped of their Sierra Club cups for suggesting that campers dig a ditch around their tent for drainage!—*Patrick Carr*

Cross-Country Skiing Right, by William Hall. Harper & Row, 1985. $12.95, paper.

IT IS NO SMALL FEAT to cover the full scope of such a diverse sport. William Hall is to be commended. Despite the implied pedantry of the title, this book is fun, instructional, and thorough. It touches on every aspect of how one might enjoy the sport more and become a complete skier in the process. In fact, only 54 of the 237 pages are about skiing technique in the limited sense. The rest of the book is devoted to familiarizing the reader with equipment preparation and maintenance, conditioning exercises, practical safety suggestions, and a pan-U.S. guide to cross-country ski areas. Author Hall is obviously a seasoned instructor, and his skill at combining a ski instructor's prompts with nuts-and-bolts discussions of technique really helps the reader visualize what skilled skiing is all about. And visualizing, contrary to certain familiar advertisements, is the next best thing to being there.—*Mike Scherer*

Yosemite National Park: Nature's Masterpiece in Stone, photographs by Pat O'Hara, text by David Robertson. Woodlands Press, 1985. $30, cloth; $16.95, paper.
Grand Teton National Park: Where Lightning Walks, photographs by Pat O'Hara, text by Tim McNulty. Woodlands Press, 1985. $30, cloth; $16.95, paper.
Mount Rainier National Park: Realm of the Sleeping Giant, photographs by Pat O'Hara, text by Tim McNulty. Woodlands Press (distributed by Kampmann & Co., New York), 1985. $30, cloth; $16.95, paper.

A MASSIVELY TALENTED photographer, Pat O'Hara is one of those whose pictures do more than evoke the places they depict: They *are* those places, as much as the forest floors, granite walls, and waterfalls that physically exist there. The three most recent titles in Woodland Press' series of books on the national parks are as beautifully designed and carefully written as one could wish. The printing—often the major shortcoming of similarly ambitious projects—is especially deserving of praise. No

gimmicks, no *trompe l'oeil* artifices titillate but ultimately dissatisfy the spirit here; each fold of bark on a Yosemite incense-cedar, each pulverized granule of glacial flour pouring down from Rainier's slopes is captured as thrillingly as the state of the art permits. Eagerly awaited in 1986: Grand Canyon, Zion, and Glacier national parks.—*Jonathan F. King*

River Runners of the Grand Canyon, by David Lavender. Grand Canyon Natural History Association/University of Arizona Press, 1985. $27.50, cloth.

"No other American river offers, in one unbroken stretch, as great an aggregation of rapids," writes historian Lavender of the Grand Canyon's Colorado. No wonder the river has attracted so many adventurers willing to risk their lives for a chance at glory and unparalleled excitement. As one river rat wrote of his 1927 expedition, it was "an exhilarating voyage into a storyland where dreams are real and the constant pressure of danger gives richness to life."

Lavender's chronological account of the Colorado runners has many such descriptions of the canyon's maker. It's too bad there aren't more, though, for while Lavender is a good storyteller, his emphasis leans toward scholarship—tracing who did what when—rather than celebrating the Colorado. But the book is frequently compelling nonetheless, because just about every river-runner described is a character of the first water. (Even the power-boaters who insisted on going *up* the river get their due for courage if not for environmental consciousness.)—*Chris Goodrich*

Rivers of the West: A Guide to the Geology and History, by Elizabeth and William Orr (P.O. Box 5286, Eugene, OR 97405), 1985. $14.95, paper.

The geology and history of 20 rivers in California, Oregon, Nevada, and Idaho are presented here in a format that should appeal to rafters, campers, and hikers alike. Detailed text on the rivers and their regional histories is accompanied by maps of watersheds and geology, photographs of historical figures, and drawings of native wildlife.

Rivers of the West makes refreshing reading about both familiar and less well known western rivers. The section on California's Carson River, for example, briefly reports the survey expedition's sightings of Indians; accompanying the party was the legendary scout Kit Carson, after whom the river was named. The book's concluding chapters give quick history lessons in river formation, gold mining, and Native American symbols.—*David Modjeska*

NAOMI SHORT

SHAPES IN NATURE

From a rushing river to a field of grass, from creatures with scales to creatures with fur, nature seems to unfold in an infinite number of forms. But despite all the variation, you've probably noticed that certain shapes in nature are common to many different kinds of things. Drops of water form globes—as do fruits, hailstones, and planets. Trees have branches, but so do rivers and bolts of lightning. In fact, the closer you look, the more you'll notice that nature repeats the same basic shapes over and over.

The shape a thing has depends on what it's made of and the forces acting on it. Natural objects are made of thousands of different materials, but they all have one thing in common—they develop within the limitations of space.

This may seem like a strange idea. You're probably used to thinking of the space around us as being *nothing*. But space has certain properties, and everything that exists in space must conform to them.

One of the most important properties of space is the need to save energy. A tree needs to create many leaves to capture light, but it must use as little energy as possible to create those leaves. Some shapes are better for this than others. The explosion pattern of the sensitive brier exposes many stamens to the wind so that pollen can be distributed. But if an oak tree had this shape, it would collapse under the weight of its branches. The oak makes up for its larger size by having a shape that uses fewer branches to hold up many leaves. The shapes of many living things are often the best solutions to the limitations of space.

Sensitive brier, showing explosion pattern

SPHERE

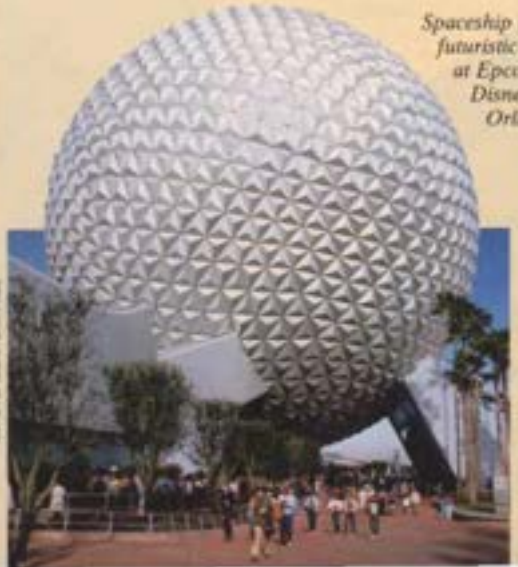
Here is one of the most useful shapes in nature: the globe, or *sphere*. It holds more volume for its surface area than any other shape.

Blowing a soap bubble will show you how spheres are made. As you blow on the soap film, it stretches as far as it can, then closes on itself. The bubble holds the most air possible for its strength and size.

Spheres are also very strong. When a sphere is pushed from the outside, the pressure is spread evenly over the whole surface. That's why duck eggs, fragile as they are, can hold the weight of the mother duck. People have taken a lesson from nature and built arches for strength, and domes for volume.

Water drop forming a sphere on a leaf tip

Duck eggs



Spaceship Earth, a futuristic dome at Epcot Center, Disney World, Orlando, Fla.

BRANCH

Branching is a way of growing or spreading in space. Nature makes an infinite number of branches, but they all follow certain rules. As the size of a branch changes, its shape changes in a predictable way. Whether it's a river, a tree, or a bolt of lightning, the idea is

always the same: to spread in space along the path of least energy.

Trees form branches in every part of their structure, although each part has a different purpose. The branching veins of an ivy leaf not only allow the plant to collect and distribute water, light, and nutrients; they also hold the leaf open to the sun. Often the branching of the veins imitates the branching of the plant's leaves, trunk, and roots.

The branching of the hay-scented fern is a good example of *bilateral symmetry*—a shape that is the same on both sides. The limbs of the human body are also symmetrical. The pine tree shows *decussate branching*. Its branches grow in pairs, with each pair turned (like the hands of a clock) the same distance from the pair below it.

Yosemite lightning

Hay-scented fern branch

Branching veins of ivy leaf

Branch patterns, dead pine tree

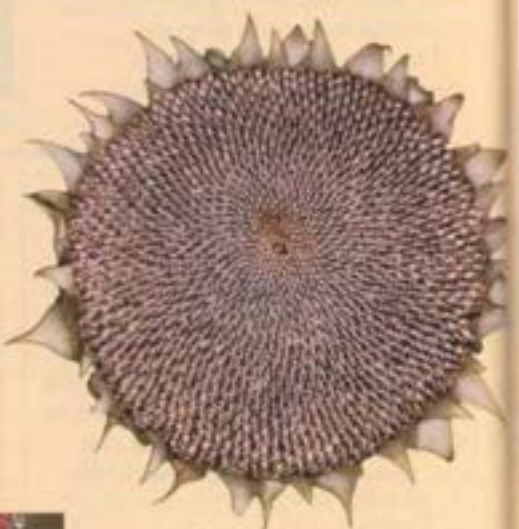
SPIRAL

Decussate branching is a variation on one of nature's most versatile shapes, the *spiral*. This shape can be found in anything from the body of a virus to the formation of a galaxy.

Whenever one surface of a thing grows faster than the other and curls around the slower-growing surface, a spiral results. The nautilus grows by adding new chambers to its shell, each the same shape but a little larger than the last one.

The florets in the face of a sunflower also grow in a spiral. As florets grow out from the center, they line up in an orderly way. This is because the florets all grow at the same speed, so that each one is a bit younger and a bit smaller than the last. This difference in growth creates a spiral.

A sheep's horns grow into another kind of spiral, called a *helix*. Both the front and outside of the horn grow faster than the back and inside, which causes the horn to spiral out, like a corkscrew. A morning glory climbing up a pole forms a helix. So does the cord on a telephone.



Sunflower seeds packed tightly in spiraling rows

Cross section of nautilus, showing chambers

Morning glory stem climbing up support

Desert bighorn sheep

MEANDER

If faster movement switches from one side of a thing to the other, the result is a *meander*.

A snake moves in a meander. When a muscle on one side of its body contracts, the one on the opposite side relaxes. Then the muscles reverse roles, creating the meandering movement.

Rivers also meander, no matter where they go or what size they are. As soon as a bump or hollow on the ground causes water to flow faster on one side of a river than the other, the meandering pattern begins. The water on the fast side eats away at the riverbank, while the water on the slow side lets sediment build up in the bend. As the bank becomes more and more eroded, the river bends in the other direction. Now the water on the "slow" side will flow faster, and another bend will begin to form.

Bullsnake in motion

Meandering San Joaquin River tributary, Merced, Calif.

POLYGON

While growth and movement create certain shapes, shrinking and packing —forcing something into a smaller space—also affects its shape.

When two soap bubbles are pushed together, they form a shared wall. When a third bubble is added, they form a three-way joint. Add a fourth, fifth, and sixth bubble, and they keep forming three-way joints. No matter how many bubbles are packed in a cluster, they will form only three-way joints. Why?

Mathematics shows that three-way joints are the most efficient ones for packing. That is, they use the least amount of material to connect separate units, and the units fit together in the tightest way possible.

A wasp's nest is made of *hexagons* (six-sided shapes) that meet at three-way joints. This pattern lets the wasp create the most chambers using the least amount of work. The fruits packed in a yellow lotus and the patterns on a tortoise shell also form three-way joints.

Shrinking the surface area of a thing can also create *polygons* (many-sided shapes) with three-way joints, like the ones that form when mud dries, or when ice cracks. Wrinkling has the same effect, as you can see by looking at raisins, prunes, and dried peas.

Like other shapes common in nature —the sphere, branch, spiral, and meander—polygons made of three-way joints are not only the most useful shapes, they are also the most likely to be found.

The shapes of many things are not so simple, however. A thing is usually shaped by a number of different forces working at once, not just one or two. For instance, birds, fish, and other complex animals are made up of the best combination of shapes for their many movements.

Space allows only certain shapes to appear under certain conditions, but nature allows infinite variations on these shapes. This combination of variety and order is part of what makes up nature's limitless beauty. □

NAOMI SHORT *is a freelance writer living in San Francisco, Calif. This article was adapted from* Patterns in Nature *by Peter S. Stevens (Atlantic Monthly Press, Little Brown & Co., 1974) and "The Shape of Things," a Nova and Peace River coproduction.*

Polygonal designs on Texas tortoise shell

Three-way joints in paper wasp's nest, bubbles in storm surf, and yellow lotus nymphaceae

The OBSERVER

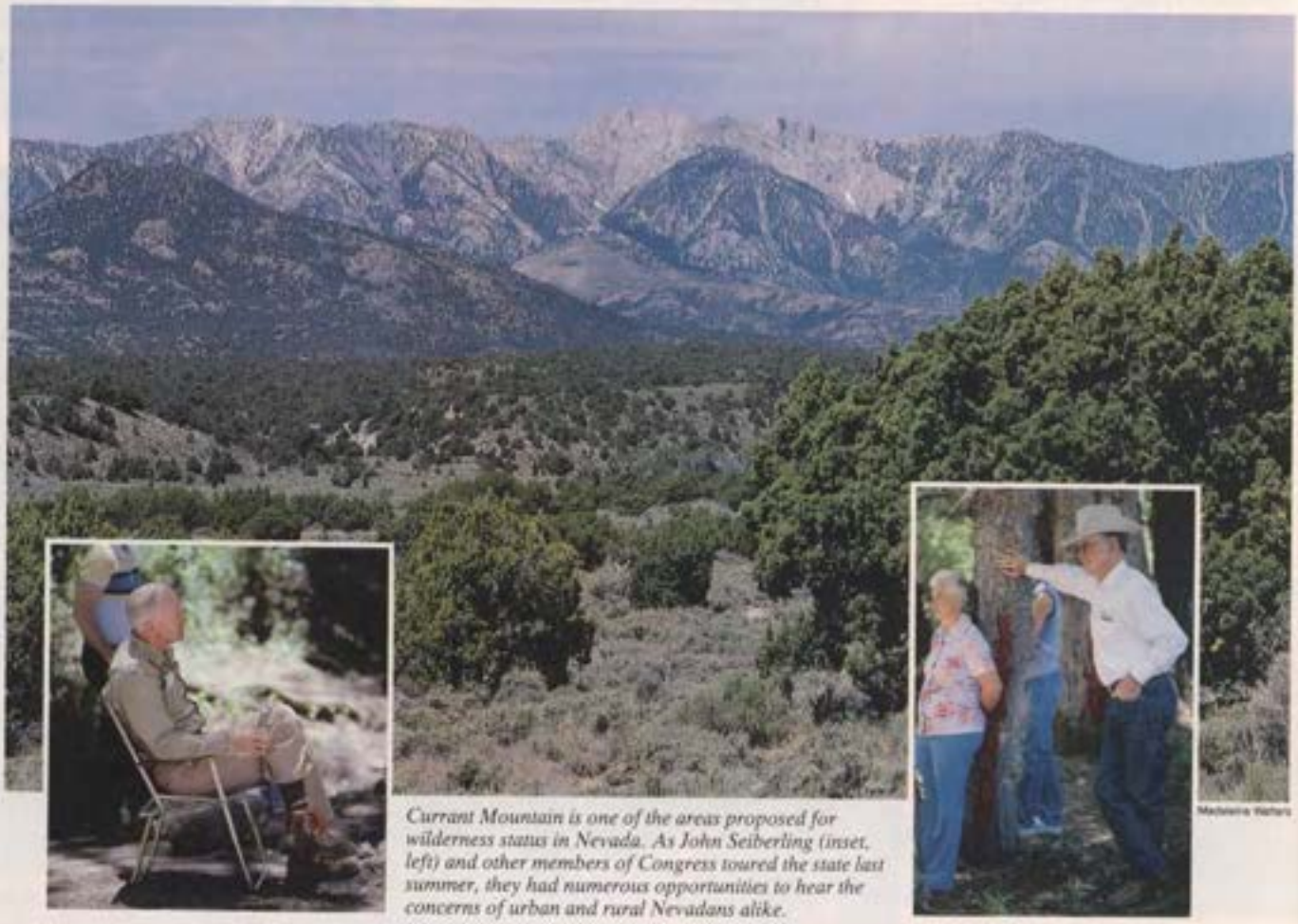
A Fresh Look at Nevada Wilderness

Legislators, Conservationists Tour an "Undiscovered Gem"

TOM VALTIN

AT A FEW MINUTES before 6 p.m. on a hot June day in Las Vegas, two private jets taxi up to the Hughes Air Terminal and still their engines. The door of one plane swings open and Rep. John F. Seiberling (D-Ohio), chair of the House Subcommittee on Public Lands and National Parks, ducks through the doorway and out onto the tarmac. Following him are fellow Democratic subcommittee members James Weaver of Oregon and Peter Kostmayer of Pennsylvania, and a retinue of congressional aides. From the other plane emerge Reps. Harry Reid (D) and Barbara Vucanovich (R) and Sen. Jacob ("Chic") Hecht (R), three of the four members of Nevada's congressional delegation. Reid, who had requested this assembly, welcomes the out-of-towners to his home state.

Upstairs, the terminal's conference room is already filled to capacity. A giant map of Nevada is displayed on a makeshift easel, and information packets containing glossy photos and wilderness literature are ready for distribution to each congressional visitor and member of the press. Jean Ford, former Nevada state senator and current



Currant Mountain is one of the areas proposed for wilderness status in Nevada. As John Seiberling (inset, left) and other members of Congress toured the state last summer, they had numerous opportunities to hear the concerns of urban and rural Nevadans alike.

The Call Of The Wild

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Contributing	☐ $100	☐ $104	Spouse of Life		
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spokesperson for the Friends of Nevada Wilderness, keeps an eye on the proceedings. For the last three months Ford has been working to form a coalition of Nevada citizens' groups that support a strong forest wilderness bill. Tonight that coalition, under the banner Friends of Nevada Wilderness, numbers 19 organizations from around the state.

Shortly after the congressional party is seated, Ford steps to the microphone and welcomes the visitors on behalf of the coalition. "The member groups of this coalition have widely differing agendas," she says. "On many issues they would not see eye to eye. What brings them all together tonight is their common belief that Nevada deserves a strong forest wilderness bill."

For the next four days the legislative party will travel by helicopter to 15 national forest areas that have been endorsed for wilderness by the Sierra Club and the Friends of Nevada Wilderness. In the eyes of many Nevadans, this tour represents what may be the last hope of enacting a strong forest wilderness bill for the state.

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AT 70 MILLION ACRES, Nevada is the nation's seventh-largest state; yet it contains by far the least designated wilderness in the western United States. Its lone wilderness area, the Jarbidge in northern Elko County, contains only 65,000 acres. In comparison, Utah, the western state with the next-lowest total, contains 800,000 acres of forest wilderness, and another 800,000 acres are protected in the National Park System. Idaho and California have 4 million and 6 million acres of protected wilderness respectively. But no new wilderness has been designated in Nevada since the passage of the Wilderness Act in 1964.

The past year has seen increased interest in Nevada's wilderness future. In the spring of 1985, Vucanovich and Hecht introduced twin wilderness bills calling for 137,000 acres of wilderness in four national forest areas. The proposal drew immediate and vociferous protests from the state's conservationists. If enacted it would leave the state with barely one fourth as much wilderness as Utah. Even the Nevada Mining Association, not known for its wilderness advocacy, had recommended a larger total.

In response to the Vucanovich-Hecht legislation, the Sierra Club advanced its own proposal of 1.3 million acres in 18 national forest areas—approximately 2 percent of Nevada's acreage. Toiyabe Chapter activists Roger Scholl, Jeff Van Ee, and Marjorie Sill were instrumental in hiring Ford, who had cofounded the Club's Las Vegas Group in 1964, to put together the coalition that would promote the Club's proposal. During the spring the group produced a series of newspaper, radio, and television editorials supporting a strong forest wilderness bill for the state.

In June the Forest Service released its own proposal, recommending nine wilderness areas totaling 452,000 acres. Meanwhile, Reid, who had declined to cosponsor his colleague Vucanovich's House bill, decided he wanted to take a closer look at the state's national forests and hear what residents had to say before putting his name on any legislation. He arranged to tour 15 of the 18 wilderness areas proposed by the Club, and invited Seiberling and other members of the House Public Lands Subcommittee to take a look for themselves.

Friends of Nevada Wilderness head Jean Ford tells of her coalition's hopes for the state.

Ford jumped at the opportunity to galvanize local support for wilderness, and with others she devised the concept of a traveling information center that would cross the state in conjunction with the congressional tour. She obtained financial support from such organizations as the National Audubon Society, The Wilderness Society, and the National Wildlife Federation, so that by the time Reid's party arrived in Las Vegas on June 28, the Nevada Wilderness Information Center—a motor home stocked with maps, charts, slide shows, and wilderness literature—stood ready and purring at the curb.

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ROCKS BANG AGAINST the bottom of the motor home as the Nevada Wilderness Information Center lurches up the dirt road toward the Twin Rivers canyons, 50 miles north of Tonopah in central Nevada's Great Smoky Valley. For the next four days the information center will rendezvous with the congressional entourage at midday to host public forums on the wilderness ques-

tion. The coalition has invited all interested citizens to attend these lunchtime gatherings, and today about 20 Nevadans have made the trek out to the Twin Rivers, in the shadow of the massive Toiyabe Range.

Just before noon the helicopters come into view above the mountains, and a few minutes later they've touched down in a sage-studded clearing near the canyon of the South Twin. "Beautiful! Just wonderful!" Seiberling exults, alighting from the Nevada National Guard chopper. "The whole thing ought to be wilderness!"

Earlier that morning the helicopters had landed on top of 11,733-foot Arc Dome, which is part of the Sierra Club's proposal. Seiberling reports that a group of backpackers from Reno were on the summit when the helicopters arrived, waiting to greet them and put in a pitch for wilderness. A subcommittee staffer adds that Sen. Hecht views the tour as a "stacked deck," because at each stop pro-wilderness people arrive as if by prearrangement. At the press conference in Las Vegas the previous evening, Vucanovich had also said the tour was "tilted" in favor of the Club. "I think it's very strange that the Forest Service recommended only nine areas, and yet we're looking at 15 of the 18 areas the Sierra Club wants," she told reporters.

Dave Hampton, a history teacher from Carson City, says Vucanovich has chosen to represent a very narrow segment of her constituency by introducing a bill that contains even less wilderness than the mining industry was willing to settle for. "I believe she ignored her national responsibilities," Hampton charges. "National polls show that wilderness is needed. When my state delegation makes choices on military matters that are unpopular with Nevadans, they're willing to act for the national interest, but when it comes to wilderness they're not. It makes me angry."

But there is also some sentiment that runs the opposite way. Bob Wilson owns a gold mine in the proposed Arc Dome wilderness. The Forest Service approved his operating permit, but "under the guidance of the Sierra Club" has prohibited him from bulldozing a six-mile road to the mine because it lies within a proposed wilderness. Wilson hopes the northern third of the Arc Dome area will be excluded from wilderness designation.

Don Simpson, manager of the Big Smoky Valley Mining Co., fears the operation's location between two proposed wilderness areas will limit his ability to conduct further mineral exploration. "We're concerned that excessive wilderness is not only anti-mining, it's anti-people," he says, noting that there are 320 miners on his payroll. The mining industry employs approximately 6,500 people statewide.

Bob Percetti, head of the Tonopah Visitors and Convention Authority, offers yet another perspective. Percetti is a member of Pioneer Territory, a new group formed by the Nevada Tourism Commission to lure travelers out of the Reno and Las Vegas areas. "These areas have all been wilderness since day one," says Percetti. "I have some mining claims in these mountains, so I'm concerned about where the boundaries

Wilderness friends and foes welcome a copterful of legislators to Lamoille Canyon.

are drawn, but most of the proposed wilderness areas have been roadless for years, and we accepted it. If people see wilderness marked on a map, they might see it's been designated for beauty, and come to Tonopah to take a look."

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In many ways, Nevada is like no other state in the union. Lying almost entirely in the Great Basin and Mojave deserts, its basin-and-range topography has created virtual forest islands rising thousands of feet above the vast, arid valleys that separate them. So like islands are these highlands that many contain plant and animal life found nowhere else, not even in neighboring ranges 20 or 30 miles away. Many rise high enough to catch substantial rainfall, creating green and even lush environments, while the intervening valleys are often so hot and dry that it's impossible for some species to bridge the gap.

This very real isolation lends a sense of deep remoteness to many of Nevada's mountain ranges. It is exhilarating to climb, in the space of only a mile or two, out of a harsh, austere desert environment into a green landscape filled with aspens, ferns, wildflowers, and rushing water. That this kind of scenery exists in Nevada comes as a surprise to many who think of the state as an immense, empty desert.

Nevada's cultural landscape is nothing if not unique. Legalized gambling, referred to here as gaming, has produced a heavily tourist-based economy. The gaming industry directly and indirectly accounts for up to two thirds of the state's jobs; when fire decommissioned Las Vegas' MGM Grand hotel in 1980, Nevada's unemployment rate jumped 1.4 percent.

The wilderness debate here has been drawn largely along urban-rural lines. Wilderness supporters, while not a rarity in rural areas, tend to be concentrated in the counties surrounding urban Reno and Las Vegas, where more than 80 percent of the state's voters reside. Ten rural counties where mining and ranching are important to the local economy have passed resolutions opposing any new wilderness. Mining and ranching groups argue that the land should be kept under multiple-use management. Wilderness supporters counter that existing grazing rights and mine claims are protected in wilderness. Two percent of the state, they say, is not too much to pass on to future generations.

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A warm breeze stirs the cottonwoods at the base of Currant Mountain in eastern Nevada's White Pine Range. Rep. Seiberling sits in a shady clearing eating a

sandwich, surrounded by 50 or so Nevadans who have gathered at the White River campground this Sunday afternoon, the second full day of the congressional tour.

Barbara Bradshaw, a rancher from Duckwater, gestures with one arm toward the massive limestone face of Currant Mountain while she rocks her two-year-old son in the other. "If you designate this mountain as wilderness, you're waving a red flag, telling people to come here," she says. "The public doesn't know how to use wilderness without leaving a scar. They don't all carry out their trash. If this is made a wilderness, people will find out about it and the pristine wilderness you find here today will be gone."

"I've been on Sierra Club outings and watched Sierra Clubbers pick up trash that fishing camps left behind," Seiberling responds. "Which would you rather have on that mountain, open pit mines and oil rigs, or backpackers?"

"The oil wells have been confined to Railroad Valley," says Bradshaw, referring to the state's largest oil field, on the other side of the White Pine Range.

"Well, they're working their way up the side of the mountain—at least that's what we're told," Seiberling asserts. "Then you'll really have trash all over the place."

Julia Brown, an unemployed geologist from Ely, takes a cautious step forward. "I believe in wilderness in a state like California," she says, "but it'll only call attention to Nevada. People in rural Nevada don't want wilderness, because they already have it."

"It won't always be like this, though," protests Karen Tanner of Reno, who has driven across the state for this gathering. "Wilderness will protect what's here."

"If what you're trying to do is preserve the environment, you're doing the opposite," Brown contends. "Nevadans can take care of their own lands."

"We in Las Vegas, unfortunately, think we're Nevadans too," interjects Jim Billbrae, state senator from Clark County. "Let Clark County and Washoe County people come out and use your facilities. White Pine County needs an economic shot in the arm, you know that. Right now the only prospect for economic growth here is the new prison they're planning for Ely."

"What about the disabled and the elderly who can't use wilderness?" another woman asks.

"We try our best to accommodate everybody," answers Seiberling. "People who wouldn't be able to get into a wilderness area can't get into those areas now anyway.

"Back in Ohio we'd give our eyeteeth to have wilderness areas like these," he continues. "Folks in the rest of the country

have the quaint idea that the public lands belong to them, too. There's a considerable desire on the part of the American people as a whole to save some of our wilderness heritage. They want to see it preserved even if they never get there."

Reid, Vucanovich, and Hecht sit quietly off to the side, listening but not participating. Hecht makes a point of thanking each person who speaks out against wilderness. Reid appears thoughtful. At 1:30 the congressional party heads back to the helicopters and the crowd starts to thin.

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"The situation in Nevada is at an impasse," says Mike Scott, director of forest wilderness programs for The Wilderness Society, on tour with the Nevada Wilderness Information Center. "The Nevada delegation is locked up. If they'll sit down and negotiate, we'll have a wilderness bill; if not, several million acres will remain in limbo." He looks out the window of the motor home at the East Humboldt Range, an area endorsed for wilderness by the coalition but omitted from the Vucanovich-Hecht bill.

"Unlike many western states, there don't appear to be many demonstrable resource conflicts with wilderness in Nevada," Scott says. "The opposition here seems to be more knee-jerk, which ultimately is not going to help those who don't favor wilderness for one reason or another. Most conflicts in Nevada could be eliminated by drawing the wilderness boundaries to exclude mines.

"The way to make progress here," he continues, "is for the principals—the Mining Association, the Cattleman's Association, and conservationists—to come to the table and really talk about these issues. I think the conservation community has expressed a willingness to sit down and look at boundaries and talk about specifics. But if a decision is to be reached, all parties involved must be willing to compromise. If that doesn't happen, we'll have no bill."

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Between 50 and 75 Nevadans have gathered at the head of Lemoille Canyon in the heart of the Ruby Mountains against a backdrop of towering limestone cliffs, plunging waterfalls, and green alpine meadows. The Rubies, considered by many to be Nevada's most spectacular mountains, are one of the most hotly contested areas in the wilderness debate because they were excluded from the Vucanovich-Hecht legislation.

This is ranch country, and local ranchers dominate the gathering. Conservationists attach a great deal of importance to the

Rubies, so a sizable contingent of wilderness advocates is on hand as well.

The debate is the most heated of the tour. Cliff Gardner, chair of the Elko County Farm Bureau, feels that Forest Service lands should be retained in multiple-use management. "Wilderness means special areas for special people," he says.

"We only have one official wilderness area in the whole state," counters Elko resident Bob McGinty. "The other 11 western states average 40 times more wilderness than Nevada."

A rancher with weathered features and a huge broad-brimmed hat asserts that the prime beneficiaries of wilderness are "rich environmentalists." This draws howls of protest from the wilderness supporters in the crowd.

Another rancher enters the fray. "If the congressman from southern Nevada [Reid] wants wilderness, let him have it down there. The citizens of Elko County don't want wilderness in the Rubies. We think the Vucanovich bill is a good compromise."

"I would not call that bill a compromise," responds Don Molde, a wildlife advocate from Reno. "When I first heard the acreage figure, I thought a zero must have been dropped from it. People in Reno and Las Vegas are hoping for a broader vision."

Andy Bowers, who operates the nation's largest helicopter-skiing operation here, is against designating the Rubies as wilderness because he fears it will put him out of business. "I won't be able to land skiers on the ridgetops because motorized vehicles are banned in wilderness," he explains.

"I don't think helicopter skiing and wilderness have to be incompatible," responds Seiberling. "What we'll try to do is work out a bill where heli-skiing would have some areas too. The business should be allowed to continue."

Nevada Farm Bureau President Dave Fulstone feels wilderness is a surefire formula for the reduction of grazing rights. "I feel it's entirely unfair to lock out the agricultural community, mining, and everybody else."

This riles the normally reserved Seiberling. "If there's one buzzword that turns me off, it's 'lock-out.' It's just bull. Wilderness guarantees that grazing will be locked in, not locked out. The Forest Service has more power to be restrictive in nonwilderness than they do in wilderness. The Wilderness Act of 1964 provides that the right of grazing shall remain at the same level it was at prior to wilderness designation, and I have yet to hear a single complaint from any rancher running cattle on wilderness. Ranchers in Wyoming and Montana were dead set against wilderness because they thought it would restrict their grazing

rights, and now some of them tell me they wish more had been designated."

Bill Wright, a rancher from Ruby Valley, lingers to talk with members of the wilderness coalition after the helicopters take off. Wright hasn't made up his mind on the issue yet, but he's worried that ranchers might be pricing themselves out of the market. "I'm afraid their unwillingness to consider alternative uses for public land is going to hurt them," he says. "If other interests perceive that the ranchers will never be satisfied with any compromise, sentiment may start to run against them. I have a mine on my property, and I think it's only fair that wilderness designation not have retroactive impacts. But I'll tell you one thing—I wouldn't want to see one more road running out of this valley."

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THE CONGRESSIONAL TOUR draws to a close on the evening of July 2 at the Foresta Institute, a center for desert study nestled among the pines in the foothills of the Sierra Nevada, a few miles north of Carson City. Nearly 200 people, mostly from the Reno area, have gathered to bid farewell to Seiberling and the other members of the Nevada delegation.

A brisk wind whips up the waters of nearby Washoe Lake as Seiberling is introduced to the crowd. "Many people in the rest of the country think of Nevada as nothing but desert," he begins, reiterating a theme he has touched upon throughout the trip. "They view the state as a wasteland fit only for nuclear test sites and the MX racetrack. I know because I used to be one of those people. But I have to tell you, I think Nevada is one of the great undiscovered gems of our nation. You have areas here that compare with anything I've seen in the Rockies or the Sierra, but you've been hiding your light under a bushel.

"People are leaving my part of the country and moving south and west," he continues. "They're looking for the outdoor lifestyle and scenery that you people enjoy here. When I first came to Nevada there were less than 100,000 people in the whole state. Now there are more than eight times that number, and they're going to keep coming. We need to accommodate those people, but we also need to protect what's here. I say let's pass a strong wilderness bill for Nevada and give areas like the Rubies, Arc Dome, and Wheeler Peak the protection they deserve."

Whistles and cheers greet Seiberling's remarks, in marked contrast to the restrained applause accorded him by audiences in the rural counties. The tour began and ended in the state's urban areas, and the disposition of the locals all along the way has clearly

illustrated the split between urban and rural points of view on this issue.

Senator Reid, whose conscience led him to this wilderness tour to begin with, steps to the microphone in the gathering twilight. "We as a Congress have to take some action, or these lands will remain de facto wilderness for eternity. My father was a miner in Searchlight, and I understand the interest that miners and ranchers have in this issue. But when it all boils down, we have to come up with something that's fair to the environmentalists, fair to the ranchers, fair to the miners, and fair to the rest of the people of Nevada. If we can enact a bill that does all that, then this trip will have been a success."

Tom Valtin, formerly of the Sierra Club's Conservation Department, is a graduate student at the Columbia University School of Journalism.

WHAT YOU CAN DO

In September 1985, two Nevada forest wilderness bills were introduced in Congress. H.R. 3302, sponsored by Rep. Harry Reid, recommends the designation of ten wilderness areas totaling 723,000 acres in the state's national forests. H.R. 3304, cosponsored by Rep. John Seiberling and other Public Lands Subcommitee members, would designate 1.46 million acres in 19 wilderness areas.

The future of Nevada's forest wilderness remains uncertain. To get more information or find out what you can do, write the Sierra Club, 730 Polk St., San Francisco, CA 94109; or call (415) 776-2211.

SIERRA NOTES

• *Sierra*'s 1985 index of articles and authors is available by sending a stamped, self-addressed envelope to *Sierra* Index, Sierra Club–IS, 730 Polk St., San Francisco, CA 94109.

• A fund within the Sierra Club Foundation enables the Sierra Club to present the annual $3,000 Denny and Ida Wilcher Award in recognition of work in membership, development, or fundraising, particularly for conservation projects. All volunteer entities of the Club are eligible: chapters, groups, sections, regional conservation committees, and other committees and task forces.

Judges will consider several criteria, including 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. Please note that this award is given to volunteer entities of the Club, not to individuals.

Nominations and applications are due by March 5, 1986, and should designate activities undertaken in 1985. Each should include a description of accomplishments and an explanation of how they meet the judges' criteria. A list of people or Club entities endorsing the nomination should also be enclosed.

Send three copies of nominations and applications to: Honors and Awards Committee, J. J. Werner, Chair, 2020 Chamberlain Ave., Madison, WI 53705. The award will be presented at the May meeting of the Board of Directors. Nominations will be judged by a special committee of the Sierra Club Council and the Committee on Honors and Awards.

• As prescribed by the Sierra Club bylaws, the annual election of the Board of Directors will be held April 12, 1986, the second Saturday in April. Five Directors will be elected to serve three-year terms. All Sierra Club members in good standing as of December 31, 1985, will be eligible to vote.

In November the Nominating Committee selected eight candidates: Shirley Taylor, Lawrence Downing, Jim Dodson, Jerry Akers, Vivien Li, Freeman Allen, Ruth Frear, and Hank Graddy. Individual members also had the opportunity to become candidates by submitting petitions signed by at least 184 members to the Club's principal office by 5 p.m. on December 30.

Before March 1, 1986, a ballot, election information, and return envelope (not postpaid) will be mailed to each eligible member. Election information will include photos of the candidates and a statement from each one giving pertinent background information and outlining individual views on the direction the Club should take. If you do not receive a ballot by mid-March, write a note to the Inspector of Elections, Sierra Club, Dept. E, 730 Polk St., San Francisco, CA 94109. Every effort will be made to send you a ballot in time for you to vote, but if your letter is addressed incorrectly, the response may be delayed.

If, after marking your ballot, you realize you've made a mistake or voted for too many candidates, indicate clearly on the

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For additional information on backpacks, sleeping bags, and soft luggage, call 800-824-4153 or 916-891-6415.

3. **Clair Tappaan Lodge**
Send for more information about the Sierra Club's own mountain lodge, including an activities schedule.

4. **Colorado Outward Bound**
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5. **Columbia Pacific University**
Free catalog. Largest nonresident U.S. graduate university offers management, psychology, law, engineering, and other majors.

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10. **Halleyscope**
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12. **Himalayan Travel**
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24. **Nature Expeditions International**
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25. **Patagonia**
Free 78-page color catalog of functional outdoor clothing.

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Life-income trusts and bequests provide tax and income benefits and support Sierra Club conservation programs. Usually applicable to members over 55.

27. **Prescott College**
Free catalogs, brochures, and posters explaining our experiential and interdisciplinary approach to the liberal arts.

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Free fall catalog! REI offers one of the largest selections of outdoor equipment and clothing.

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For additional information on Thermasilk products and accessories, you may contact Terramar at (914) 668-0022.

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34. **Wilderness Travel**
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Priced literature

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Savings of up to 80% on books, records, tapes, and videocassettes from the "world's largest bookstore." $1.

51. **Boehm Porcelain Studio**
Full-color catalog featuring sculptures of American birds, flowers, and animals in porcelain and bronze. $1.

52. **Coldwater Creek**
Put a little nature in your mailbox with our color catalog of unique, nature-related gifts. $1.

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Magazine listing 85 field research expeditions around the world. Volunteer opportunities for all interested amateurs. $2.

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ballot who you are voting for and the Inspector of Elections will see that your vote is properly counted. All election procedures are under the control of the Inspector of Elections.

Ballots should be mailed to the National Elections Committee, Sierra Club, P.O. Box 2178, Oakland, CA 94621, before April 12, 1986.

• At the Sierra Club Board of Directors meeting held November 2 and 3 in San Francisco, the Board adopted a referendum resolution adding the prevention of nuclear war and/or the ending of the arms race to its existing biennial national conservation priorities. This issue will now be a top funding priority for the Club.

A pest-management resolution was also passed, identifying specific goals, principles, and policies to pursue by means of educational, legislative, and legal activities.

Finally, several resolutions concerning Club dues were also passed at the meeting. Various dues strategies will be tested; joint dues will be increased in March 1986; and the Club will hold a general ballot on raising regular membership dues.

• "Planet Earth," a seven-part public television series and college-credit course produced by WQED in Pittsburgh, will premiere January 22 at 9 p.m. E.S.T. on PBS.

Drawing on recent scientific discoveries and insights, the series will present a geophysical view of the planet using computer graphics, special effects, and photography from outer space. Topics will include plate tectonics, the oceans, climate, other planets, natural resources, the sun, and the future of the Earth.

The series was produced in association with the National Academy of Sciences. For college credit information, phone (800) 532-7637.

• The California Department of Parks and Recreation has published a 1986 calendar of activities and events in the state parks, in collaboration with S&W Fine Foods. The calendar features images by park ranger and noted photographer Frank Balthis, who conceived the idea.

Calendars are available through January by sending three labels from any S&W product and a check or money order for $2.95 to Parks Calendar, S&W Fine Foods, P.O. Box 306, Half Moon Bay, CA 94019.

• The Conservation Foundation will sponsor the National Conference on Risk Communication January 29–31 in Washington, D.C. Speakers will include EPA Administrator Lee Thomas and former EPA Administrator William D. Ruckelshaus. Co-sponsored by the EPA, the National Science Foundation, the American Industrial Health Council, and the University of Southern California, the conference will treat effective communication on health, safety, and environmental risks. Registration costs $95. For further information contact the Conference Manager, The Conservation Foundation, 1255 23rd St., N.W., Washington, DC 20037; phone (202) 293-4800.

• In conjunction with the forestry departments of the universities of Washington and Idaho, The Wilderness Society is sponsoring a conference, The Economics of National Forest Timber Sales, February 17–19 in Spokane, Wash. The conference is designed to give scientists and professionals a chance to address the economic issues and policy options surrounding timber sales and provide a forum for alternative views. Early registration is recommended. Information and registration materials are available from Barry R. Flamm or Lynelle Jolley at The Wilderness Society, 1400 I St., N.W., Washington, DC 20005; phone (202) 842-3400.

• A team of climbers led by Paul Diamond ascended the summit of Mt. Kilimanjaro in November to publicize the plight of African drought victims. The promoters of the Climb to End World Hunger have raised $80,000 and received international media coverage. For more information contact Alex Levin, 1025 Clinton St., #103, Philadelphia, PA 19107; phone (215) 925-3538.

Statement required by the Act of Congress of August 24, 1912, amended by the Acts of March 3, 1933, July 2, 1946, June 11, 1960 (74STAT.208), and October 23, 1962, showing the OWNERSHIP, MANAGEMENT AND CIRCULATION of *Sierra, The Sierra Club Bulletin*, published six times yearly at San Francisco, California—for September/October, 1985.

1. The names and addresses of the publisher, editor and executive director are: Publisher: Sierra Club, 730 Polk Street, San Francisco, California; Editor: James Keough; Executive Director: Douglas P. Wheeler.

2. The owner is the Sierra Club, an incorporated nonprofit membership organization, not issuing stock; Michele Perrault, President, 290 St. Mary's Road, Lafayette, California 94549; Philip Hocker, Treasurer, Box 458, Wilson, Wyoming 83014.

3. The known bondholders, mortgagees and other security holders owning or holding one percent or more of total amounts of bonds, mortgages or other securities are: NONE.

The average number of copies of each issue of the publication sold or distributed, through the mails or otherwise, to paid subscribers during the twelve months preceding the date shown was 298,630.

(signed) James Keough

CALLING ALL PHOTOGRAPHERS!

Announcing SIERRA's Annual Photography Contest . . . sponsored by **Nikon**

One of the liveliest competitions of its kind, the annual photo contest run by *Sierra* magazine—the national membership voice of the Sierra Club—draws entries from around the world. Any photographer can enter—amateur or professional, Sierra Club member or not. Creativity, originality, and imagination are the only requirements.

Second Prize, "Desert & Plants" category, 1985, by Jerry Dell.

This year there are four categories, with prizes to be awarded for the best color *and* black-and-white photos in each. Prizes include a pair of 9 × 25CF Nikon binoculars for the two first-prize winners (color and black-and-white) in each category, and a Silva Type 15 Ranger™ compass from Johnson Camping for the two second-prize winners in each category. The grand-prize winner will receive a new Nikon N200 35mm SLR camera with a 50mm f/1.8 Nikon lens.

The winning photos will be published in the September/October 1986 issue of *Sierra*. The deadline for entries is April 1, 1986 . . . so read the complete contest rules and instructions carefully, and start shooting!

CATEGORIES

In Praise of Plants: Burdock to bromeliads, daisies to dahlias; the lush rainforest canopy or sparse strands of coastal grass. The camera knows that a single perfect sapling is as beautiful as a field full of wildflowers.

Chilly Scenes of Winter: Snow and ice, very nice. The contrasts are sometimes brilliant, often stark; the challenge is to help the subject express itself in winter's special vocabulary.

Going Wild: Photos of people experiencing the natural environment, enjoying all manner of outdoor pleasures—hiking, climbing, sailing, swimming, floating, sliding, scrambling. . . .

Wildlife: Animals of city parks or country fields captured (on film) in their natural habitats—whether that happens to be the African savanna or Savannah, Ga.

HOW TO ENTER

Submissions: No more than two color slides (or transparencies) and/or two black-and-white prints may be submitted in any one category. A contestant may, if desired, enter photos in each of the four categories.

Either original or high-quality duplicate slides and transparencies are eligible as color entries. Contestants whose color entries are selected as prizewinners based on their submission of a duplicate slide or transparency agree to provide *Sierra* with their original(s) for publication. No color prints or color negatives from print film will be considered.

For black-and-white submissions, only glossy-finish prints will be accepted.

Every slide, transparency, or 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 settings were.

Careful packaging is important; *improperly wrapped submissions will be returned unexamined.* Color slides (2 × 2) and color transparencies (4 × 5 and 2¼ × 2¼) should be placed in 8 × 10 plastic sleeves; these sleeves (available at any camera shop) have 20 pockets for holding 2 × 2 slides, six pockets for holding 2¼ × 2¼ transparencies, or four pockets for holding 4 × 5 transparencies.

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 your submissions to *Sierra* Photo Contest, 730 Polk St., San Francisco, CA 94109. 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.)

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, 1986. Please include a stamped, self-addressed postcard if you wish receipt of your photo(s) to be acknowledged. The judges' decisions will be made by July 15, 1986, and photos will be returned within six weeks of that date.

Judging: All photographs will be judged by a panel of experts that includes volunteers and Sierra Club staff.

Prizes: First and second prizes for color and for black-and-white will be awarded according to merit in each category. In addition, a grand-prize winner will be chosen that will not be one of the 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 one or more categories if no photograph(s) received meet their standards.

Prizewinning submissions will be enlarged, printed, mounted, and displayed in the Sierra Club's national headquarters in San Francisco.

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.

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QUESTIONS ? ANSWERS

Q: Are there alternatives to the severe environmental damage caused by using salt as a de-icing agent on our highways? (Joe Marchetti, Richmond, Va.)

A: The 9 million tons of sodium chloride used for this purpose each year winds up in our waterways, where it kills vegetation and animal life and threatens our drinking water supplies. (Rusted vehicles and disintegrating road and bridge surfaces also testify to salt's corrosive effects.) The government estimates that the damage caused by salt amounts to more than $4 billion annually.

Alternatives such as methanol, calcium chloride, and urea have been tried in the past but were found to be as harmful to the environment as salt. Calcium magnesium acetate, produced by combining acetic acid with dolomitic limestone, may be a viable alternative. Acetic acid can be produced from waste cellulose (newspapers, cardboard), which in turn could help ease landfill overcrowding problems. Dolomitic limestone exists in abundance throughout the country.

Calcium magnesium acetate is not only as effective as salt at melting snow, it also works better at lower temperatures, won't corrode metal or concrete, and can be applied by salt-spreading machinery currently in use. At around $370 per ton, it is five to ten times as expensive as salt, but the costs associated with salt's environmental damage have not been included in this comparison—and they are substantial.

Despite objections from salt-industry lobbyists, the Federal Highway Administration is undertaking studies on the feasibility of using the new compound. Unless an unforseen environmental hazard is found, calcium magnesium acetate may leave sodium chloride and its harmful after-effects by the roadside.

Kirk Caldwell

Q: I recently returned from a Sierra Club outing to Kenya. While I can't recommend the trip and the Kenyan concessionaire highly enough, I was shocked to learn that Club members were charged nearly 45 percent more than non-Club participants ($2,600 rather than $1,800). I can't believe the administrative costs of one trip amount to that much! (Wendy Crowder, Palo Alto, Calif.)

A: According to Peter Bengtson, finance officer of the Club's Outing Committee, trips organized through concessionaires are considerably more expensive than trips staffed entirely with volunteer leaders. This is compounded by the fact that the Outing Program—though it may be viewed as a service to members—receives no money from membership dues or general Club funds, yet it is required to cover all its operating costs and produce a surplus to cover unidentified costs of operating the program (which amounted to $125,000 in fiscal 1984 and $145,000 in FY1985). The trip you were on is one of the most expensive types, because after the concessionaire receives payment, the trip must also pay for leader travel, postage and telephone costs, and both worker's compensation and liability insurance. In addition, each trip must contribute to the overhead costs of both the Outing Program as a whole and the relevant subcommittee charged with organizing the trip.

Q: Did the mountain men of pioneer days have their own version of the trail-food mixture we call gorp? (Karen Sharp, Dallas, Texas)

A: Early explorers and trappers carried a cholesterol-rich mixture called pemmican, packed in small leather pouches. (The term comes from the Cree word *pimiy*, meaning, appropriately, grease.) The recipe was prepared to endure winter's freezing temperatures and the searing heat of summer. Any meat would do as the main ingredient: Elk, deer, and moose were common, but buffalo was deemed the choicest. The meat was cut into thin strips, air dried, pounded until soft, then mixed with berries, fruit, and some of the animal's fat. This mélange was finally tightly wrapped in a parfleche, a container of rawhide with the hair removed.

Not the most palatable mixture, perhaps, but undoubtedly welcome to those waiting out a blizzard or crossing an area devoid of game.

Q: The unsolicited junk mail I receive seems to be yet another form of environmental waste. What is the Sierra Club's policy regarding use of its member mailing list by other organizations? (N. Thieret, Minneapolis, Minn.)

A: The Sierra Club is as concerned as you are about the proliferation of junk mail, which is why every new member is given the option of requesting that his or her name not be exchanged with other organizations. But according to Renée Simi, the Sierra Club's direct-mail manager, the exchange of member mailing lists is an important element in the recruitment of new members.

"Fifty-four percent of the Club's new members come from our direct-mail acquisition program, whereby we exchange mailing lists with other organizations," says Simi, who evaluates the suitability of each organization for an exchange of lists on a one-time usage basis.

Any Club member with questions regarding unsolicited mail or the member mailing list may contact Renée Simi in Member Development at Sierra Club headquarters, 730 Polk St., San Francisco, CA 94108; phone (415) 776-2211.

Q: What are the major oxygen-generating sources on the planet? (Toby Boone, Tenafly, N.J.)

A: It's estimated that at least 70 percent of Earth's oxygen is produced by phytoplankton in the oceans; trees and other plant life provide the remainder.

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