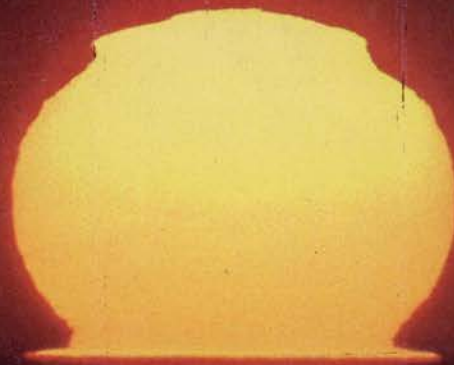


Sierra Club Bulletin

June/July/August 1977/\$1.00



1978 Foreign Outings
Mt. Shasta
Solar Energy

1978 Sierra Club Calendars
and New Books for Children



Flip and Zip

Now with Camp Trails Orion you have the capacity of an extendable-top backpack with the convenience of front-loading. Flip open the top to load, and zip open the front panel to unload.

Orion has combined capacity and convenience with comfort. A totally new suspension system which has to be carried to be appreciated is waiting for a test ride at your Camp Trails dealer.

See your dealer for our new catalog & travel light booklet, or send \$1.00 to: Camp Trails Co., Dept. SC, P.O. Box 23155, Phoenix, Arizona 85063.

Extendable Top
Full Length Side Pocket
Tangential Suspension



Leather Patches
Cordlock/Cordhooks
Removable Cinch Straps
Storm Cover Over Zipper
Straight Through Design
Tapered Shoulder Straps
V-Truss Frame
Free-Swinging Hipbelt

MARIAH

"A HIP NATIONAL GEOGRAPHIC..."
The New York Times

"It is beautiful and I am pleased to be associated with this new publication."

Jean-Michel Cousteau

"Having been in the backpacking and trails movement for over 30 years, I don't believe I've ever had the pleasure of reading such refreshing material as MARIAH covers."

Lance Field, Executive Director,
International Backpackers Association

YOU'RE INVITED to explore the world's wild places with MARIAH, the free-spirited quarterly magazine of wilderness sports and expeditions. Go Camping, Climbing, Backpacking, River-running, Skiing and more with MARIAH's outstanding articles and superb photography! Just mail in the coupon below to begin your subscription at a special Introductory Rate.

I'll try MARIAH! Enter my one-year subscription for only \$8 (\$4 off the regular rate).
 My check is enclosed. Please bill me later.

Name (please print)

Address

City, State, and ZIP

Please allow 6-8 weeks for your first issue to be delivered. For Canada, add \$1. For other nations, add \$2.50.

Mail to: MARIAH Magazine, Subscriber Services Dept., P.O. Box 2690, Boulder, CO 80322

MAE9

Fill out this coupon and save a child

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

SCB 6/7

My Name is: _____
(please print)

Address _____

City _____ State _____ Zip _____

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

1. What geographical area are you interested in?

Urgent need exists in all the areas listed below. Select an area, or let us assign a child where the need is greatest.

- | | | |
|--|---|--|
| <input type="checkbox"/> Where the need is greatest | <input type="checkbox"/> Dominican Republic | <input type="checkbox"/> Inner Cities (U.S.) |
| <input type="checkbox"/> Appalachia (U.S.) | <input type="checkbox"/> Honduras | <input type="checkbox"/> Israel |
| <input type="checkbox"/> Bangladesh | <input type="checkbox"/> Indian (Latin America) | <input type="checkbox"/> Korea |
| <input type="checkbox"/> Chicano (U.S.) | <input type="checkbox"/> Indian (U.S.) | <input type="checkbox"/> Lebanon |
| <input type="checkbox"/> Colombia | <input type="checkbox"/> Indonesia | <input type="checkbox"/> Mexico |
| | | <input type="checkbox"/> Rural South (U.S.) |

2. Any sex or age preference?

If so, our personnel who are familiar with conditions in the area you have chosen will select a child in accordance with your wishes.

- Boy Girl No preference
Age 4 to 7 8 to 12 No preference

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

Shortly after assignment is made, we can send you a photograph and brief personal history, if you desire.

- Yes No

4. Would you like to correspond with your sponsored child?

If desired, correspondence can help build a meaningful one-to-one relationship. Translations, where necessary, are supplied by Save the Children Federation.

- Yes No

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

Several times a year you can receive detailed reports on the activities and projects being undertaken in the community to benefit your sponsored child. Would you like to receive such information?

- Yes No

6. How do you wish to send your payment?

- Monthly, \$16 Semi-annually, \$96
 Quarterly, \$48 Annually, \$192

Enclosed is my first payment: \$_____.

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

Save the Children is indeed proud of the handling of its funds. An exceptionally large percentage (78.1%) of each tax deductible dollar you donate is used for direct aid and supporting program services. Due to volunteered time, labor and materials, your donation provides your sponsored child with benefits worth many times your total gift. An informative annual report and audit statement are available upon request.

- Annual Report Yes No
Audit Statement Yes No

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

- Yes, enclosed is my contribution of \$_____.
 Check here for general information about our unique programs for aiding impoverished children.

© 1977 SAVE THE CHILDREN FEDERATION, INC.



Mail to:

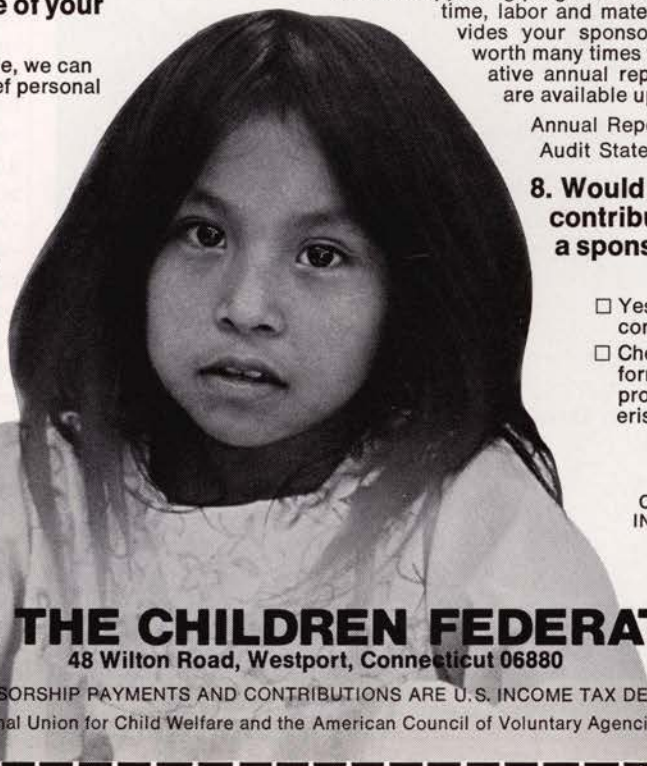
SAVE THE CHILDREN FEDERATION®

48 Wilton Road, Westport, Connecticut 06880

YOUR SPONSORSHIP PAYMENTS AND CONTRIBUTIONS ARE U.S. INCOME TAX DEDUCTIBLE.

Member of the International Union for Child Welfare and the American Council of Voluntary Agencies for Foreign Service.

YOUR SPONSORSHIP
PAYMENTS AND
CONTRIBUTIONS ARE U.S.
INCOME TAX DEDUCTIBLE.



Sierra Club Bulletin

JUNE/JULY/AUGUST

VOLUME 62/NUMBER 6

- 5 The Endangered American Wilderness Act *Charles Clusen and Douglas Scott*
- 9 1978 Foreign Outings
- 12 Solar Energy: Dawn of an Era *Denis Hayes*
- 25 1978 Sierra Club Calendars and New Books for Children
- 47 Guest Opinion: The Environment, the Economy and the Excluded *Ralph D. Fertig*
- 49 One Last Chance for Shasta *Philip T. Rhodes*
- 52 Edward Stuhl
Shasta's Perennial Advocate *Steven R. Johnson*

Commentary

- 17 Reaping the Whirlwind: The Specter of Desertification *Patricia Paylore*
- 19 A Look at the Environmental Movement in Europe
Notes from a Recent Trip *Michael McCloskey*
- 22 The Carter Energy Plan *Gene Coan*

Regional Reports

- 24 Washington, D.C.: President Carter's Performance—The First 100 Days *Brock Evans*
- 33 Northeast: Gateway—The Promise and Problems of National Urban Recreation Areas *Sam Sage and Tom Hyde*

Departments

- 36 **News:** Alaska land hearings; Redwood campaign; Loggers demonstrate; Carter's environmental message; Wetlands saved; Australian wilderness; U.S. appeal on Darién Gap; Final water-project cuts
- 38 **Letters:** Land Use *Samuel E. Wood*
Land Ethics *John Lemons, Bill Devall and Edward Schriver*
Compromises *Nicholas Rosa*
Ocean Exploration
- 41 **Books:** A Footnote to the American Dream: *Crooked Road: A History of the Alaska Highway*, by David A. Remley *Wallace Stegner*
- 42 **The Observer**
The New Board of Directors *Robert A. Irwin*

Cover: Sunrise over the Sea of Cortez. Focussing on the intense surface of the fiery ball, photographer Lenny Lind captured this almost surreal effect by underexposing the shot at 1/2000 of a second at f:8, using an ND4X filter.

Directors

William Futrell	<i>President</i>
Richard A. Cellarius	<i>Vice President</i>
Ellen Winchester	<i>Secretary</i>
Theodore Snyder	<i>Treasurer</i>
Kent Gill	<i>Fifth Officer</i>
Phillip S. Berry	Mark G. Hickok
Kathleen Brown	Leslie V. Reid
Helen Burke	John H. Ricker
Brant Calkin	Lowell Smith
Joseph Fontaine	Edgar Wayburn

Regional Vice Presidents

Earl Bailey	Michele Perrault
Marvin Baker	Roger Pryor
Edward Easton III	Robert Rutemoeller
Ruth Frear	Susan Steigerwalt
Norman E. Nelson	Peter Wyman

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

Michael McCloskey *Executive Director*

Bulletin Staff

Frances Gendlin	<i>Editor</i>
Stephen Whitney	<i>Manuscript Editor</i>
Madeleine Fabris	<i>Production Manager</i>
Carey Charlesworth	<i>Editorial Assistant</i>
Gene Coan	<i>News Editor</i>
Richard Dinianian	<i>Design</i>

United States offices: Alaska: 545 E. 4th Ave., #5, Anchorage, AK 99501 / New York & International: 800 Second Ave., New York, NY 10017 / Legal Defense Fund: 311 California St., San Francisco, CA 94104 / Midwest: 444 West Main, Madison, WI 53703 / Northwest: 4534 1/2 University Way NE, Seattle, WA 98105 / Southern California: 2410 Beverly Blvd., Los Angeles, CA 90057 / Southwest: 2014 E. Broadway, Tucson, AZ 85719 / Washington, D.C.: 330 Pennsylvania Ave., SE, Washington, DC 20003 / Wyoming and Northern Great Plains: P.O. Box 721, Dubois, WY 82513.

Canadian chapters, please write: Western Canada Chapter, Box 35520, Station E, Vancouver, B.C. Canada V6M 4G8 or Ontario Chapter, c/o National & Provincial Parks Assn., 47 Colborne St., Toronto, Ontario, Canada M5E 1E3.

The *Sierra Club Bulletin*, published monthly, with combined issues for July-August and November-December, is the official magazine of the Sierra Club, 530 Bush St., San Francisco, California 94108, (415) 981-8634. Annual dues are \$20 of which \$3.00 is for subscription to the *Bulletin*. (Nonmember subscriptions: one year \$8.00; three years \$20; foreign \$10; single copy \$1.00) Second-class postage paid at San Francisco, California, and additional mailing offices. Copyright © 1977 by the Sierra Club. No part of the contents of this magazine may be reproduced by any means without the written consent of the Sierra Club Bulletin. Publication number 495920

Editorial correspondence should be addressed to *Sierra Club Bulletin*, 530 Bush St., San Francisco, CA 94108. Manuscripts must be submitted in duplicate and accompanied by a stamped, self-addressed envelope.

Changes of address should be sent to Sierra Club Member Services, 530 Bush St., San Francisco, CA 94108. Along with your old and new addresses, please include an address label from a recent issue, if possible.

Advertising: (West) Susan Church, Environmedia, P.O. Box 26442, San Francisco, CA 94126, (415) 566-3512; (Books) Erwin H. Baker, 20 Evergreen Place, East Orange, NJ 07018, (201) 673-3950; (East and Midwest) William H. Fields III, 22 Montgomery St., Boston, MA 02116, (617) 262-7532.

There has been real progress this year in wilderness preservation policy. The following special report highlights the significant developments and suggests actions for wilderness supporters.

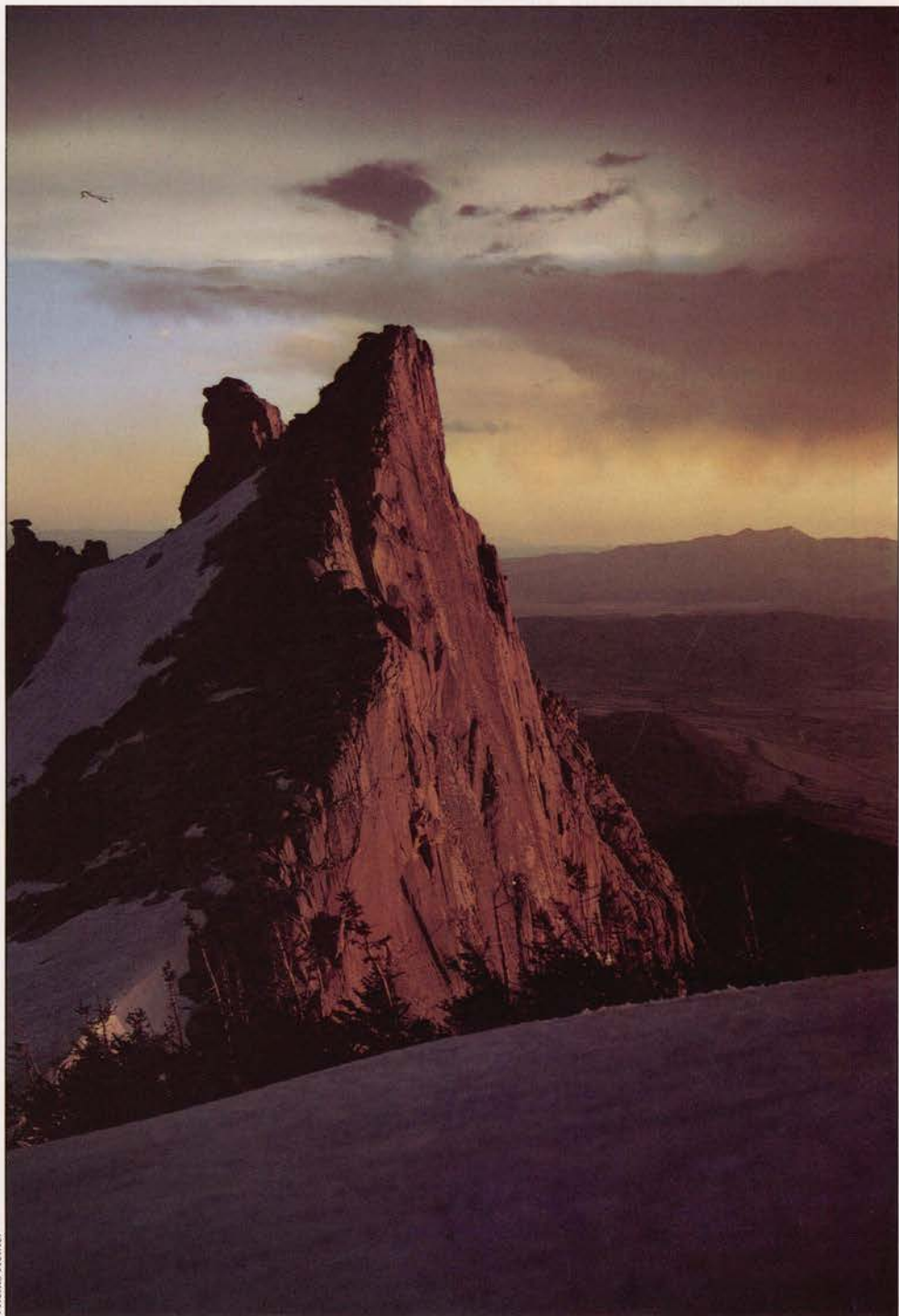
Introduction of the Endangered American Wilderness Act of 1977 in both houses of Congress marks the beginning of a major new initiative for the wilderness movement. The act would provide either "instant wilderness" or "wilderness study" designation for twenty-one National Forest roadless areas, totaling nearly two million acres. These areas are but a sample of the roughly 57 million acres of *de facto* wilderness in the National Forests. Senator Frank Church (D-Idaho), sponsor of the Senate version of the act (S. 1180) defines *de facto* wilderness as roadless, undeveloped land that "has no special protection . . . [but] is most in danger of losing its wilderness character before thorough review and considerations can be given." The list of areas differs slightly in the Senate and House bills, but in each case those chosen face imminent development of one sort or another. Representative Morris Udall (D-Arizona), sponsor of the House bill (H.R. 3454), believes the selected areas also "exemplify the kind of wild, nationally significant and popular roadless areas that are at stake . . . and illustrate the problems which threaten to destroy specific wilderness values."

Already, five days of hearings have been held on the House bill by the Interior and Insular Affairs Committee's Subcommittee on Indian Affairs and Public Lands. For the first time in recent memory, a witness representing the Department of Agriculture and the Forest Service spoke in favor of wilderness designation and announced several major improvements in wilderness policy. The hearings also catalogued the many flaws in earlier efforts to consider the wilderness values of these lands. The Forest Service's Roadless Area Review and Evaluation (RARE), conducted in 1972-73, overlooked many roadless areas and selected for further wilderness study only the most obvious candidates (often excluding the important timbered fringes of these areas). Using 5,000 acres as a mini-

Charles Clusen is Associate Director of the Club's Washington office; Douglas Scott is the Club's Northwest representative.

The Endangered American Wilderness Act

CHARLES CLUSEN and DOUGLAS SCOTT



"Question Mark Wall," the least of three summits of Lone Peak, Utah. 33,500 acres.

mum size, the agency identified over 1,400 areas totaling 56 million acres. The chief of the Forest Service then selected 274 of these areas for wilderness study, leaving 44 million acres in more than 1,100 areas open to development. Since 100 of the selected areas were already scheduled for wilderness study, RARE resulted in the addition of only 6.5 million acres to the list.

Concerned with the fate of these unselected areas, many of which were lands of highest priority for wilderness activists, the Sierra Club sued the Forest Service and thereby obtained from the agency a commitment to evaluate the wilderness potential of unselected areas as part of its normal land-use-planning process. Unfortunately, this promise produced little, for the agency's planning process has been seriously flawed insofar as wilderness consideration is concerned. No internal review has existed to ensure that "unit plans" meet minimum standards of thoroughness and objectivity. The promise of "further evaluation" for



Wheeler Geologic Area in the La Garita Additions, Colorado. 182,700 acres.

the unselected roadless areas has largely not been kept; their wilderness values have frequently been dismissed out of hand. Moreover, the Forest

Service continued to adhere too strictly to "pure" wilderness standards as a way of preventing many areas from receiving meaningful consideration.

Areas included in Endangered American Wilderness Act of 1977

State Area	National Forest	Acreage	"Instant" Wilderness Designation	Wilderness Study Designation	Local Representative
Alaska					
West Chichagof-Yakobi	Tongass	405,000	X (in House)	X (in Senate)	Young
Arizona					
Pusch Ridge*	Coronado	56,510	X		Udall
Galiuro Additions	Coronado	80,430		X	Udall
California					
Golden Trout	Inyo & Sequoia	240,000	X		Ketchum
Santa Lucia	Los Padres	21,250	X		Panetta
Ventana Additions	Los Padres	60,080	X		Panetta
Colorado					
Goose Creek Additions	Rio Grande	69,400	X		Evans
La Garita Additions	Rio Grande & Gunnison	182,700		X	Evans
Montana					
Mount Henry	Kootenai	22,000		X	Baucus
McGregor-Thompson	Lolo & Kootenai	89,000		X	Baucus
Welcome Creek	Lolo	28,900		X	Baucus
New Mexico					
Manzano Mountain	Cibola	37,000	X		Lujan
Sandia Mountain	Cibola	30,700	X		Lujan
Chama River Canyon	Sante Fe & Carson	50,900		X	Lujan
Oregon					
French Pete Creek	Willamette	42,000	X		Weaver
Kalmiopsis Additions	Siskiyou	270,000**	X	X	Weaver
Middle Santiam	Willamette	24,500	X		Weaver
Wild Rogue	Siskiyou	29,000	X		Weaver
Utah					
Lone Peak*	Wasatch & Uinta	33,500	X		McKay & Marriott
Washington (and Oregon)					
Wenaha-Tucannon	Umatilla	200,000***	X		Foley & Ullman
Wyoming					
Savage Run*	Medicine Bow	15,000		X	Roncalio

NOTES:

*Not in Senate bill **134,000 instant and 136,000 additional for study ***129,000 in Senate bill

Joy Spurr/Bruce Coleman Inc.



Above: *Wenaha River Canyon in the Blue Mountains of Oregon. 200,000 acres.*
Below: *Desert wash, Sandia Mountain, New Mexico. 30,700 acres.*



Ed Cooper

the Forest Service's seriously inadequate decision-making process. But under the new Carter Administration, prospects for endangered roadless areas suddenly seem brighter.

On May 6, the new Assistant Secretary of Agriculture, M. Rupert Cutler, who supervises the Forest Service among other agencies, presented to the House subcommittee the Administration's views on the bill.

for these lands within the Wilderness System. This department will pursue that goal with a new sense of urgency."

Cutler acknowledged the truth of criticisms that Forest Service wilderness review has been "too slow and too costly," pointing out that "the rising tide of public demand for more wilderness designations, without delay, continues to swell." He also announced his department's (and thus the Forest Service's) support for the Endangered American Wilderness Act, concluding that "although Forest Service land-management planning is still under way on most of" the areas, "and although tradeoff values and opportunity costs are not completely known, we agree that enough is known about these areas to enable us to recommend wilderness designation. For five of the areas, he recommended immediate designation (French Pete, Lone Peak, Middle Santiam, Mt. Henry and McGregor-Thompson). Additional areas may be proposed for "instant" wilderness when internal clearance is completed in late May. In any event, Cutler supported all of the areas in the bill for study designation at least.

In response to questions from Subcommittee Chairman Teno Roncalio and Representative Jim Weaver, Cutler laid to rest the "purity" arguments that the Forest Service had long used to oppose wilderness. He said he will "speed up our efforts to identify undeveloped areas that still can meet" wilderness criteria used in the past, but also stressed that "We also have an opportunity to include in the Wilderness System lands not entirely free of the 'marks of mankind,' but fully capable of providing, in the long-term, wilderness benefits to many people. In considering such lands for wilderness designation or study, we will look openly at the features or uses traditionally considered to be nonconforming. We will be more innovative in 'managing around' the objectionable features to minimize their impacts and ensure optimum wilderness quality."

The Administration's position was further elaborated by the President in his May 23 Environmental Message. Carter said that the National Wilderness Preservation System "must be expanded promptly, before the most deserving areas of federal lands are opened to other uses and lost to wilderness forever." He endorsed all the previous wilderness recommendations sent to Congress by earlier administra-

Thus, as 1977 began, each of the areas in the Udall-Church bill—and all roadless areas generally—were threatened: some by immediate timber sales, roads, and other developments; all by

"The nation's wilderness," he said, "is indeed becoming a vanishing resource, and much of it is vulnerable to loss. The Carter Administration has committed itself to provide protection

tions, but said he will propose to expand some of these, including the Idaho and Salmon River Breaks Primitive Areas in Idaho, the Guadalupe Escarpment Wilderness in New Mexico and Texas (combining wildlands in Carlsbad Caverns and Guadalupe Mountains National Parks with an expanse of national forest land lying in between), the Beartooth-Absaroka

Alaska.” He directed that federal agencies expedite the preparation of wilderness proposals for eastern national forests, the national grasslands, and Alaskan national forests.

Anticipating the President’s order for review of additional wilderness possibilities, Assistant Secretary Cutler had announced just such a program in his May 6 testimony:

With this announcement, one fully supported by President Carter, the Department of Agriculture has taken a major step toward assuming a role in wilderness preservation not seen from that quarter since the time of Aldo Leopold and Bob Marshall.

Despite Cutler’s stress on a balanced forest policy, with “new initiatives to increase the productivity of nonwilderness forest lands, public and private,” the reaction of the timber industry and trade groups has been hostile. The American Plywood Association (APA) said Cutler’s support for the Endangered American Wilderness Act “appears to represent a major victory for those who are pushing aggressively, on many fronts, for expansion of the nation’s wilderness at the expense of all other values.”

The APA comment, in an alert to its member firms, was headlined: “Wilderness Issue Out of Control.” It appealed for “unified opposition to this runaway wilderness threat by all in the wood industry and by every part of the distribution chain.” The APA is calling for a letter-writing campaign to Congress, and especially to “Congressmen in the major metropolitan areas where the true meaning of wilderness is little understood.”

The Carter Administration and Congress need to know that strong nationwide support exists for these important wilderness initiatives. With loggers’ trucks rolling into the nation’s capital, the industry is trying to create a stampede against wilderness. The President, Secretary of Agriculture Bob Bergland, and every congressman and senator need to know that grassroots support for wilderness is stronger than ever. Write letters to (1) President Carter (White House, Washington, D.C. 20500); (2) Hon. Bob Bergland (Department of Agriculture, Washington, D.C. 20250); (3) Rep. Teno Roncalio who chairs the House Subcommittee on Indian Affairs and Public Lands (House Office Building, Washington, D.C. 20515); (4) Sen. James Abourezk (D-South Dakota), who chairs the Senate Subcommittee on National Parks and Recreation, part of the Senate Energy and Natural Resources Committee (Senate Office Building, Washington, D.C. 20510); and (5) your own representative and senators (who can be asked to cosponsor formally the Endangered American Wilderness Act). SCB



Chichagof, Alaska. 405,000 acres.

Philip Hyde

Wilderness in Montana and Wyoming, and the Grand Canyon Wilderness (including the Colorado River itself). The President pledged a “vigorous wilderness program for the Bureau of Land Management” and proposed the first BLM wilderness in Aravaipa Canyon, Arizona. Then, turning to national forest *de facto* wilderness, President Carter told Congress: “I support the objectives of the endangered-wilderness legislation now pending before Congress. Members of my Administration have recently testified in favor of immediate wilderness designation or protective study designation for all areas in this bill.” Carter also directed the Secretaries of Agriculture and the Interior to study additional areas for possible wilderness designation, emphasizing the “special need to preserve wilderness east of the Rockies and in

Mr. Chairman, we are going to take another complete look at the roadless and undeveloped lands in the entire National Forest System. We intend to categorize these undeveloped lands into three types, then ask the Congress to provide implementing legislation. One category will be areas which will become wilderness immediately. The second will be areas which need more study before the Congress can make its decision as to whether or not to designate as wilderness. The third category will be the remaining areas which require no further consideration as wilderness and thus would be devoted to other than wilderness uses. . . . The need to determine which of these lands will be wilderness and which will not be wilderness cannot wait for the years needed to complete the land-management planning process on all National Forests.

1978 Foreign Outings

Anyone with a little time and money can decide today to visit Africa, and tomorrow watch lions and antelope drink from the same waterhole. The Sierra Club's Foreign Trips take advantage of speedy and economical travel to take members to the exotic places of this world. Nearly thirty trips are offered, reaching every continent except Antarctica, and all within the reach of even very moderate incomes.



Paul Tammin

(722) Baja Driving-Hiking Adventure—January 9–20. Leader, Monroe Agee, 13750 Rivulet Rd., San Jose, CA 95124.

Our loop trip in 4-wheel-drive vehicles will include camping and exploring the coastal areas of both the Sea of Cortez and the Pacific Ocean, with side excursions into the central mountains—probably as far south as Bahia de Los Angeles. We will visit Scammon's Lagoon, whale breeding grounds, Spanish missions, and ruins of old Russian and English settlements, and enjoy unique botanical sights. Moderate hiking is optional. Swimming and snorkeling are good. Experienced guides will accompany us. Approximate cost: \$660.

(725) Micronesia—February-March 1977 (4 weeks). Leader, Wheaton Smith, 243 Ely Place, Palo Alto, CA 94306.

A variety of seldom-visited islands lie in the central Pacific Ocean. We will experience the culture, people and undeveloped land values of several of them. We will see the practices and problems of administering these less-developed areas, currently seeking new political relationships with us. Highlights will include small boat trips away from the district centers, staying in remote villages without tourist accommodation, visiting the ancient stone ruins of Nan Madol in Ponape, experiencing life on a coral atoll and swimming in lagoons with outstanding snorkeling. Leader approval required. Approximate cost: \$1660.

(730) Venezuela/Surinam: By Foot and Paddle—February 11-March 5. Leader, Linda Liscom, 80 Harrison, #4, Sausalito, CA 94965.

Explore the unexplored as we become the first Sierra Club group to navigate the Rio

Karuay in Venezuela's dramatic Grand Sabana. Under guided direction, we paddle our own four-passenger rafts 160 km in 9 days through forests overflowing with rare orchids and exotic birds; fine freshwater swimming, fishing; day hikes and hammock sleeping. Surinam's two major nature reserves are Raleigh Falls—boating, camping, and walking in undisturbed tropical rain forest; and Wia Wia—observing nesting sea turtles plus many coastal birds. Requirements: stamina and flexibility. Leader approval required. Approximate cost: \$1690.

(735) East Africa: Cross-Country Horseback Safari, Kenya—February-March. Leader, Monroe Agee, 13750 Rivulet Rd., San Jose, CA 95124.

This cross-country adventure on horseback from Nairobi to visit Lake Naivasha and the Samburu Game Refuge will allow everyone a unique opportunity to observe, study and photograph at close range the multitude of wild game, especially the bird life; also to enjoy the beauty and peacefulness of the great Rift Valley. We will overnight at tented camps and lodges. Approximate cost: \$1840.

(740) Winter Walking in Norway—March 3-17. Leader, Betty Osborn, 515 Shasta Way, Mill Valley, CA 94941.

This second ski touring trip in Norway will be an adventure for the experienced and the novice. We will be guided on daily excursions and overnight tours, weather permitting, by members of the Norwegian hiking club, who will teach us Norwegian touring techniques. We will base camp at DNT huts or lodges in at least three areas: at Finse (Hardangervidda) on the Oslo-Bergen railroad, known for its winter beauty and excellent ski touring; Gjendesheim in the famous

Jotunheimen mountains; Rondvassbu in the rolling Rondana National Park—all beautiful areas. Leader approval required. Approximate cost: \$695.

(745) Nepal, Kathmandu Valley Leisure Natural History Trek—March. Leader, Al Schmitz, 2901 Holyrood Dr., Oakland, CA 94611.

A 2-week trek in 50-mile-long Kathmandu Valley, accompanied by naturalist Dr. Robert L. Fleming, will furnish a cross section of the natural history and cultures of the local inhabitants. Daily hiking distances are moderate. A 2-day trip to Tiger Tops in the Terai is included. Approximate cost: \$1175.

(755) Wales, England, Scotland—June. Leaders, Lori and Chris Loosley, 22 Westbury Rd., New Malden, Surrey KT3 5BE, U.K. and Doug McClellan, 88 Ridge Rd., Fairfax, CA 94930.

Some of Britain's best mountain scenery, countless historic sites, a wildlife refuge, and the problems of their preservation will be explored on our 3-week trip in Wales, England's Lake District, Scotland and the western Isle of Skye. Variable weather, simple accommodations and hiking of up to 12 miles a day can be expected. Leader approval required. Approximate cost: \$960.

(760) Japan—from the Inland Sea to Northern Honshu. June 24-July 23. Leaders, Tony and Mildred Look, 411 Los Ninos Way, Los Altos, CA 94022.

Island-studded Inland Sea National Park is best seen from our steamer trip through the waterway prior to visiting Shikoku Island and Mt. Ishizuchi. Awaji Island next, then the his-

toric art center—Kyoto. An airlift to Northern Honshu begins a cross-island trip to a mountain spa and a samurai village before visiting Rikochu Coast National Park and Matushima Bay. Meet and hike with Nature Conservation and Wildbird Protection groups and the Japan Alpine Club for visits to unusual places in Japan. Approximate cost: \$1500.

(765) Spain: Central Pyrenees—June 25-July 15. Leader, Lewis Clark, 1349 Bay St., Alameda, CA 94501.

Twenty-one days combining walking and riding charter buses in the scenic *Pyreneos Central* with a short swing into *les Pyrenees de France*. Stay in village *hostales* and mountain *refugios*. Walking mostly moderate to easy, with some travel over snowfields and a glacier. Leader approval is required. Approximate cost: \$785.

(770) Canal Casiquiare, Venezuela-Brazil—Summer, 1978. Leader, Ted Snyder, 2 Whitsett St., Greenville, SC 29601.

The bifurcation of the Orinoco gives rise to the Casiquiare, a tributary of the Rio Negro. We boat 1,300 miles through practically unsettled rain forest, little-explored since Humboldt and Wallace. Unscouted; an expedition subject to unexpected difficulties. Begin at Caracas; end in Manaus. 3-4 weeks. Leader approval required. Approximate cost: \$2450.

(775) Kenya: Northern Frontier, East Africa—July 12-August 7. Leader, Ross Miles, 350 Sharon Park Drive, #B-21, Menlo Park, CA 94025.

On this magnificent outing we travel from the Tanzania border to Lake Turkana. Among the areas covered will be the Masai Mara Game Reserve, Lake Nakuru, Samburu-Isiolo Game Reserve, Marsabit, Lake Turkana and Mt. Kenya. We will visit the Masai, the Samburu, the Turkana, the very primitive El Molo and the nomadic camel people of the Matthews Range. Travel will be by Landrover and we will hike when regulations permit. The outing requires a spirit of adventure and is suitable for anyone in good physical condition. Approximate cost: \$1865.

(785) Hiking in Iceland—Mid-July. Leader, Brad Hogue, 3750 Long Ave., Beaumont, TX 77706.

Hiking through volcanic deposits ranging in size from granular to massive, across lush meadows and icy streams. We will sleep in huts or tents and have layover days that may be spent hiking or at leisure. Some bus travel to geysers, waterfalls, a museum. Children accompanied by parents encouraged. Minimum age, 12. Leader approval required. Approximate cost: \$600.

(790) Hiking and Canoeing in Sweden—July 20-August 10. Leaders, Blaine Le Cheminant 1857 Via Barrett, San Lorenzo, CA 94580 and Mary Miles, 18 Farm Rd., Los Altos, CA 94022.

For eight days we canoe a lovely chain of forest rimmed lakes, visit picturesque villages, camp in lakeside forests, explore rocky islands as well as fish and swim. An overnight train carries us above the Arctic Circle to Kiruna where we start eight days of hiking in Swedish Lapland. We stay in mountain huts and lodges along the way. The trail takes us through wide glacial valleys in Europe's last wilderness and the birch forests of Abesko National Park. Approximate cost: \$1015.



Betty Pollock

(795) Ecuador—July. Leader, Charles Schultz, 14 Pacheco, #7, San Rafael, CA 94901.

With a backbone of parallel ranges of the Andes, Ecuador is divided into three distinct geographical areas: the humid coastal lowlands along the Pacific; the Sierra or Andean highlands; and the tropical eastern lowlands of the Oriente. Our trip will spend time in each of these areas providing experience with the flora and fauna of the natural habitat, exploring the national history, and sharing the cultural diversity. We will spend time navigating jungle rivers, hiking through the highlands, tracing Ecuador's Inca past, climbing a peak or two, and savoring the variety of Ecuador. Of interest will be opportunity to view the petroleum, forestry, farming, and fishing industries' contributions to the country's improving economic state. Approximate cost: \$1395.

(805) Walking, Camping, Game Viewing in Kenya, Tanzania, Zambia—August 7-29. Leader, Betty Osborn, 515 Shasta Way, Mill Valley, CA 94941.

On this safari we will walk and camp in some of the finest game-viewing and scenic areas in each country. Among places we will visit will be Olduvai Gorge, Amboseli Refuge, Tarangiri National Park, Ngorongoro Crater and Luangua National Park. Hiking distances will be moderate and this trip is suitable for anyone in good physical condition. After our return to Arusha an optional 7-day trip in Botswana is planned. Approximate cost: \$1815.

(780) Kashmir-Ladakh Leisure Trek, India—August 6-September 5. Leader, Tris Coffin, 500 Tamalpais Avenue, Mill Valley, CA 94941.

The Vale of Kashmir, with its reputation for exotic beauty, is surrounded by Himalayan mountains with views of the nearby Karakoram. We will trek in a seldom-visited wilderness seeing Gujar nomads, glaciers, and flowers for 16 days and 100 miles. We then visit Leh in Ladakh seeing its Tibetan terrain and Buddhist culture. Then we will enjoy the leisure of houseboat living near Srinagar, crossing lotus covered Lake Dal by shikara to Shalimar. Return through India allows side visits to Taj Mahal, etc. Approximate cost: \$1325.

(800) Mt. Blanc and the Vanoise, France—August-September. Leaders, Pat Hopson, 907 6th St., SW, Apt. 504C, Washington, DC 20024 and Dick Williams, 324 N. Edison St., Arlington, VA 22203.

This outing combines the circuit of Mt. Blanc (Europe's highest peak), a classic alpine walk through France, Italy, and Switzerland, with a traverse of a nearby and less-visited French national park. Both walks feature spectacular mountain scenery, varied wildlife, and close approaches to large glaciers, but no glacier walking; seventeen days beginning mid-to-late August. Hiking is moderate to strenuous; minimum age, 16; leader approval required. Approximate cost: \$880.

(810) Nepal, Jumla to Pokhara—October. Leader, Gordon Benner, 155 Tamalpais Road Berkeley, CA 94708.

This lengthy, but moderate trek offers a splendid variety of Nepalese terrain, people and architecture. Walking east from Jumla, you'll be among the Bhote, the group to which the Sherpas belong, and the Pahari, the "people of the mountains." At the midway point, Dhorpatan, you pass through a large Tibetan center and as you reach the park-like country before Pokhara you'll meet members of the Gurung and Magar tribes. The highest pass used is Jangla Bhanjyang at 14,600 feet. The use of aircraft to begin the trek furnishes magnificent views of the western giants, Manaslu, Machhapuchhare, Annapurna Himal and Dhaulagiri. There will be time for sightseeing in the Kathmandu Valley and post-trek visits to the sacred Hindu city of Varanasi and to Agra, site of the Taj Mahal. Leader approval is required. Approximate cost: \$2070.

(812) Everest Base Camp, Nepal—November 15-December 12. Leader, Peter Owens, 117 E. Santa Inez, San Mateo, CA 94401.

This moderate 4-week trip will feature a 20-day round-trip trek from the Lukla airstrip to the Everest base camp at the foot of the great Khumbu Icefall. To aid in acclimatization, days have been scheduled for side trips to the Sherpa villages of Solo Khumbu and Thame and the famous Tibetan monastery of Thangbouche. Our highest camp will be at 17,100 feet. This economy priced trip will do without some of the traditional luxuries normally found on Nepal treks. Leader approval required. This trip may be combined with the Annapurna trek. Approximate cost: \$785.

(820) Hoggar Mountains Camel Caravan, Southern Algeria—November-December. Coordinator, H. Stewart Kimball, 19 Owl Hill Rd., Orinda, CA 94563.

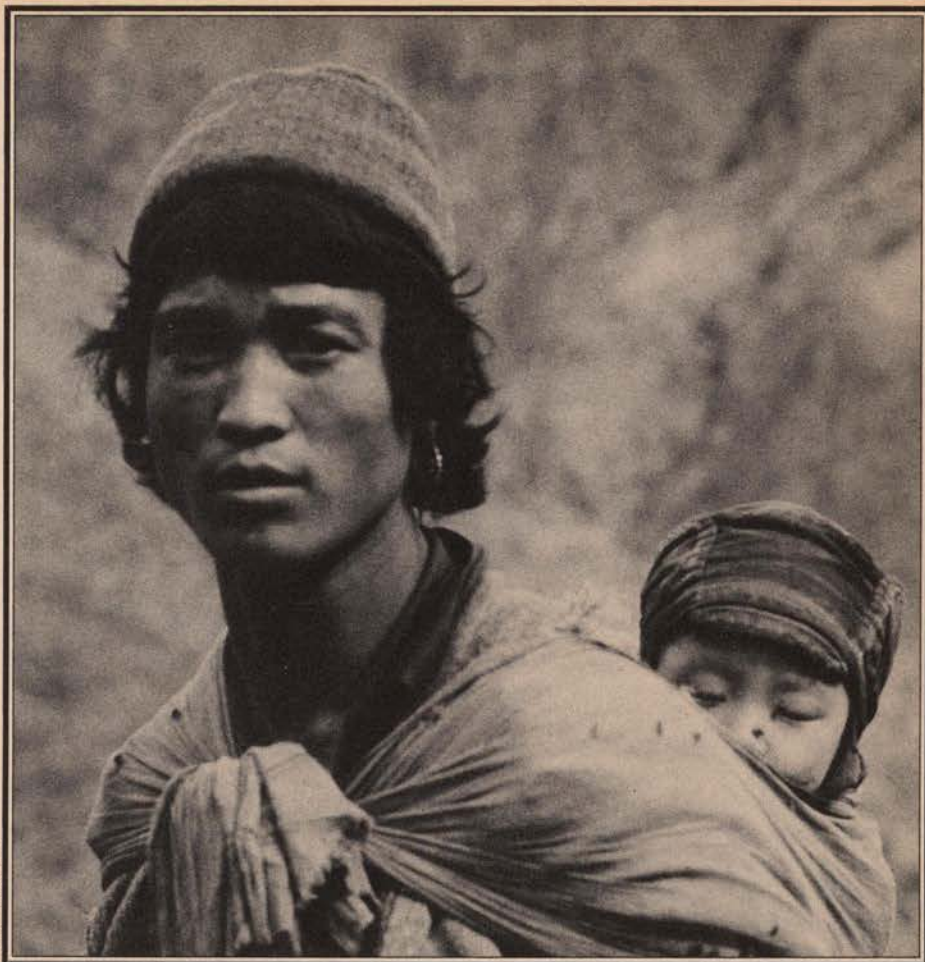
Solitude, clean air, enormous expanses, vivid sunrises and sunsets, and a quiet that builds in you as the trip progresses . . . these are some of the qualities to be found on this camel caravan in the desert region of the Sahara. Members of the native nomadic Tuareg tribe will be the camel drivers and cooks under the guidance of a French mountaineer who himself has adopted the Tuareg way of life. You will probably both ride your camel and walk up to 30 km daily. Water is scarce; food is both native and imported. Approximate cost: \$1515.

(822) Christmas at Annapurna, Nepal—December 21-January 10, 1979. Leader, Peter Owens, 117 E. Santa Inez, San Mateo, CA 94401.

We will go by truck from Kathmandu to Pokhara where we will begin our moderate 15-day trek to the heart of the Annapurna Massif. We will be trekking through Gurung villages as we make our way to our highest camp at about 13,000 feet in the Annapurna Sanctuary. On our way out we will hike the Ghorapani ridge with its splendid views of the Dhaulagiri range and the Kali Gandaki Gorge. This economy priced trip is designed to fit into the 3-week school holiday vacation. Children over 12 are welcome if accompanied by an adult. Leader approval required. Approximate cost: \$715.

(825) South Sea Islands—December 27-January 16, 1979. Leader, Ann Dwyer, P.O. Box 468, Geyserville, CA 95441.

In December and January, it is summer in Fiji, Tonga and Samoa with large, brilliant flowers and ripe mangoes. When staying in remote villages, we will be able to experience the life and culture of these three island groups and take part in the local activities. We will also swim and snorkel in warm, sheltered waters and hike in the tropical forests. Approximate cost: \$605.



Sierra Club photo

(915) Hiking in New Zealand—February 10, 1979-March 10, 1979. Leader, Ann Dwyer, P.O. Box 468, Geyserville, CA 95441.

The island country of New Zealand features high mountains, waterfalls, fjords, glow-worm grottos, miles of coastline and sheep by the millions. Our hiking will start at Stewart Island

in the far south, then up to the Milford Track for a view of Sutherland Falls and Milford Sound. On to Mt. Cook for a hike or two, then over to the west coast to see the Fox and Franz Joseph Glaciers before several days of hiking east to Lakes National Park. Ferry and train will take us north to Wellington and Auckland. Approximate cost: \$1260.

Boat Trips in Guatemala & Mexico

(407) Whale-Watching, Leisure Boat Trip, West Coast of Baja Mexico—January 22-28. Leader, Monroe Agee, 13750 Rivulet Rd., San Jose, CA 95124.

Seven days round trip, San Diego to Magdalena Bay, (via La Paz) birthplace of the California gray whales. It is in this land-locked bay that these magnificent gray whales make their winter homes. Here in small skiffs and with the help of Mexican boatmen, we will be able to observe, at close range, these great beasts court and mate, calve and nurse. The bay is also the winter home of Canada's game birds. Approximate cost: \$495.

(410) River of Ruins by Raft, Guatemala and Mexico—March 16-31. Coordinator, Frank Hoover, 900 Veteran Ave., Los Angeles, CA 90024.

Rafting down the River of Ruins (Rio Usamacinta), visiting Maya ruins of Yaxchilan and Piedras Negras, exploring tropical jungles and having fun in the back country of Guatemala

and Mexico make this an irresistible trip. The 1977 trip was highly successful. Camping in this tropical jungle is not hard; the weather is warm and the trip not particularly strenuous. Members will help with rowing, organizing activities and transportation and (hopefully) learn much about running river trips. Approximate cost: \$870.

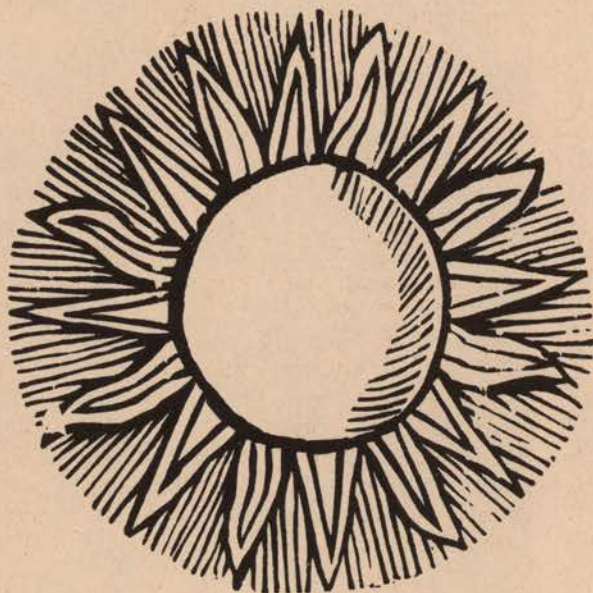
(408) Sea of Cortez Leisure Boat Trip, Mexico—March 11-18. Leader, Wheaton Smith, 243 Ely Place, Palo Alto, CA 94306.
(409) Sea of Cortez Leisure Boat Trip, Mexico—March 18-25. Leader, Grace Hansen, 20990 Valley Green #717, Cupertino, CA 95014.

These cruises are adventures in sea life, designed to meet the requirements of both the physically active and the more sedentary. These coastal trips along the east coast of Baja California go between La Paz and San Felipe. We will visit exotic islands and observe the abundant sea life of whales, dolphins, sea lions, frigate birds, boobies and pelicans as they go about their undisturbed way. Approximate cost: \$595.

IMPORTANT NOTICE! Reservations for Sierra Club outings are subject to the reservation and cancellation policy and the other conditions printed in the January 1977 issue of the *Sierra Club Bulletin*. Please see page 35 of that issue for this information and application forms; page 49 for outings information order coupon. Or you may write directly to the Outing Department (530 Bush St., San Francisco, CA 94108) for a copy of these policies, application forms and trip supplements. Send 50c for each supplement requested *beyond the first five*.

Most of these trips have been previously publicized and already have partial sign-ups. With the exception of Trip #407, Whale Watching, which has a \$25 per person deposit, the deposit for all trips listed in this issue is \$50 per person. Please be sure to include the deposit(s) with your completed application form(s). Trip prices are approximate and do not include air fare. Final trip costs for 1978 trips will be published in the January 1978 issue of the SCB which will also feature a complete listing and description of all 1978 Sierra Club outings. Be sure to see the November/December issue of the *Bulletin* for a preview of Winter and Spring trips.

Solar Energy: Dawn of an Era



DENIS HAYES

About one-fifth of all energy used around the world now comes from solar resources: wind power, water power, biomass, and direct sunlight. By the year 2000, such renewable energy sources could provide forty percent of the global energy budget; by 2025, humanity could obtain seventy-five percent of its energy from solar resources. Such a transition would not be cheap or easy, but its benefits would far outweigh the costs and difficulties. The proposed timetable would require an unprecedented worldwide commitment of resources and talent, but the consequences of failure are similarly unprecedented. Every essential feature of the proposed solar transition has already proven technically viable; if the fifty-year timetable is not met, the roadblocks will have been political—not technical.¹

Different solar sources will see their fullest development in different regions. Wind power potential is greatest in the temperate zones, while biomass flourishes in the tropics. Direct sunlight is most intense in the cloudless desert, while water power depends upon mountain rains. However, most

countries have some potential to harness all these renewable resources, and many lands have begun to explore the feasibility of doing so.²

A major energy transition of some kind is inevitable. For rich lands and poor alike, the energy patterns of the past are not prologue to the future. The oil-based societies of the industrial world cannot be sustained and cannot be replicated; their spindly foundations, anchored in the shifting sands of the Middle East, have begun to erode. Until recently most poor countries eagerly looked forward to entry into the oil era with its airplanes, diesel tractors, and ubiquitous automobiles. However, the fivefold increase in oil prices since 1973 virtually guarantees that the Third World will never derive most of its energy from petroleum. Both worlds thus face an awesome discontinuity in the production and use of energy.

In the past, such energy transformations invariably produced far-reaching social change. The 18th-century substitution of coal for wood and wind in Europe, for example, accelerated and refashioned the Industrial Revolution. Later, the shift to petroleum altered the nature of travel, shrinking the planet and reshaping its cities. The coming energy transition can be counted upon to fundamentally alter tomor-

row's world. Moreover, the quantity of energy available may, in the long run, prove much less important than where and how this energy is obtained.

Since many energy sources besides the sun could replace oil and gas, we need to know now what consequences the choices we make today will have in fifty years. While we can obviously possess no detailed information about the state of the world fifty years from now, even rough calculations may yield insights of importance for energy policy. If we optimistically assume that the world's population will level off after one more doubling and stabilize at eight billion by 2025, and if we conservatively assume that per-capita energy use will then amount to one-third the current United States level, we can broadly assess different ways of trying to meet this aggregate demand.³

If this energy were all provided by coal, an absolutely intractable problem would result. Coal combustion necessarily produces carbon dioxide, and adding CO₂ to the air raises the earth's temperature by retarding the radiation of heat into space (a phenomenon known as the greenhouse effect). Since CO₂ remains in the atmosphere for hundreds or perhaps thousands of years, the impact of CO₂ emissions is cumulative and irreversible on any relevant time scale. At our projected level

"Dawn of an Era" is reprinted from Energy: the Solar Prospect, by Denis Hayes; Worldwatch Paper II, Worldwatch Institute, March, 1977.

of coal consumption, the atmospheric inventory of CO₂ would increase about four percent a year; such growth in atmospheric carbon dioxide would, virtually all meteorologists agree, soon alter the heat balance of the entire planet dramatically.

If the postulated energy demand were met with nuclear fission, about 15,000 reactors as large as the biggest yet built would have to be constructed—one new reactor a day for fifty years. Sustaining these reactors would require the recycling of 20 million kilograms of plutonium annually. Every year, enough plutonium would be recycled around the world to fabricate four million Hiroshima-size bombs. Such a prospect cannot sanely be greeted with equanimity.

Nuclear fusion is a speculative technology. No one knows what it will cost, how it will work, or even whether it will work. The deuterium-tritium reaction—the “simplest” fusion reaction and the focus of almost all current research—will produce large amounts of radioactive waste and can be used to breed plutonium. Some advanced fusion cycles—most notably those that would fuse two deuterium nuclei or that would fuse a proton with a boron atom—could, theoretically, provide a nearly inexhaustible supply of relatively clean power. But such reactions will be vastly more difficult to achieve than the deuterium-tritium reaction. In short, there is no chance that most of the world’s energy demand will be met by fusion in 2025.⁴

Thus we are left with the solar options: wind, falling water, biomass, and direct sunlight. Fortunately, they are rather attractive. Solar sources add no new heat to the global environment, and—when in equilibrium—they make no net contribution to atmospheric carbon dioxide. Solar technologies fit well into a political system that emphasizes decentralization, pluralism, and local control.

Sunlight is abundant, dependable, and free. With some minor fluctuations, the sun has been bestowing its bounty on the earth for more than four billion years, and it is expected to continue to do so for several billion more. The sun’s inconstancy is regional and seasonal, not arbitrary or political, and it can therefore be anticipated and planned for.⁵

Our ancestors captured the sun’s energy indirectly by gathering wild

vegetation. Their harvest became more reliable with the revolutionary shift to planned cultivation and the domestication of animals. As civilization developed, reliance upon the sun grew increasingly circuitous. Slaves and draft animals provided a roundabout means of harnessing large quantities of photosynthetic energy. Breezes and currents—both solar-powered phenomena—drove mills and invited overseas travel.

Ignoring the sun

In earlier eras, people were intensely aware of the sun as a force in their lives. They constructed buildings to take advantage of prevailing winds and of the angles at which the sun’s rays hit the earth. They built industries near streams to make power-generation and transport easier. Their lives revolved around the agricultural seasons. In the 14th century, coal began to contribute an increasing fraction of Europe’s energy budget—a trend that accelerated greatly in the 18th and 19th centuries. During the past seventy-five years, oil and natural gas became the principal energy sources in the industrialized world. In the fossil-fuel era, the sun has been largely ignored. No nation includes the sun in its official energy budget, even though all other energy sources would be reduced to comparative insignificance if it were. We think we heat our homes with fossil fuels, forgetting that without the sun those homes would be -240° C when we turned on our furnaces. We think we get our light from electricity, forgetting that without the sun the skies would be permanently black.⁶

About 1.5 quadrillion megawatt-hours of solar energy arrive at the earth’s outer atmosphere each year. This amount is 28,000 times greater than all the commercial energy used by humankind. Roughly thirty-five percent of this energy is reflected back into space; another eighteen percent is absorbed by the atmosphere and drives the winds; and about forty-seven percent reaches the earth. No country uses as much energy as is contained in the sunlight that strikes just its buildings. Indeed, the sunshine that falls each year on United States roads alone contains twice as much energy as does the fossil fuel used annually by the entire world. The wind power available at prime sites could produce several times more electricity than is currently

generated from all sources. Only a fraction of the world’s hydropower capacity has been tapped. As much energy could be obtained from biomass each year as fossil fuels currently provide.

How easily and cheaply these vast energy sources can be harvested is disputed. Opinions naturally rest heavily upon the questions asked and the assumptions made. How much distance can separate an energy facility and its potential users? Will people and industries migrate to take advantage of new energy sources? Should only huge, utility-scale sites be considered or should individual and community-sized sites be counted as well? What limits will environmental, political, and aesthetic factors impose?

Past efforts to tap the solar flow have been thwarted by unreasonable economic biases. The environmental costs of conventional fuels, for example, have until recently been largely ignored. If reclamation were required of strip-mining companies, if power plants were required to stifle their noxious fumes, if oil tankers were prohibited from fouling the oceans with their toxic discharges, if nuclear advocates were forced to find a safe way to dispose of long-lived radioactive wastes, conventional power sources would cost more and solar equipment would be more economically competitive. As such costs have been increasingly internalized, conventional sources have grown more expensive and solar alternatives have consequently become more credible.⁷

Moreover, fuel prices long reflected only the costs of discovery, extraction, refining, and delivery; they failed to include the value of the fuel itself. Over the years, improvements in exploitation techniques drove fuel prices relentlessly downward, but these low prices were chimerical. Although, for example, United States oil prices (corrected for inflation) fell thirty-seven percent in the twenty-five years between 1948 and 1972, the nation was living off its energy capital during this period—not its interest. The world has only a limited stock of fuel, and it was only a matter of time before that fuel began to run out.⁸

Unlike finite fuels, sunlight is a flow and not a stock. Once a gallon of oil is burned, it is gone forever; but the sun will cast its rays earthward a billion years from now, whether sunshine

is harnessed today for human needs or not. Technical improvements in the use of sunlight could lower prices permanently; similar technical improvements in the use of finite fuels could hasten their exhaustion.

Shaking off constraints

The current world economy was built upon the assumption that its limited resources could be expanded indefinitely. No nation charged OPEC-style severance royalties when oil was removed from the earth; depletion allowances were granted to those who exploited it. No nation charged a reasonable "scarcity rent" for fuel; the needs of future generations were discounted to near zero. Now that the world's remaining supply of easily obtainable high-grade fuel is mostly in the hands of single-resource nations with legitimate worries about their long-range futures, prices have increased fivefold in five years. As a consequence, solar energy is rapidly shaking off the false economic constraints that previously hindered its commercial development. In 1976, the

United States produced one million square feet of solar collectors; in 1977, the figure is expected to triple.⁹

Since sunlight is ubiquitous and can be used in decentralized facilities, many proposed solar options would dispense with the expensive transportation and distribution networks that encumber conventional energy systems.¹⁰ The savings thus obtained can be substantial; transmission and distribution today account for about seventy percent of the cost of providing electricity to the average United States residence.¹¹ In addition, line losses during electrical transmission may amount to several percent of all the energy produced, and the unsightly transmission tendrils that link centralized energy sources to their users are vulnerable to both natural disasters and human sabotage.

Probably the most important element in a successful solar strategy is the thermodynamic matching of appropriate energy sources with compatible uses. The quality of energy sought from the sun and the costs of collecting, converting, and storing that

energy usually correlate directly: the higher the desired quality, the higher the cost. Sources and uses must therefore be carefully matched, so that expensive, high-quality energy is not wasted on jobs that do not require it.¹²

The height of foolishness

No country has undertaken a comprehensive inventory of the quality of energy it uses throughout its economy. Moreover, the energy currently employed for various tasks is often of far higher quality than necessary. The use of nuclear reactors operating at a million degrees C to make electricity to run residential water heaters to provide bath water at 30° C is surely the height of thermodynamic foolishness.

Preliminary calculations suggest that roughly thirty-four percent of end-use energy in the United States is employed as heat at temperatures under 100° C; much of this energy heats buildings and provides hot water. Another twenty-four percent is for heat at temperatures of 100° C or higher, much of it for industrial processes. Thirty percent of end-use energy is employed to



FREE
Outdoor Catalog

You'll find everything from boots to binoculars, packs to parkas, in the new EMS color catalog. Tents, sleeping bags, clothing, EMS sew-it-yourself Kits, climbing and hiking gear... plus valuable information and advice on how to select, use and care for quality outdoor equipment and accessories.

EMS Specialists in Lightweight Camping and Mountaineering Equipment

Send me a free copy of your complete color catalog of outdoor equipment, clothing and accessories.

Name _____
Address _____
City _____
State _____ Zip _____

Eastern Mountain Sports Inc.
Box 759 • 1047 Commonwealth Ave.
Boston, MA 02215

Retail stores located in Boston, Denver, St. Paul, Hartford, Buffalo, Ardsley and Long Island, NY.



Coleman
PEAK 1
INNOVATION

Simple. Tough. Also Revolutionary. (Pat. 3,938,718).
High-impact foamed polypropylene... no welds, seams, caps.
Live Load™: moves with you.
Lash-Tabs™: Molded-in slots for adjustment and lash points. Just insert and twist.
Choice of four high-quality packs.

Available at Specialty Outfitters Only
PEAK 1 • INNOVATIVE LIGHTWEIGHT CAMPING EQUIPMENT
The Coleman Company, Inc., Wichita, Kansas

power the transportation system; eight percent is used as electricity and three percent as miscellaneous mechanical work. In Canada, a somewhat higher percentage is used for low-grade heat and somewhat less is used for transportation. Although both countries are highly industrialized, highly mobile, and have high energy use-GNP ratios, most of the energy budgets of both could easily and economically be met using existing solar technologies.¹³

Cheap, unsophisticated collectors can easily provide temperatures up to 100° C. Selective surfaces—thin, space-age coatings that absorb much sunlight but reradiate negligible heat—greatly increase the temperatures that collectors can attain. Because air conducts and convects heat, high-temperature collectors are often sealed vacuums. Focusing collectors, which use lenses or mirrors to focus sunlight into a small target area, can obtain still higher temperatures. The French solar furnace at Odeillo, for instance, can reach temperatures of about 3,000° C.

Solar thermal-electric plants appear economically sound, especially when operated only to meet daytime peak demands or when crossbred with existing plants that use other fuels for nighttime power production. Ocean thermal facilities may be a source of base-load electricity in some coastal areas. Decentralized photovoltaic cells will be the most attractive source of solar electricity if the cost reductions commonly projected materialize.

Wind power can be harnessed directly to generate electricity. But because electricity is difficult to store, some wind turbines might best be used to pump water into reservoirs or to compress air. The air and water can then be released as needed to generate electricity or to perform mechanical work. Energy from intermittent sources like wind machines can also be stored as high-temperature heat or in chemical fuels, flywheels, or electrical batteries.

Biological energy sources, which include both organic wastes and fuel crops, could by themselves yield much of the world's current energy needs. Such sources can provide liquid and gaseous fuels as well as direct heat and electricity. Particularly attractive in a solar economy would be the use of biomass for the cogeneration of electricity and industrial-process steam.

While no single solar technology can meet humankind's total demand for

energy, a combination of solar sources can. The transition to a solar era can be begun today; it would be technically feasible, economically sound, and environmentally attractive. Moreover, the most intriguing aspect of a solar transition might lie in its social and political ramifications.¹⁴



Most policy analyses do not encompass these social consequences of energy choices. Most energy decisions are based instead on the naive assumption that competing sources are neutral and interchangeable. As defined by most energy experts, the task at hand is simply to obtain enough energy to meet the projected demands at as low a cost as possible. Choices generally swing on small differences in the marginal costs of competing potential sources.

But energy sources are *not* neutral and interchangeable. Some energy sources are necessarily centralized; others are necessarily dispersed. Some are exceedingly vulnerable; others are nearly impossible to disrupt. Some will produce many new jobs; others will reduce the number of people employed. Some will tend to diminish the gap between rich and poor; others will accentuate it. Some inherently dangerous sources can be permitted widespread growth only under authoritarian regimes; others can lead to nothing more dangerous than a leaky roof. Some sources can be comprehended only by the world's most elite technicians; others can be assembled in remote villages using local labor and indigenous materials. Over time, such considerations may prove weightier than the financial criteria that dominate and limit current energy thinking.

Appropriate energy sources are necessary, though not sufficient, for the realization of important social and political goals. Inappropriate energy

sources could make attaining such goals impossible. Decisions made today about energy sources will, more than most people imagine, determine how the world will look a few decades hence. While energy policy has been dominated by the thinking of economists and scientists, the crucial decisions will be political.

The kind of world that could develop around energy sources that are efficient, renewable, decentralized, simple, and safe cannot be fully visualized from our present vantage point. Indeed, one of the most attractive promises of such sources is a far greater flexibility in social design than is afforded by their alternatives. Although energy sources may not dictate the shape of society, they do limit its range of possibilities; and dispersed solar sources are more compatible than centralized technologies with social equity, freedom, and cultural pluralism. All in all, solar resources could power a rather attractive world.

CRMS **COLORADO ROCKY MOUNTAIN SCHOOL**
 coed grades 10-12 college prep
 A Senior Apprentice Program, special projects period, an introductory Wilderness Session for new students, and trips to the mountains and Canyonlands complement the traditional curriculum.
 Admissions Box S, CRMS, Carbondale, CO 81623 (303-963-2562)

ENVIRONMENTALIST PHYSICIAN, young and active after 40 years practice of primary internal medicine seeks competent, congenial MD; GS/INT/FP, for small group in county seat of Fun Country, S.E. Oklahoma. Clinic established 27 years. All records dictated-problem oriented. Hospital, CCU, air strip, lakes, coal, oil, gas, textiles, furniture mfg. income sharing. 2 m. study-vacation time. Must be people oriented, future oriented. **Wallace Byrd, M.D., Byrd Clinic, Inc., Coalgate, OK 74538 405-927-2334, 927-2846 nights, collect.**

EXCITING INVESTMENT. Englishman with profitable historical project needs partner. \$100,000. Call (415) 434-2350. San Francisco.

**RICH-MOOR WILSON'S
 MTN. HOUSE**

Complete Stock
 Over 300 items

- ★ 17% Off Retail
- ★ 24 Hour Shipment
- ★ Special Bonus Discounts

Please send 25¢ for catalog to:
Trail Foods Co., P.O. Box 9309-F
 N. Hollywood, CA. 91609
 (213) 763-9319

NOTES

1. By far the largest fraction of current commercial solar usage is of biomass. In many Third World countries, firewood, dung, and crop residues constitute 90 percent of all energy use. Calculations regarding the magnitude of this usage can be found in Arjun Makhijani and Alan Poole, *Energy and Agriculture in the Third World* (Cambridge, Mass.: Ballinger, 1975), and D.F. Earl, *Forest Energy and Economic Development* (Oxford: Clarendon Press, 1975). Hydropower ranks next, providing more than one-fifth of all electricity and about 3 percent of all end-use energy. See United Nations, *World Energy Supplies: 1950-1974* (New York: Department of Economic and Social Affairs, 1976).

2. F. de Winter and J.W. de Winter, eds., *Description of the Solar Energy R&D Programs in Many Nations* (Santa Clara, California: Atlas Corporation, February 1976).

3. I am indebted to Professor Theodore Taylor of Princeton University for suggesting this analysis. More information on the CO₂ problem can be obtained in Stephen H. Schneider, *The Genesis Strategy: Climate and Global Survival* (New York: Plenum Press, 1976); Bert Bolin, *Energy and Climate* (Stockholm: Secretariat for Future Studies, 1975); W.S. Broeker, "Climate Change: Are We on the Brink of a Pronounced Global Warming?" *Science*, August 8, 1975; P.E. Damon and S.M. Kunen, "Global Cooling?" *Science*, August 6, 1976. The problems associated with a plutonium economy are elaborated in Denis Hayes—*Nuclear Power: The Fifth Horseman* (Washington, D.C.: Worldwatch Institute, 1976).

4. An overview of the major components of

the U.S. fusion program can be obtained from the Energy Research and Development Administration, *Fusion Power by Magnetic Confinement Program Plan*, Volumes I, II, III, and IV (Washington, D.C.: July 1976). For an excellent survey of the technical problems faced by fusion written from an optimistic viewpoint, see David J. Rose and Michael Feirtag, "The Prospect for Fusion," *Technology Review*, December 1976. For a more skeptical appraisal, see the three-part series by William Metz, "Fusion Power: What is the Program Buying the Country?" *Science*, June 25, 1976; "Fusion Research: Detailed Reactor Studies Identify More Problems," *Science*, July 2, 1976; "Fusion Research: New Interest in Fusion-Assisted Breeders," *Science*, July 23, 1976.

5. Comprehensive overviews of solar energy can be found in Farrington Daniels, *Direct Use of the Sun's Energy* (New York: Ballantine Books, 1974) and B.J. Brinkworth, *Solar Energy for Man* (New York: John Wiley and Sons, 1972). Two more recent articles in *Technology Review* provide excellent analyses of the solar potential: Walter E. Morrow, Jr., "Solar Energy: Its Time is Near," December 1973, and John B. Goodenough, "The Options for Using the Sun," October-November 1976. The most exhaustive survey of all renewable energy technologies remains Wilson Clark, *Energy for Survival* (Garden City, New York: Anchor Press/Doubleday, 1974). A recent survey of U.S. corporate interest in several of these technologies is Stewart W. Herman and James S. Cannon, *Energy Futures* (New York: Inform, Inc., 1976).

6. Insight into the many vital but unnoticed functions performed for humankind by the sun

can be gleaned from Frank Von Hippel and Robert H. Williams, "Solar Technologies," *Bulletin of the Atomic Scientists*, November 1975, and Steve Baer, "Clothesline Paradox," *The Elements*, November 1975. The temperature estimate for a sunless earth was provided in Vincent E. McKelvey, "Solar Energy in Earth Processes," *Technology Review*, April 1975.

7. John V. Krutilla and R. Talbot Page, "Energy Policy from an Environmental Perspective," in Robert J. Kalter and William A. Vogely, eds., *Energy Supply and Government Policy* (Ithaca, N.Y.: Cornell University Press, 1976); John S. Reuyl, et al., *A Preliminary Social and Environmental Assessment of the ERDA Solar Energy Program 1975-2020*, Vols. I and II (Menlo Park, California: The Stanford Research Institute, 1976) found solar technologies to be environmentally attractive compared to the alternatives.

8. Hans H. Landsberg, "Low-Cost Abundant Energy: Paradise Lost?" (Washington, D.C.: Resources for the Future Reprint Number 112, December 1973).

9. The U.S. Federal Energy Administration publishes a semi-annual *Survey of Solar Collector Manufacturing Activity*; the 1977 estimate is by Ronald Peterson, Director of Grumman Energy Systems, one of the largest manufacturers of solar collectors.

10. Largely because conventional fuels pose transportation and distribution problems, the largest immediate market for expensive photovoltaic cells may, strangely enough, be in the world's poorest countries. Charles Weiss and Simon Pak, "Developing Country Applications of Photovoltaic Cells," presented to the ERDA National Solar Photovoltaic Program Review Meeting, San Diego, California, January 20, 1976.

11. M.L. Baughman and D.J. Bottaro, *Electric Power Transmission and Distribution Systems: Costs and Their Allocation* (Austin: University of Texas Center for Energy Studies, July 1975).

12. An excellent exploration of the concept of thermodynamic matching is in "Efficient Use of Energy: A Physics Perspective," *The American Physical Society*, January 1975. (Reprinted in U.S. House of Representatives, Committee on Science and Technology, Part I, ERDA Authorization Hearings, February 18, 1975.) Simpler explanations can be found in Barry Commoner, *The Poverty of Power* (New York: Alfred A. Knopf, 1976), and Denis Hayes, *Energy: The Case for Conservation* (Washington, D.C.: Worldwatch Institute, January 1976).

13. Amory B. Lovins, "Scale, Centralization, and Electrification in Energy Systems," presented to a Symposium on Future Strategies of Energy Development, Oak Ridge, Tennessee, October 20-21, 1976. The Canadian data are in "Exploring Energy-Efficient Futures for Canada," *Conservation Society Notes*, May-June 1976.

14. These issues are thoughtfully explored in Reuyl, *Social and Environmental Assessment*; Amory B. Lovins, "Energy Strategy: The Road Not Taken?" *Foreign Affairs*, October 1976, and less directly by Rufus E. Miles, Jr., *Awakening from the American Dream: The Social and Political Limits to Growth* (New York: Universe Books, 1976); Bruce Hannon, "Energy, Land, and Equity," presented to the 41st North American Wildlife Conference, Washington, D.C., March 21-25, 1976; and William Ophuls, *Ecology and the Politics of Scarcity* (San Francisco: W.H. Freeman and Co., 1977).


 STATE
 OF THE ART
 WALKING LUGGAGE

Take a giant step back into comfort with a creative new concept in pack & frame design

A flexible "S" curve wood laminated frame incorporates the latest in engineering and science, coupled with painstaking selection of materials. The result is a tool that satisfies the aesthetics and provides long service.

For details write to •

Dealers invited



crafted by hand



180 RIVER LOOP ONE
 EUGENE OREGON

97404

Reaping the Whirlwind: The Specter of Desertification

PATRICIA PAYLORE

From August 29 to September 9 of this year, delegates from nations and nongovernmental organizations around the world will meet in Nairobi, Kenya, to attend the United Nations Conference on Desertification. Desertification, the process by which semiarid lands, through a combination of human misuse and climatic change, become increasingly arid is not new to the world, but it has attracted increasing interest since the prolonged drought and famine that struck the African Sahel a few years ago. As Patricia Paylore, an authority on the subject, indicates in the following article, the term "desertification" has itself become rather controversial. In this regard, we would like to add that the landscapes resulting from the degradation of semiarid environments should not be compared to true deserts, which have evolved through the operation of natural processes over thousands or millions of years. True deserts exhibit complex, highly evolved ecosystems adapted to a scarcity of moisture and the highest air temperatures on the planet; they display an economy and harsh beauty that should be cherished and preserved. The landscapes resulting from "desertification" are similar to deserts only in being hot and dry; otherwise, they are wastelands characterized by eroded soils, impoverished vegetation, and declining animal populations—among which human beings have increasingly been numbered.

The Editor

While the widespread phenomenon of "desertification" is finally being recognized internationally, its identification is still somewhat in dispute. Because of recent events in the Sahel, the word itself has become known throughout the world, but employed in such a loose way that one is never quite sure that its use is based on understanding of its true meaning. By "desertification," I mean

Patricia Paylore is assistant director of Arid Lands Studies at the University of Arizona. This article is adapted from Desertification: Process, Problems, Perspectives, Patricia Paylore and Richard A. Haney, Jr., editors, published by the Office of Arid Lands Studies, University of Arizona, 1976.

a process that deals with extension of typical desert landscapes and landforms to areas where they did not exist in the recent past, a process taking place, for our purposes, in marginal arid zones characterized by increasing aridity, desiccation and increasing salinization of soils, and a manifest degradation of vegetative cover. It implies a change, whether from long-term climatic shifts, short-term climatic fluctuation, or human intervention through careless extension of agricultural development, burning, overgrazing, urbanization or increasing population pressures.

We should take care to distinguish between desertification—a long-established and complex degradation of arid lands—and drought—an occasional and recurrent phenomenon in arid areas that suddenly reveals the considerable extent of degradation and exacerbates its effect. While there may seem to be no direct causal relationship between desertification and drought, their interactions tend to intensify their effects on human societies and on arid ecosystems.

Climatologists warn us to use the word "drought" carefully, to remember that it can be used to describe merely the period between rains, or the failure of early rains, or below "normal" rainfall—in other words, variability. We need to understand the concept of drought, too, as it relates to our expectations, our perceptions of the condition. In England fifteen days without rain is called a drought. In another area, 500 mm (about twenty inches) rainfall in a year might be called a drought year; in still another, 100 mm.

The American dust bowl of the 1930s demonstrated the problem of identifying desertification. Was the dust bowl a manifestation of drought or a temporary demonstration of desertification that we, with our vast resources were able to reverse in a phenomenally brief time? What if we had been, instead, in the position of this generation's Third World countries, beset as we were two generations

ago, but lacking capital, commitment and trained field technicians? We do not even need to speculate. The evidence is there. If we had not been able to take prompt action then, we would have crossed that threshold of damage beyond which irreversibility sets in. Can we hope that elsewhere in the world today it is not too late?

Henri Le Houérou, director of the Department of Environmental Sciences of the International Livestock Centre for Africa, based in Addis Ababa, says that "... desertification affects huge areas in North Africa . . . tens of thousands of hectares in the Sahel in recent years, [and] the semi-desert region in Sudan, extending between 14° and 16° latitude and occupying 350,000 square kilometers, is by now converted to a true desert. The situation is not different in East Africa, especially in Somalia, Ethiopia, and in northern Kenya, as well as south in the Kalahari." There are also pockets of desert encroachment in Iran, southern Argentina, and in Jordan, for example. Iraq is attempting to reverse the effects on its semideserts along the Euphrates of the surface-water shortages created there by a Syrian dam upstream. Generally speaking, while climatic fluctuations in the semiarid zone between the desert plains and the uplands in the Middle East have tended to increase desertification there, the main cause has been deforestation of the uplands of Lebanon, Turkey, Iran, and particularly Jordan. Farther east, we run into controversy. While the concept of desert encroachment in Rajasthan has long been widely accepted, Dr. Mann, Director of the Central Indian Arid Zone Research Station at Jodhpur, has determined to his satisfaction, at least, if not to others', that in no case can evidence be found that the Indian desert in recent years has spread into the marginal areas. Despite differences of opinion, mostly in degree, desertification is visible and even measurable in large areas of the world.

Why?

Climatologists acknowledge that although both climatic change and cli-

matic fluctuations have historically altered the face of the earth, human activities have accelerated it. At the same time, the inevitability of natural climatic fluctuations is, at the very least, a factor that must be reckoned with in our attempts to overcome desertification. I would caution, however, against making climatic fluctuation the scapegoat for our current problems, a way of relinquishing our responsibility for what is taking place. "World weather is always erratic," says Jerome Namias, research meteorologist at the Scripps Institution of Oceanography, "normality is a figment of the imagination. Weather is never 'normal' over large areas." So why were we surprised in 1973, when so much rain fell for so long in the interior of Australia that it filled a lake that had been dry since the last Ice Age? Or that the recent drought in Great Britain is the most severe in two hundred years? Or that thirteen inches of rain swamped Houston, Texas, in one twenty-four-hour period? The many changes that may occur during erratic weather events include those affecting landforms, due either to water action (channel cutting and filling, slope erosion, deposition) or to wind action (mobilization and advance of dunes and sand sheets, dust storms, deposition of dust and loess). Climatic fluctuations can initiate changes in soils by wind and water erosion, an increase in salinity or decline in fertility, or structural changes. It can initiate changes in natural vegetation, either in structure and composition, or through death or failure to regenerate.

Preventing changes

Nevertheless, some of these changes can be identified, even prevented or reversed perhaps, through a better understanding of meteorological and biological processes. Under the auspices of the United Nations Environment Programme, climatologists are investigating a number of these processes by addressing themselves to such problems as agricultural planning, including weather-crop relationships, and an early-warning system of potential poor harvests; weather modification; statistical analysis of climate-desert relationships; the impact of increased population and agricultural pressure on arid and semiarid lands during times of climatic stress; and management

methods required to avert ecosystem collapse.

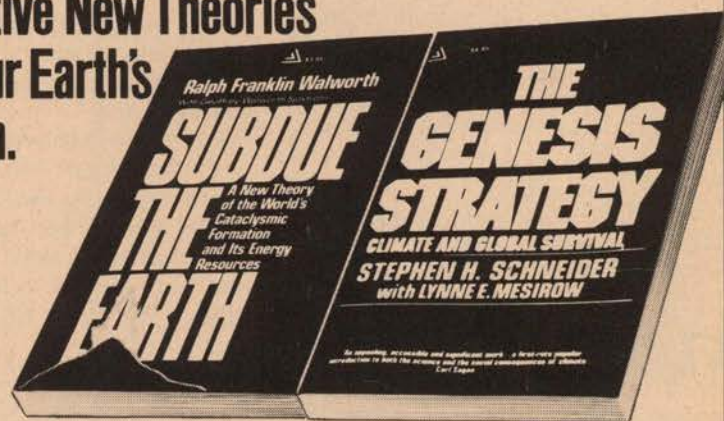
Biotic adaptation to climatic variability is such that ecosystems are usually not in equilibrium with the climate during times of variation. An increase in biomass during benign periods means the ecosystem is that much more susceptible to degradation during times of climatic deterioration. The result may be rapid desertification and further climatic modification. In other words, the benign wet spells last long enough for populations of people, plants and animals to grow beyond the carrying capacity of the ecosystem during the following dry spells.

More immediate to our concerns, and easier to control, however, is the impact of human activities on the processes of desertification. Areas of abuse include both dryland and irrigated agriculture, pastoralism, forestry and the collection of wood for fuel, rural settlement, nomadism, urbanization, population changes, mining, transportation, tourism, and recreation—in short, virtually everything. The old ways of surviving on the lands we are discussing were often wasteful because when the land was used up the

inhabitants could move on. Now, there is no place to go. How then are the human populations of Mali, for instance, or of the southern Sudan to cope with the consequences of their own activities? We must deal boldly and promptly, through a number of perfectly logical, acceptable, and feasible measures, with the process of desertification. These are such old-fashioned measures as soil conservation and stabilization; water conservation, storage, management, and augmentation; improvement of plant cover and vegetation management; salinity control; and most important, population control. The application of what we already know about climatic stress, weather modification, evaporation suppression, and shelterbelts is also necessary. Whether those we seek to help will look upon such measures as logical, acceptable and feasible is a problem for sociologists and anthropologists. To fail is to invoke triage at best—at worst, catastrophic famine, pestilence, death on a scale never known—and beyond these, anarchy, revolution, and the prospect of global war.

SCB

**Provocative New Theories
About Our Earth's
Evolution.**



Using the most recent data relayed by satellites and drilled from ocean depths, this provocative extension of Dr. Immanuel Velikovsky's cataclysmic-formation-of-the-world theory persuasively lends scientific credence to the "big bang" hypothesis. Particularly timely are the author's dismissal of the plate tectonics (or "drifting continents") theory and his disclosures of the formation and location of oil reserves. "Startling... exciting evidence that scientific knowledge is ever changing."—*Publishers Weekly*
A Delta Original 58295-4 \$3.95

The deputy head of the climate project at the National Center for Atmospheric Research explains how human negligence is disrupting the intricate balance among climate, food supply, population, technology, pollution, and politics—and proposes a daring strategy for survival. "Solid, concerned common sense, buttressed by facts—but not too many for the layman to digest as preparation for action."
—Margaret Mead. Illustrated.
52792-9 \$4.95

DELTA BOOKS
Dell Publishing Co., Inc.
245 East 47 Street
New York, New York 10017

A Look at the Environmental Movement in Europe

Notes from a Recent Trip

Michael McCloskey

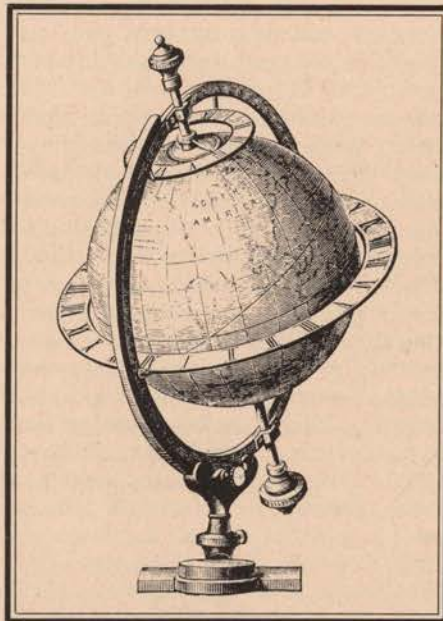
This past spring, at the invitation of the United States Information Service, Sierra Club Executive Director Michael McCloskey undertook a three-week speaking tour in Europe. The USIS regularly invites representatives of various segments of American society to meet with groups abroad as a way to help promote international understanding. Between April 4 and 22, McCloskey and his wife, Maxine, met with groups in Rome, Madrid and a number of German cities to discuss the way in which public-interest groups work in the United States. Naturally, the Sierra Club was the example discussed in most detail. The following report recounts McCloskey's impressions of the current state of the environmental movement in Italy, Spain, Germany and Switzerland.

The Editor

Italy

In Italy the environmental movement seems to be succeeding in its struggle to emerge into the mainstream, though the conditions are not propitious: Italy lacks many natural resources, is gripped by a powerful homocentric tradition and lately has been preoccupied with finding shortcuts to further industrialization. Having to import all its oil, it feels it cannot afford to install air-pollution controls on autos. As a result, street-level air pollution from the dense traffic in Rome is overpowering.

Yet Italy also has traditions that encourage environmental protection. With its respect for art and culture, it understands values other than those of industrial output. Its commitment to preserving ruins and historic monuments acts as a counterforce that tends to resist the spread of modern buildings. In downtown Rome, for example, the congestion from carelessly parked cars is terrible, but at least the city has not torn down its historic buildings for parking lots. And all the cars are small ones. Moreover, the land around the city's ruins has become a nucleus of open space and parks, which are green with grass, vines and trees. In the countryside, one is impressed that the towns and villages are situated on hilltops rather than in fertile valley bottoms and floodplains, though admittedly this practice reflects historical necessity more than modern environmental ideals. But not entirely: locating settlements on high ground provided a superior location for purposes of defense and left



the most fertile lands free for farming. Today, however, towns and factories are beginning to spread into the valley floors.

Italia Nostra (Our Italy) is the chief organization trying to rally public opinion on behalf of environmental issues. Launched in 1955 to promote the preservation of historic monuments and to discourage the export or neglect of Italy's art treasures, Italia Nostra's interests later broadened to include the preservation of the historic and picturesque character of the Italian landscape. Today, it works with the Italian branch of the World Wildlife Fund (which regrettably, I did not have time to visit on such a short trip) on a broad spectrum of environmental issues. While I was in Italy, Italia Nostra spoke out against further development of nuclear power. I joined the group's officers at a press conference in which they recommended a "zero energy growth" policy for Italy, including maximum energy conservation, reduced use of oil and no more nuclear power plants. They were particularly concerned that a uranium-enrichment plant might be located in Italy. They are struggling to pull together figures to show an alternative supply scenario for Italy and are eager to have American help in obtaining current information.

Italia Nostra is still struggling to define its attitude toward nature. It views the Italian landscape primarily as a humanly contrived artifact of historic and artistic value, shaped by traditional farming methods over the centuries. With the flight to

the cities and the increasing use of modern agricultural methods, these patterns are disappearing. Farmland is reverting to scrub and woodland. This will produce more wildlife habitat and could lead eventually to restoration of extensive forests. But the landscape would be different, and Italia Nostra is ambivalent about this trend. At the same time, it has advocated reforestation, has been active in trying to prevent the netting of songbirds for food, and has helped reform hunting laws. Right now, it is worried that a new program to decentralize the powers of the national government through establishment of new regional governments could endanger Italy's five national parks. The standards for their protection are already too lax, and it does not want them further weakened.

So far, Italia Nostra has been frustrated by the indifference of Italy's government, which is committed to industrial development and preoccupied with economic problems. Organized labor is often hostile, also. As in so many places, it wants the jobs any project will offer, no matter how ill conceived the project or how good the alternative may be. But Italia Nostra's 15,000 members—largely professional people—are increasingly outspoken and aggressive. In Italy's delicately balanced multiparty system, they may soon find that some of the parties are beginning to listen more closely.

Of course, Italy also hosts the Club of Rome. Aurelia Peccei presides over a continuing effort to alert opinion leaders everywhere to the world environmental crisis. He is convinced that time is running out and stressed to me the importance of America setting a good example. He hopes President Carter will provide leadership in educating world opinion on the new realities, which include resource scarcity, undue dependence on high technology, and the strength of mankind's shared aspirations.

Spain

In Spain also the determination to industrialize the nation has had a profound impact in recent years. Madrid, for example, has grown enormously as a result of a decision made more than twenty years ago to turn it into an industrial city. Air pollution there, as well as in Barcelona and Bilbao, is severe, bad enough, in fact



SEA OF CORTEZ, Baja's whales, East Africa & more—Adventures in natural history and photography to the earth's wild places.

ADVENTURES INTERNATIONAL
Dept. S, 4421 Albert St., Oakland, CA 94619

CHASE RANCH

Outdoor and Environmental Programs

In a spectacular wilderness setting on the Smith River—a fabulous trout stream largely inaccessible to the public—a few families and adults are invited to late summer and early fall sessions which offer backpacking and nature studies seminars conducted by academic experts, as well as lessons in riding, fly fishing and fly tying. Emphasis is placed on concern for the environment and on acquiring outdoor skills. Enrollment limited to 12 per session.

Contact: Dr. Alston Chase
Millegan Route
Great Falls, MT 59401
(406) 727-6233

Help us stop population growth!

If you think world population must be reduced before the human race chokes on its own numbers, write today for our free brochure. It describes a sensible, realistic program for curbing, halting, and then reversing population growth.

Negative Population Growth, Inc.
Room 414 (key) 103 Park Avenue
New York, N.Y. 10017

THE GREAT SPERM WHALE



Pin in 14Kt. gold (bright or soft finish) with a ruby eye.
Shown actual size, \$200. Small pin, \$75.
Large tie bar, \$225. Tie tac, \$75.
Cuff links, \$200. Earrings, \$175.

By mail or phone, satisfaction guaranteed. N.Y.C. residents please add 8% tax, elsewhere add taxes applicable.



GRANT A. PEACOCK, INC.
One East 57 St., N.Y., N.Y. 10022
(212) PL 3-4640

to provoke worker protests. We saw billboards exhorting auto owners to keep their cars from polluting, and buses are being inspected for excess exhaust emission. But it is not clear whether any really effective steps will be taken soon to reduce air pollution.

Water pollution is even worse. Except in the capital, sewage is not even given primary treatment, and there, only five percent of the output is treated. By 1985, however, Spanish authorities hope to have primary treatment throughout the country. In the tourist colonies along the Mediterranean, raw sewage drains from short outfalls near the beaches. Spain's watercourses get the rest. Most of their normal waterflow has been held back by a large number of dams. As a semiarid country, Spain apparently got caught up in the same obsession for dam building and water storage that has gripped our own West. Now many of the dams stand half-empty, with too little stream flow to fill them. Officials of the U.S. Bureau of Reclamation are now advising Spanish farmers on more efficient use of irrigation water, and demonstration projects are being planned. Yet some of the farmland that might benefit is being abandoned. The lure of jobs in the industrial cities has depopulated many rural areas. In places, whole villages stand empty.

In some areas, however, farming is being intensified under so-called modern methods. In southwest Spain, near the mouth of the Guadalquivir River, La Donna National Park is endangered by the establishment of new olive groves upstream. The water that feeds the great marshes, or *marismas*, that once supported so much bird life, is being diverted by irrigators. Pesticides also are hurting bird reproduction. For a while, it looked as though the last colony of Imperial Eagles—Spain's national symbol—might fall victim in La Donna to eggshell thinning. Now, officials report that stricter controls on pesticide use have checked the

decline in their numbers. Interest in the fate of La Donna, one of Spain's six national parks, is high, and the Spanish National Park Service has published a beautiful large-format color book on the park. Moreover, one Spanish citizen group, ADENA (Association for the Defense of Nature), has published a similar book on the entire national park system.

The environmental movement appears to be just emerging in Spain, along with most other citizen groups, in a new climate of greater freedom. One group, AEORMA (Spanish Association for the Ordering of the Environment), appears to be making vigorous protests against past indifference. The energy issue is also getting attention from such groups as AEORMA, who are opposed to the growing deployment of nuclear power plants. Spain already has three plants, and more are planned. It is too soon to predict how opponents of nuclear power will fare as Spain attempts to establish a new democracy.

Germany and Switzerland

The environmental movement in West Germany is already in full swing, though activities are still mostly restricted to regional rather than national campaigns. Nevertheless, confrontations over the government's policy on nuclear power plants have strengthened the movement over the past few years. The closed minds of government officials with regard to this issue have inspired mass protests such as the one that occurred recently near Hamburg, when 40,000 people turned out to protest the Brokdorf plant. Two years before, huge crowds occupied the site of the plant proposed for Wyhl, in southern Germany. Local farmers there are militantly opposed to the plant and have erected signs denouncing it on their barns and in their vineyards. "Better active today than radioactive tomorrow," proclaims one sign.

Redwoods

Outside an old castle in Germany, near Cologne, stand the stumps of two redwood trees. One is about twelve feet in diameter, the other about six feet. What are they doing here?

The wood is solid still, and the redness of the heartwood is evident, just as in California's coastal redwoods. However, there are no signs that saws ever felled these redwoods. Somehow their main stems broke away.

Imagine my surprise in learning that this firm wood is fifteen million years old. The two stumps were taken from brown-coal beds near Pappendorf Castle by the Rheinbraun Coal Company. They were found

buried in Tertiary Period lignite about seventy-five feet below the surface. Sealed off from air, the wood has been preserved against decay. One wonders, though, whether these samples of the world's oldest redwoods will long survive their exposure to the elements on the castle grounds. Young redwoods, however, have been planted around the old stumps.

These stumps offer evidence of the great range across the northern hemisphere once achieved by redwoods. Though the trees are botanically almost identical with our coastal redwoods, they have been labeled *Sequoia langedorfi-heer*.

Environmentalists from nearby Freiburg University have joined the farmers in organizing opposition to the plant. The coalition has won over to its viewpoint the state branch of the ruling Social Democrat Party and seems to have stopped the plant for the moment. The state government has agreed that the plant will not be pushed again before more stringent safeguards are incorporated into the design. Environmentalists all along the Rhine are outraged at the string of nuclear plants being proposed for both sides of the river. Opposition on the French side is spirited too.

The federal government insists that Germany has no choice but to "go nuclear," though it has cut back its targeted number of future plants by one third. Even now, the coal companies are complaining of a declining market. At the same time, at least one coal-fired plant has been cancelled because of an environmental lawsuit over air pollution. The federal government is now trying to make it harder to bring such cases, and as it is, only damaged individuals have legal standing in administrative courts. Nevertheless, environmental law is beginning to blossom despite these problems.

The groups that have led the popular protests against nuclear plants are now trying to build national organizations and enlist members from all over the country. Because of the loose federal structure, however, organizations with the scope and impact of the Sierra Club have yet to emerge.

The fight against pollution has not enjoyed the same degree of success as the antinuclear campaign, though Germany appears to have made more progress than most European countries. Air-pollution-control laws apparently compel the release of vital information about pollutants and are producing some improvements. At this time, however, only carbon-monoxide emissions are controlled from auto exhausts, and pressures from industry and labor alike are holding back the pace of installing the best-available control technology on new manufacturing plants. Most power plants do not have scrubbers. In many cases, labor unions are leading the opposition to stricter pollution controls.

Germany has a long tradition of interest in nature conservation, and many of the long-established outdoor and nature-study groups are moving into mainline environmental work, though some are holding back. Although Germany has little or no wilderness as we know it, there is an extensive system of "nature parks" administered by the state governments. These are attractive rural landscapes and forest groves subject to strict landscape control. The land is usually privately owned, but the intensity and manner of use is closely regulated. Industry and freeways are banned, housing

and roadways limited, but farming continues. Hiking trails criss-cross the areas, for Germany, like many European countries, provides public access across rural, privately owned land as long as no damage is done and farmhouses are avoided. Within the nature parks, ten to fifteen percent of the acreage is often placed in strict reserves where little disturbance is permitted. Increasingly, citizen groups are pushing to have more of the parks put in the strict nature reserves. Even now, one sees very little litter in any part of these parks. Throughout the country there are few billboards and a great deal of underground wiring.

Growing recreational use of general forest lands in places like the Black Forest is producing pressures to manage them more for landscape values. The marginal economics of German forestry, however, is pushing management policy in the opposite direction. Despite a tradition of careful husbandry and selective cutting, clearcutting is breaking out in southern portions of the Black Forest, with some barren areas almost as large as those allowed in our national forests. While foresters admit they should move away from monoculture, it remains the rule. Most plantations consist of even-aged spruce, though American Douglas fir is being introduced on a wide-spread basis. While forestry is very old in northern Germany, it has a much shorter history in the south, where it is apparently still too early to know what the long-term effects of monoculture will be.

Both in forests and in agricultural districts, one notes that few natural stream-courses have survived. Almost all have been channelized, either in straight ditches or stone trenches. This pattern is even more pronounced in Switzerland, where only the most tortuous water courses in rocky gorges have escaped the prevailing passion to tame nature. Riparian habitat is almost unknown, except in places such as marshes along the Rhine. Also, few farmers in Germany or Switzerland leave any native vegetation along hedges or fencerows as wildlife habitat. "Clean" farming is the rule.

In Switzerland, the passion to tame a glorious landscape has reached amazing proportions. Nearly every mountain mass has been surmounted by tramways and cog railways. The meadows above many large lakes are being filled with housing. While many of the new homes are picturesque, the overall effect often is one of "alpine sprawl." Worst of all, freeways are being built throughout the northern portion of the country to connect places already served by existing roads, railways or lake steamers. There is just too little level land in Switzerland to have so much of it preempted by freeways.

TOTALLY UNIQUE DAY PACK
 WITH HAND SILK-SCREENED
 HAWK, FALCON, OSPREY, WOLF,
 SEA OTTER OR PRAIRIE DOGS



EASY LOADING FOR
 HIKING/CLIMBING/
 PHOTOGRAPHY/SPORTS/
 SKIING/BIRDING/
 CYCLING.

WATERPROOF CORDURA NYLON
 & COTON DUCK CANVAS

MANY FINE FEATURES INCLUDING HAND-TOOLED LEATHER
 SUPPORT PATCHES 2" WIDE, FOAM-PADDED SHOULDER STRAPS,
 SIZE: 15 1/2" x 12" x 6", WEIGHT: 17oz., COLORS: CALIF. BLUE OR RED
 PRICE: \$24.92 + \$7.50 POST. & HDLG. ~ CALIF. ORDERS ADD 6% TAX
 SEND 1\$4 STAMP FOR FREE BROCHURE: WILDLIFE T-SHIRTS
 SEND CHECK OR M.O. TO:
 JIM KITSON - HAWK ENTERPRISES
 P.O. BOX 40549 - DEPT. SC-1, SAN FRANCISCO, CA 94140

MONEY BACK GUARANTEE



HARNASTRAP

HARNASTRAP Unique one-strap harness with 3-point attachment to camera gives unsurpassed speed of use, body freedom, ensuring comfort. Prevents loss, ripoff. \$9.50 plus tax postpaid. Ask for brochure.

by **NECKSAVER, INC.**
 Box 1712 Oakland, CA 94604

••••• **WHITEWATER TRIPS!** •••••

- On Idaho's Salmon River, the
- Rogue in Oregon, Hell's Canyon

Licensed Guides.

WILDERNESS WORLD

• 1342 Jewell Ave., Pacific Grove, CA 93950
 • Ph: 408-373-5882

**How to capture
 ... beauty.**

Probably the only book on photography that offers useful advice on backpacking, mountain climbing, ski-touring, white water raft trips and backyard outings, as well as focal lengths, cameras, film and outdoor techniques. For both amateur and experts.

Illustrated with Boyd Norton's own magnificent black-and-white and color photographs. **WILDERNESS PHOTOGRAPHY** is the ultimate guide to capturing the outdoor experience.

**Boyd Norton
 Wilderness
 Photography**



**READER'S
 DIGEST PRESS**

Dept. MTC-SCB
 P.O. Box 5555, Binghamton, N.Y. 13902

Yes, I do want _____ copies of **WILDERNESS PHOTOGRAPHY** @ \$12.95/\$6.95 paper. I enclose
 check money order for \$_____ total.
 (Please add 50c for postage and handling plus sales tax where applicable.)

NAME _____
 ADDRESS _____
 CITY _____ STATE _____ ZIP _____

The Carter Energy Plan

Gene Coan

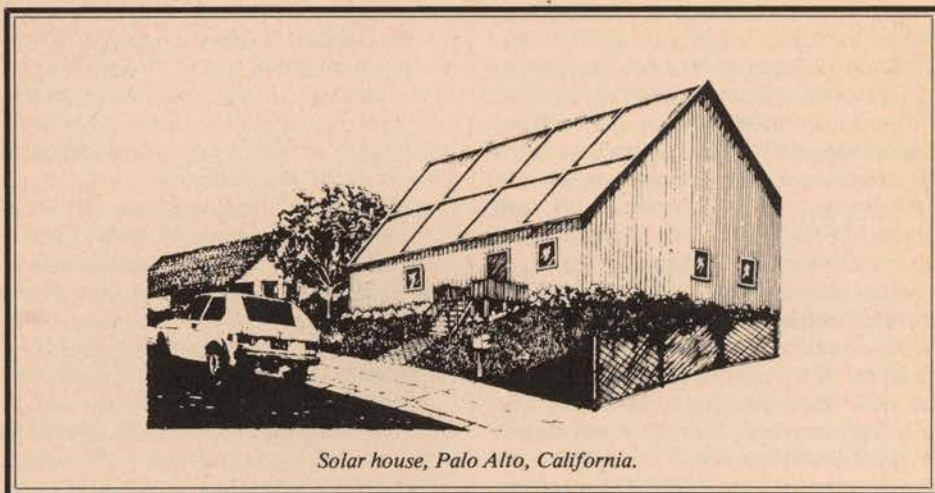
It has taken a long time, but at last the outlines of a sensible federal energy policy have begun to emerge. In part, this is the result of the new Administration—Jimmy Carter's policies are not like those of Gerald Ford. In part, there has been a natural evolution in federal energy policy, the result of a growing consensus among the American people brought on by immutable facts in the physical world and their reflection in the economic world.

The Nixon and Ford administrations began to grapple with the energy situation, but their view of the multifaceted problem was neither comprehensive nor long-range. While paying some lip service to energy conservation, they emphasized increasing supplies, stepping up the pace of siting new facilities, and providing "temporary" waivers from environmental laws and regulations as a way of increasing production and permitting the use of "dirty" fuels.

In fact, in that era Congress introduced innovative energy-conservation measures while the Administration dallied behind this congressional leadership. Now things are different.

President Carter has taken a broader and more long-range view than his predecessors. He has called attention to the non-renewability of fossil-fuel resources and has recognized the vital role market forces must play in bringing about necessary changes in our patterns of energy consumption. Most importantly, the central theme of his program, unlike that of the Republican Administration, is energy conservation, supplemented for a time by increased use of both coal and nuclear power in order to provide energy during the transition to a stable system of "renewable and essentially inexhaustible sources." The President's plan contains provisions designed to assure both protection of the environment and economic equity for the various segments of society.

Energy Conservation. Carter proposes several measures designed to conserve energy. The most important of these are a "push-pull" auto tax based on fuel efficiency, a standby gasoline tax if insufficient gasoline is conserved, tax credits for energy-conservation measures by homeowners and businesses, a step-up in the mandatory standards for new buildings, and strengthened appliance-efficiency standards. Though the plan omits some needed measures, environmentalists can



Solar house, Palo Alto, California.

Illustration by Bonnie Laurie Russell, from the Sierra Club book *Other Homes and Garbage*, © 1975 by Sierra Club Books

support the ones it does contain and will have a major role to play in seeing that they pass Congress.

Energy Systems and Rates. The Administration proposes a package of measures to encourage the use of waste heat generated by industrial processes and to promote district heating, power pooling, and "wheeling" of electricity. The most significant measure would be legislation to reform electricity rate structures by eliminating promotional campaigns and declining block rates and by instituting peak-load pricing and individual metering. Carter can expect the support of environmental groups in this regard, and Representative John Dingell (D-Michigan) has been working on an electricity-rate-structure bill incorporating these features. Environmentalists are particularly concerned that peak-load pricing be formulated in such a way as to ensure air quality, since "base load" plants are heavy polluters.

Energy Pricing and Equity. The President has recognized the need to price energy at its replacement cost, rather than to allow artificially low prices to prevail. He correctly acknowledges that higher energy prices will promote conservation, make alternatives economically viable and achieve a better balance among energy sources. Given an unstable economy and an energy industry dominated by a few large companies, he has chosen to continue present controls over oil and gas prices, but to allow them to rise through changes in regulations and a crude-oil equalization tax to bring domestic prices in line with the world market.

Throughout the program, Carter emphasizes the need to achieve economic equity and not to create unnecessary hardship on

the low and middle-income sectors of society. To achieve this equity, he proposes a system of rebates for the oil equalization tax and the standby gasoline tax, as well as the tax credits for energy conservation measures mentioned above.

Coal. During the transition to a more stable energy system, the burden of supplying national energy demand is to be borne by coal. A system of regulation and taxation would promote conversion from oil and gas to coal by industries and utilities able to do so, though such conversions would take place only when compatible with the maintenance of air quality. The program also calls for use of "best available technology" for new plants, protection of areas where the air is still clean, and a study of the health and atmospheric effects resulting from increased coal use. The Administration has already given its support to a strong strip-mining bill and is calling for increased research into clean-coal technologies, including fluidized bed combustion and solvent refining.

Environmentalists can support this package as long as the coal-leasing law that passed last year and the strip mine law to be enacted this year are adequately enforced. Strong air-quality standards must also be maintained. The latter will require paying close attention to the conversion process and to related air-quality standards.

Oil and Gas Production. The Administration has already announced its support for a revision of the OCS Lands Act. This measure, now before Congress, will ensure a much higher level of environmental protection than the present program. Additionally, the Administration calls for a billion-barrel oil stockpile. Environmentalists

Gene Coan is on the staff of the Club's Conservation Department.

will have to evaluate carefully the impacts of new offshore oil leases and the oil-storage sites chosen for the reserve.

Nuclear Power. The Administration has conspicuously minimized the role of nuclear power. The plutonium economy and the breeder reactor have been postponed indefinitely. Carter does support the construction of reactors already licensed as the "second string" in the transition to renewable energy systems (for example, to provide electricity in areas with dirty air). While he proposes increased safety measures, better siting criteria, and a review of the waste-management problem, he also calls for increased uranium enrichment capacity and faster reviews and approvals of new plants.

Until the public can be assured that the waste-management problem is well in hand and that the safety of power reactors is adequate, environmentalists will feel especially uneasy with this component of the program. It thus becomes increasingly important that environmental groups define more precisely what constitute adequate criteria for waste-management and safety systems.

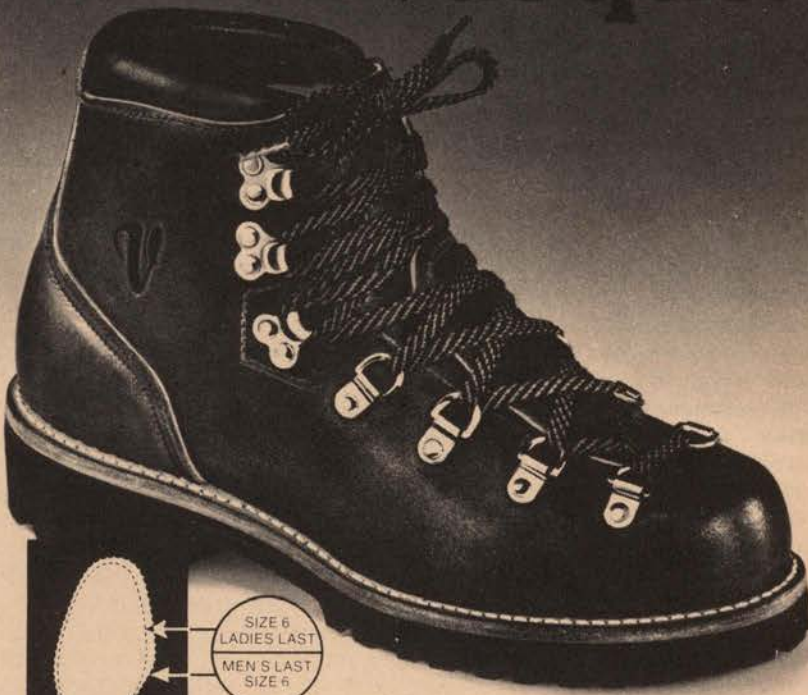
Industry Structure and Competition. The Administration has not taken a firm position on the structure of the energy industry, but it has initiated new data acquisition systems to provide the government with far better information about petroleum reserves, production and industry economics. Such information will make government decisions more knowledgeable and will answer key questions about industrial structure.

The Sun. As part of a future based on "new, unconventional sources" of energy, the Administration has set the ambitious goal of using solar energy in two and a half million homes by 1985. Demonstrations of solar technologies, both active (hot water or air) and passive (innovative building design) have already shown that adequate technology is available to serve many of our household needs at reasonable cost. The solar era has indeed arrived; the proposed tax credits, investment credits and governmental spending to promote solar technologies deserve our complete support.

The Carter program is a major step forward, and we can be pleased with the progress that the country has made on energy in the last few years. Our continuing effort will be needed, however, to see the best parts of the program through Congress and to be sure that its problem areas (maintaining air quality and nuclear power) are resolved.

SCB

Fit for women's feet from Vasque.



Many women find that outdoor boots aren't really fit for their feet because they're simply cut down versions of men's mountaineering, backpacking and trail hiking boots. This makes them less costly for the manufacturer to produce—but not very comfortable for the women to wear.

Here's why: a woman's foot, from the ball to the heel is more triangular in shape than a man's and requires a boot built over women's lasts, which are shaped to the configuration of women's feet, for a more comfortable fit.

So Vasque constructs a number of its outdoor boots like the Gretchen II, shown here, over such lasts; because Vasque knows—as you now do—that women's feet, like women's figures are different from men's. For which we say: Viva la difference!

So try on a pair and feel this difference Vasque Boots makes just for you—in sizes 4 through 11, widths AAA, A, C and E.*

*Not all sizes in all widths

Vasque

the mountain boots

Div., Red Wing Shoe Co.

Washington, D.C.: President Carter's Performance: The First 100 Days

Brock Evans

For many of us, the presidential election of 1976 was a crucial test of whether the environmental movement could expect much legislative success over the next several years. As if by definition, the American political system seems to require that truly far-reaching reforms and initiatives come from the President and his Administration, rather than from Congress. Only the President has the relative freedom and broad public backing to do so. The Congress, representing regional and local, rather than national constituencies, is much more parochial and subject to compromise.

For environmentalists, the past eight years have been increasingly lean indeed. With a few outstanding exceptions, almost all of the environmental actions and pronouncements of the Nixon and Ford administrations, from energy to forestry policy, from clean water to redwoods, were hostile to environmental values and favorable to developers.

An administration's bias, whatever it may be, manifests itself not only in executive actions, but in those of Congress as well. As a rule of thumb, if an administration actively lobbies on an issue, it can automatically carry at least seventy or eighty votes on any point. Thus under Presidents Nixon and Ford, most of our lobbying efforts in the House, for example, began with at least this many votes automatically against us.

For that reason now-President Carter's candidacy seemed to be a golden opportunity for environmental action. While campaigning, Carter made strong promises to uphold the Clean Air and Clean Water acts, to restrict the dam-building activities of the Corps of Engineers, and to increase parks and wilderness areas. Comparison of these statements and his past record of performance as governor of Georgia with the demonstrated record of the Ford Administration made our choice clear, and many individual environmentalists worked hard for Carter's election.

Carter will have been President for five months by the time this article is read, and it is appropriate to take a look at the environmental record so far. Several patterns and trends are already becoming apparent, and while there are some rough spots, the prognosis is good.

Appointments. Here, President Carter's record is very good. For most of us, the

heady days of the two-month transition period between the election and the inauguration amounted to a totally new experience. Carter's people answered our phone calls, listened carefully, and often responded favorably to our efforts to see environmentalists placed in the more than 200 relevant positions available. As a result, many now hold key jobs in the Administration. A few examples: Rupert Cutler, formerly of the Wilderness Society, is now Assistant Secretary of Agriculture in charge of the National Forest Service and the Soil Conservation Service; James Moorman, formerly of the Sierra Club Legal Defense Fund, is now Assistant Attorney General for Natural Resources; Cynthia Wilson, formerly chief lobbyist for the National Audubon Society, is now Special Assistant to Secretary of the Interior Cecil Andrus. There are many more examples.

Policy Statements. Rhetoric is an important part of the political process because what a President says sets the tone for future debates and discussions. The emphasis given to issues by a President and his administrative officials can very much affect future specific actions. In this regard, the Carter Administration's performance, again, is generally high. Early examples were Interior Secretary Andrus' promise on nationwide television that, where there was a conflict between the environment and development, he would favor the environment every time. Similar statements were later backed up by Andrus' rejection of the mining industry's proposals for disposition of Alaska lands (the so-called "fifth system" lands), by his support for tough amendments to the Strip Mining Act, and by his and other officials' strong support for tough energy-conservation measures and against attempts to weaken the Clean Air Act. Such statements were unheard of from the past administration, which usually advocated precisely the opposite positions.

The Administration was scarcely a month old when the President made the dramatic announcement of his intent to eliminate some of the most wasteful "pork barrel" dams and canals from his budget, triggering a controversy that still rages. This was followed by Secretary Andrus' request to the timber companies to halt logging in areas proposed for addition to Redwood National Park, and then on April

20th by the President's energy message, now submitted to Congress as proposed legislation. The energy message, with its emphasis on mandatory conservation and price incentives to achieve it, is identical in many respects to the Sierra Club's own energy policies.

However there have been some problem areas too. The performance of Brock Adams, the new secretary of transportation, has been particularly disappointing, since one of his first actions was to sanction construction on two extremely damaging and controversial highways: Interstate 66 in northern Virginia, and the Westway in New York City. In another instance, the EPA, acting apparently on bad legislative advice, decided not to aid environmentalists in struggles over amendments to the Clean Water Act early in the year, and that agency has yet to begin effective implementation of the Toxic Substances Control Act, passed last year. Furthermore, despite the seemingly strong stand on nuclear export Carter has taken, the legislation proposed is disappointing, since it would do little to check the alarming drift of events in this area.

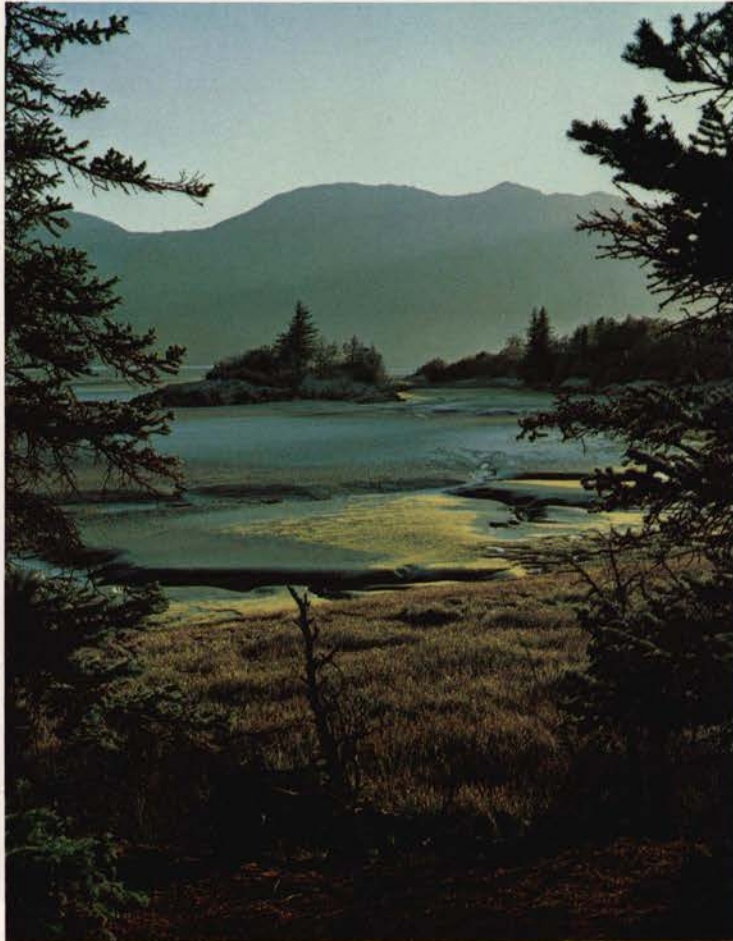
So, while the picture is generally good, it is not completely rosy. But then, we should not expect it to be so; the country is too large, there are too many diverse contending interests for any administration to satisfy everyone. And if we expect this Administration to satisfy environmentalists, we must not take its interest for granted; we must pressure decision-makers as to what actions they should take.

Nevertheless, to environmentalists who suffered the eight long, lean years under Presidents Nixon and Ford, the Carter Administration, in both tone and actions, represents a real and significant change. That the President even dared to attack the "pork barrel" system at all is as important as the number of projects that might actually be defeated. That any of the key appointments are environmentalists is as important as how many finally will be appointed. That initiatives even exist to save the redwoods, to strengthen strip-mining and clean-air legislation, to require energy conservation, is so dramatically different from what we had come to expect in the past as to convince us that we may be entering a new era, that the prospects for the future are far better than we had dared hope—even last November.

1978 Sierra Club Calendars are ready!

(...order now by using the handy order form on inside back cover.)

Wilderness 1978 Sierra Club Engagement Calendar

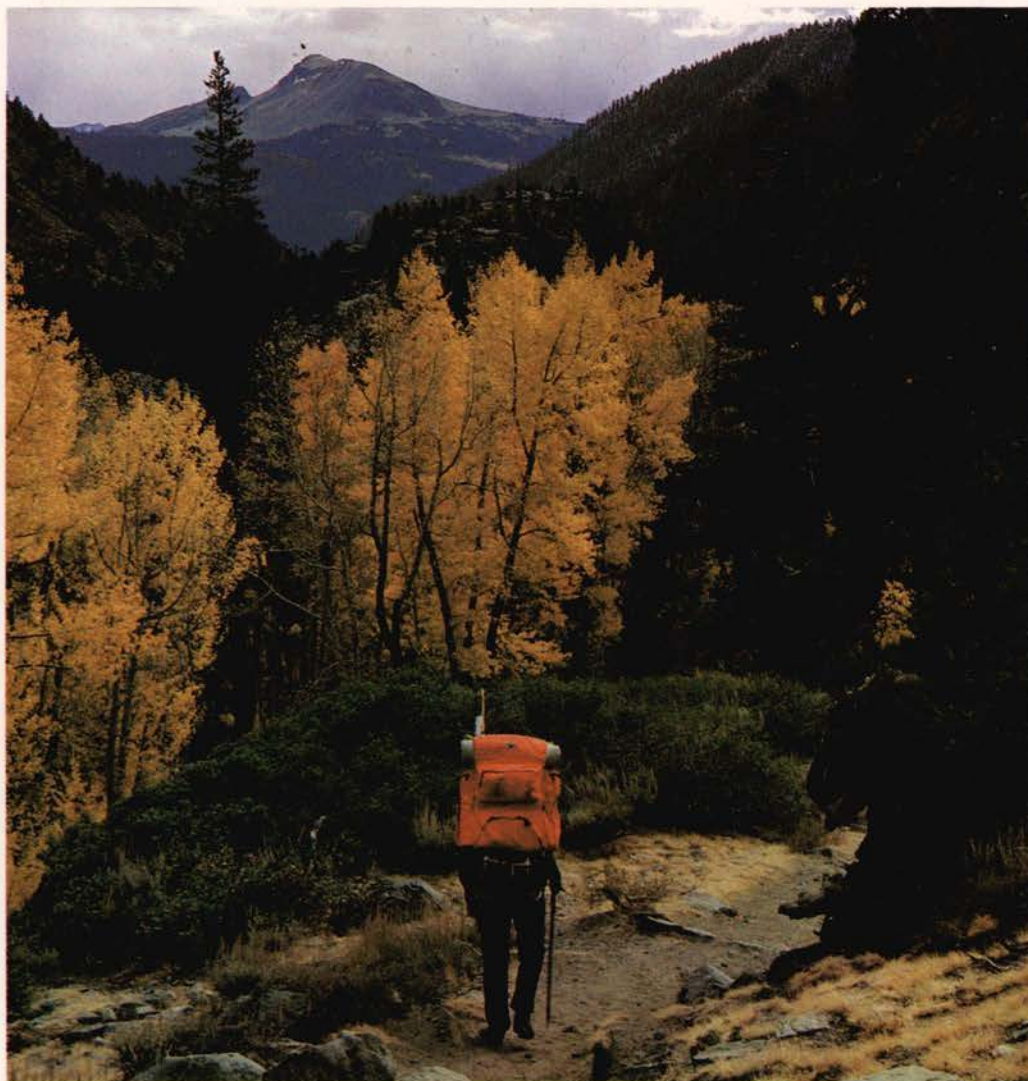


This week-by-week tribute to the natural glory of our continent and its wild creatures highlights among its 59 full-color photographs remarkable images of Alaska—our last great remaining wilderness. The calendar comes in practical desk format, designed for appointment and note-keep-

ing, and includes photography by Gene Ahrens, Robert Carr, Ed Cooper, Lloyd Englert, Wendell D. Metzen, David Sumner, and Myron Wright, among many others. The Introduction is by Peggy Wayburn. Spiral-bound at the side and individually packed in a self-shipping carton. 6 $\frac{3}{4}$ x 9 $\frac{1}{4}$.

See following seven pages ►

1978 Sierra Club Calendars

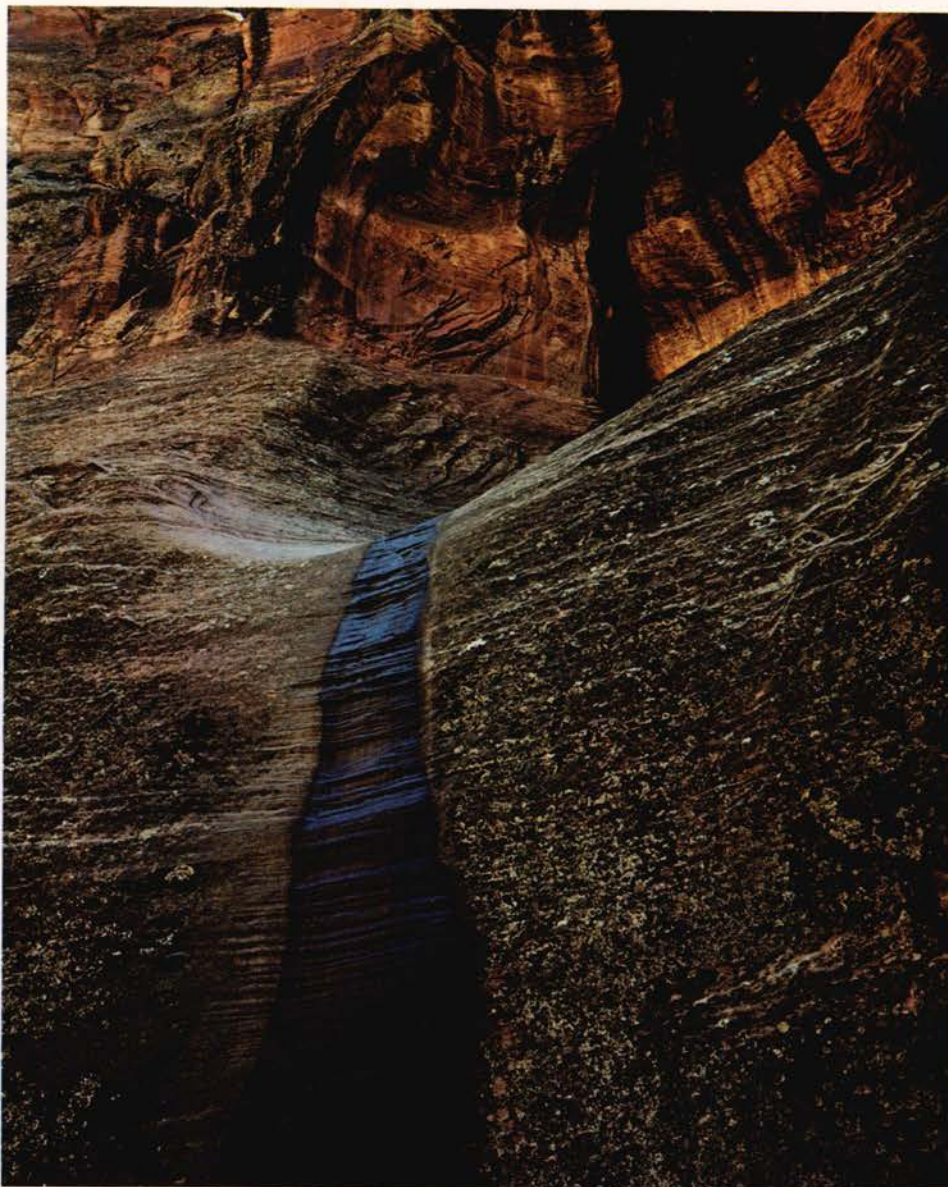


Sierra Club Trail Calendar 1978

Mountaineering, wilderness skiing, kayaking, dogsledding, scuba diving; a hike in the desert and a ride down the Colorado—the 1978 Trail Calendar depicts the wilderness experience in 14 full-color photos, from the Florida Everglades to Alaska's Mt. Dickey to Grand Cayman in the British West Indies. Photographs by Galen Rowell, Steve Crouch,

John Blaustein, Bob Gunning, and others, with line illustrations and selections from the literature of the trail. Introduction by Colin Fletcher, author of *The New Complete Walker*.

Spiral-bound at the top, hole-punched for hanging, individually packed in a self-shipping carton. 10¼ x 11½ (new larger format).



Wilderness Calendar 1978 Sierra Club

The scope and texture of the beauty of North America's wilderness, depicted month by month in full color by photographers Tom Algire, Edward W. Bower, Gary Braasch, Philip Hyde, Bob Jaeger, Robert Glenn Ketchum, David Muench, James Randklev, Art Twomey, and Hans Wendler. Quotes drawn from the literature of natural America

by such authors as Emerson, Muir, and Thoreau, and from native American texts, accompany each month. Introduction by Michael McCloskey, Executive Director of the Sierra Club.

Spiral-bound at the top, hole-punched for hanging, individually packed in a self-shipping carton. 10¼ x 13½.

1978 Sierra Club Calendars



Sierra Club Wildlife Calendar 1978

The cover photograph of a central Indian tigress, taken in the wild by the eminent field biologist George B. Schaller, reflects the new international scope of the 1978 Wildlife Calendar. Other beautiful, often rare species, depicted in full-color in their natural habitats include a family of cheetahs in East Africa, Kodiak bears in Alaska, Siberian ibex in the Karakoram Himalaya, elephant seals off the California coast, a great egret in the

Georgia swamp, and guanacos in Patagonia. Photographs by Tupper Ansel Blake, Jeff Foott, Keith Gunnar, Stephen J. Krasemann, Olaf Soot, Bob Waterman, and others. Introduction by S. Dillon Ripley, Chairman of the World Wildlife Fund and Secretary of the Smithsonian Institution.

Spiral-bound at the top, hole-punched for hanging, individually packed in a self-shipping carton. 10¼ x 8¾.

...Introduced last year, and all-new for 1978

Little Creatures

The 1978 Sierra Club Calendar & Almanac for Young People



Heralding our new juvenile publishing program, Sierra Club Books added a new calendar last year: *What The Forest Tells Me: The Sierra Club Calendar and Almanac For Young People*. It was a resounding hit. *New West* magazine made it a "Best Bet," and reviewers called it "a knockout gift for the young naturalist"... "both practical and fun"... "a visual delight, and one calendar that's sure to be kept when the year has ended."

Little Creatures, the new 1978 Calendar and Almanac for Young People, will appear in the

same format and will focus on the universe of small animals, from microscopic protozoa to mammals. In a lively blend of images, poetry, naturalist's descriptions, diagrams, cartoons, and photographs, it will surprise and delight young readers, and help them to discover the small wonders of the natural world.

Spiral-bound at the side and individually packed in a self-shipping envelope. 88 pages. 13 full-color photos. 10 pages of activities. 10¼ x 10¼.

New Sierra Club Books for Children
on following three pages ▶

Introducing an exciting new program: Sierra Club Books for Children

With the following three titles a new and unusual publishing program is launched—Sierra Club Books for Children. The program, published in association with Charles Scribner's Sons, will bring to young readers books about the earth, its creatures, and man's role among them. Covering a wide range of subjects, from natural history and how-to books to fiction, these books will combine responsible information about our environment with the element of magic children have always found in nature. They will look at the world with the eyes of the young, exploring the little-known starting from places close to home.



THE VIEW FROM THE OAK

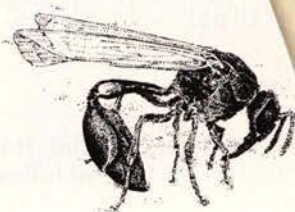
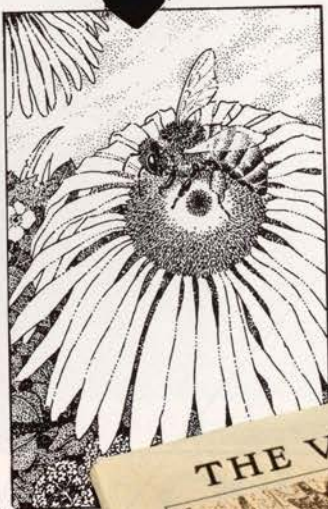
by Judith and Herbert Kohl
illustrated by Roger Bayless

There are many different worlds on our planet, and this book explores the strange and marvelous ways in which a variety of living creatures—ranging from whales to spiders—experience space, sense time, and communicate with others of their kind. It is based on a science called ethology, pioneered by Konrad Lorenz, which studies how an animal behaves in its habitat. The book contains activities and games and beautifully detailed illustrations designed to help the reader enter these different worlds through understanding the senses of the animals themselves. What do the flowers in a meadow look like to the bee? How does the world appear to a snake who “sees” by detecting minute temperature changes?

What is it like to live in the water strider's two-dimensional world? *The View from the Oak* reveals things about our environment that are no less fantastic than science fiction stories about life on other planets.

Judith Kohl is a teacher, and is a student of ethology and archaeology. Herbert Kohl is a teacher and a writer. His books include: *The Open Classroom*; *36 Children*; *Reading, How To*; *Half the House*; and *Golden Boy as Anthony Cool*. The Kohls live with their three children and their retriever, Sandy, in Berkeley, California.

160 pages. 8 full-page illustrations. Ages 10 up. Grades 5 up. 7 1/8 x 9 1/2. Available in cloth and paper.



THE SIERRA CLUB SUMMER BOOK

by Linda Allison

Summer is a good time for getting outside and coming down to earth. It's the season of long days and short nights and if you're lucky enough to be a kid, it's peel-off-your-shoes, go-slow, and sleep-late time. But sooner or later it usually gets to be "what-do-I-do-now" time. That's where *The Sierra Club Summer Book* comes in.

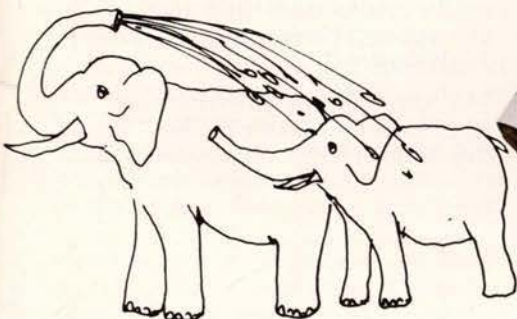
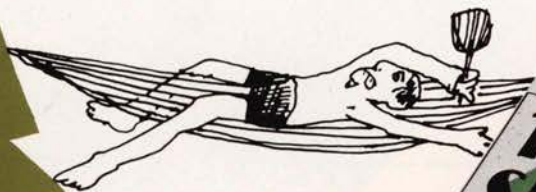
Author Linda Allison tells what summer is, how people in times past thought about it, and what kids today can do with it. There is information about the sun and the seasons, what makes you hot and ways to keep cool...about gardens and growing things, insects, birds, and seeds...about how any kid, even a city kid, can be a naturalist and a conservationist. There are tips on favorite summer pastimes like hiking, camping, taking car trips, and water sports...ideas and instructions for many unusual crafts projects and games...

even a first-aid "summer survival" section.

It's a book to read for fun, to take on vacations, to use over and over. It's for kids, parents, desperate day-camp leaders—for anyone looking for a new way to spend a summer day.

Linda Allison is the author-illustrator of the *Perception Set*, published by the Audubon Society, and *The Reasons For Seasons* and *Blood and Guts*, a children's introduction to physiology, both part of the Brown Paper School series published by Little, Brown. She is also the creator of activity pages for the 1977 and 1978 *Sierra Club Calendar and Almanac for Young People*. She lives in Kensington, California.

160 pages. 75 drawings. 8¼ x 8¼. Ages 8 up. Grades 3 up.
Available in cloth and paper.



MY GARDEN COMPANION

A Complete Guide
for the Beginner
by Jamie Jobb

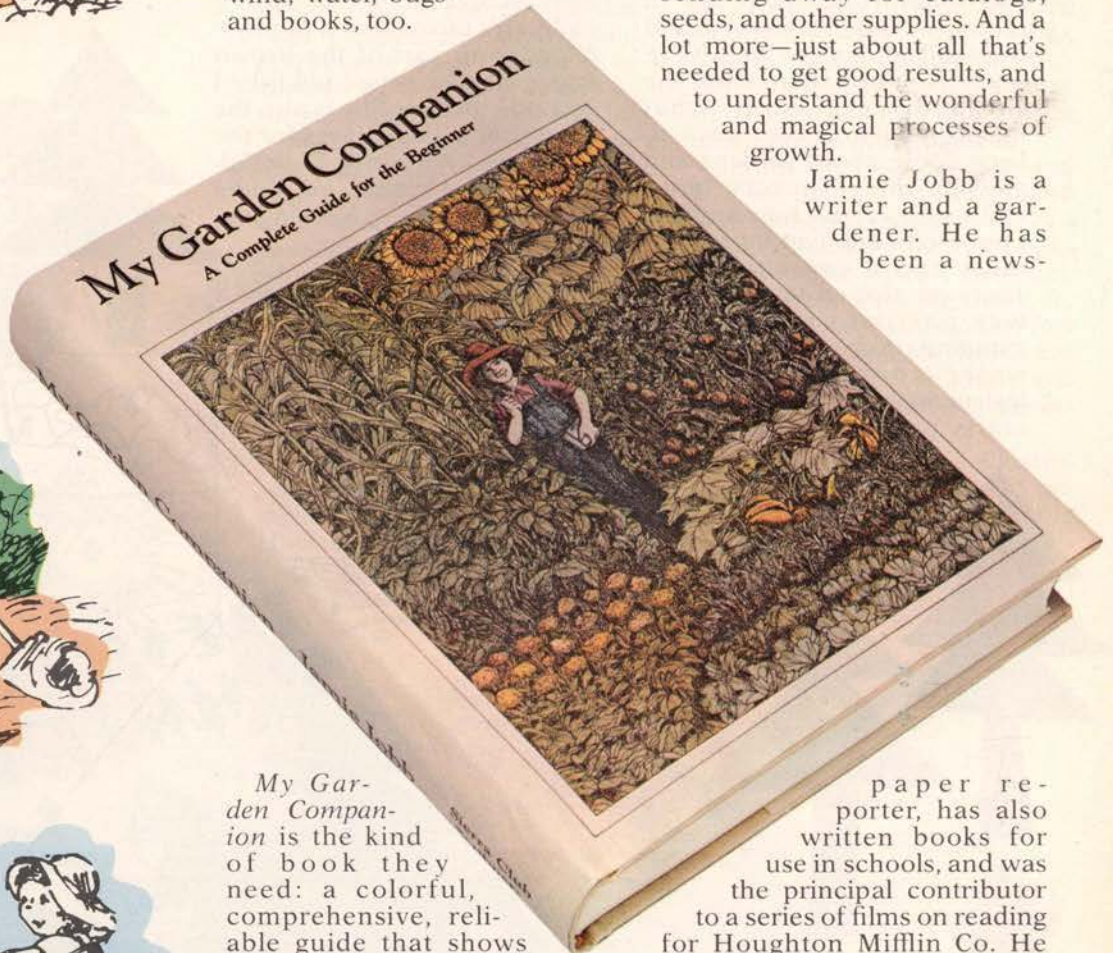


Being a gardener is changing the shapes of things, like performing magic. You start with a seed, and if you work at it, you wind up with flowers—or food! But gardeners, like magicians, need helpers, and bright gardeners get all the help they can: from the sun, soil, seasons, wind, water, bugs—and books, too.

most gardeners don't think of trying: how about popcorn, peanuts, bamboo, even chewing gum?

My Garden Companion has gardening projects for one person and for groups of family or friends, a dictionary of garden language, information about sending away for catalogs, seeds, and other supplies. And a lot more—just about all that's needed to get good results, and to understand the wonderful and magical processes of growth.

Jamie Jobb is a writer and a gardener. He has been a news-



My Garden Companion is the kind of book they need: a colorful, comprehensive, reliable guide that shows young people (and not-so-young people!) the when, what, where, why and how of growing things organically. It gives the basics about planning your garden—from small plots up to the backyard truck farm variety—about getting the soil ready, when to plant, how to use what you've grown, and all the steps in between. There is a whole section explaining how to grow 50 common and uncommon plants, including some

paper reporter, has also written books for use in schools, and was the principal contributor to a series of films on reading for Houghton Mifflin Co. He lives in San Rafael, California; his two sons and their friends are active collaborators in the Jobb garden.

352 pages. 150 illustrations. Ages 9 up. Grades 4 up. 5¾ x 7½. Available in cloth and paper.

Northeast: Gateway—The Promise and Problems of National Urban Recreation Areas

Sam Sage and Tom Hyde

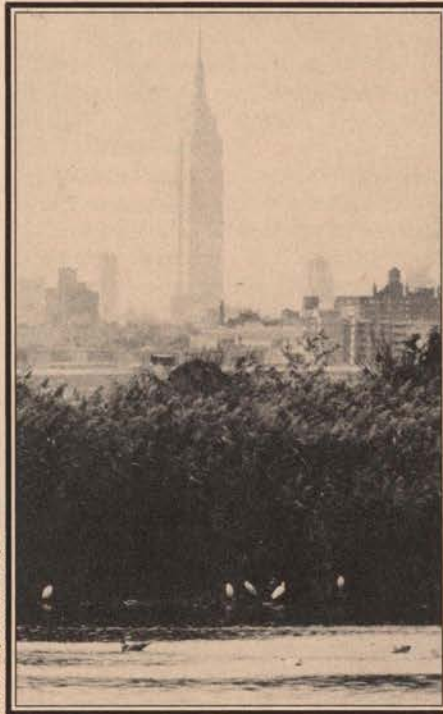
The creation in 1972 of Gateway National Recreation Area (Gateway) may be a mixed blessing for the lands it includes. The National Park Service (NPS) has been slow to draft a general management plan for Gateway, and local special-interest groups have taken the opportunity to exert their influence.

Gateway and the two other Urban National Recreation Areas (Golden Gate near San Francisco and Cuyahoga near Cleveland) pose special problems for planners, since they will be much more intensively used than other parts of the national park system. Gateway already has the largest attendance of any unit of the parks, with a conservative estimate of 10 million in 1976. In a recreation-starved city, estimates of potential visitation are 20 to 30 million a year.

The Sierra Club, principally through the New York City Group of the Atlantic Chapter and the Northeast Regional Conservation Committee, wants to see Gateway become a viable park serving both a regional and a national constituency. At the same time, however, we want to ensure that these few remaining natural areas in the New York region are not destroyed by overdevelopment.

Gateway consists of unconnected pieces of land surrounding the entrance to New York Harbor (see map). These 26,000 acres of parkland have been broken down by the NPS into four units: Jamaica Bay, Breezy Point, Staten Island, and Sandy Hook. With the exception of Sandy Hook in New Jersey, all of them lie within the confines of New York City. The Manhattan skyline is visible from every part of Gateway.

The present quality and character of these areas vary greatly, though all of them are low-lying coastal regions that originally contained beaches, mudflats, sand dunes and uplands typical of this stretch of the Atlantic Coast. Today, a few areas remain



Photos by Arthur Swoger

remarkably unspoiled, considering their proximity to the center of New York City.

The Jamaica Bay Unit, encompassing some 3,200 acres of land and 12,400 acres of fresh- and salt-water marshes, includes many of the more important natural areas. Despite grossly polluted waters, an amazing variety of plant and animal life can be found there. The Jamaica Bay Wildlife Refuge provides resting, feeding, and nesting areas for more than 300 species of resident and migratory birds. Another natural area, Sandy Hook, contains an interesting complex of ocean beaches, fresh- and salt-water marshes, beach dunes and holly forest. Less spectacular wetlands and dune areas can also be found in other parts of Gateway.

The park also includes more than twenty miles of beaches, some used for swimming while others are closed because of water pollution. Gateway also possesses historical monuments of considerable significance, including the massive nineteenth-century fortifications at Staten Island and Sandy Hook built to protect New York



Photos: Snowy egrets, ducks and gulls in Jamaica Bay, in easy access to Manhattan.

Sam Sage chairs the Sierra Club's Northeast Regional Conservation Committee. Tom Hyde manages the Club's New York office.

Harbor from attack. Sandy Hook is also the site of the oldest working lighthouse in the United States.

Juxtaposed to the natural areas are places in appalling condition. Part of Gateway is a former garbage dump; upland areas include deteriorated buildings of former military bases, airplane runways and, in one case, the gutted frames of concrete apartment buildings. Still, all these areas can be salvaged; Gateway could provide a model for ecological reclamation of urban environments.

All of Gateway has traditionally been used by neighboring communities and special interest groups for their private purposes. Local residents make up an overwhelming percentage of current visitors to Gateway. These neighborhood groups are often violently opposed to changes that might bring large numbers of "outsiders," particularly the urban poor, into their communities. Some have fought the establishment of Gateway from the beginning. They are now struggling to prevent any improvement in rail or bus access to the park.

Other groups want the park to cater to their special needs, regardless of environmental consequences. Fishermen have fought hard to retain their "right" to use off-road vehicles in certain areas. Boaters have pressured Gateway planners into including a proposal for expanding a marina at federal expense. Model-airplane enthusiasts have been able to convert a bird-nesting area on Staten Island into a flying field for their sport.

As a consequence of these pressures from local and special-interest groups, the Park Service's management proposal for Gateway has become a grab-bag of concessions. The announced philosophy of the plan calls for the reconciliation of the needs of local communities with mass recreation and environmental preservation. In practice, the latter objective has frequently received short shrift.

The Park Service's proposals regarding transportation are mostly unsatisfactory. In order to accommodate large numbers of people with minimal environmental damage, restrictions on the number of automobiles in the park are necessary. This in turn requires improved mass-transit access. The NPS has refused to become involved in planning or advocating mass-transit access to the park, maintaining that external transportation is outside its sphere of responsibility. The Park Service has also refused to plan for shuttle service within several key areas of the park. Instead it has constructed additional parking facilities and opened up new sections to automobiles. The agency has decided to solve the problem of providing access for the many New



Yorkers who do not own cars by busing large numbers of people from the inner city—a proposal with worthy objectives, but one that may create serious traffic problems, especially on the already crowded local streets. The Park Service's suggestion that ferry service be provided to the various units of the park is very welcome.

Local environmentalists are also concerned about the kind of recreational activities to be available at Gateway. The Park Service has proposed to build several "Gateway Villages," but so far has said little about what activities are to take place there. Some of the proposals associated with these villages seem quite commendable—for example, the use of solar and wind power wherever feasible, the development of self-contained natural sewage sys-

tems, increased facilities for environmental education, and land for small-plot gardening. Clearly these Gateway Villages have the potential for experience of a type new to many city dwellers. Unfortunately, there are also strong pressures to turn them into recreation facilities that duplicate services found in city parks or provided by private entrepreneurs. Although described in general terms difficult to evaluate, the proposals seem to imply that Gateway will be developed into an urban amusement and athletic center, something the Sierra Club strongly opposes.

The Sierra Club is most concerned, however, about the inadequate provisions for protecting many natural areas. Except for parts of the Jamaica Bay Wildlife Refuge, the Park Service seems to have succumbed

to pressures to provide mass recreation at the expense of environmental preservation. For example, swimming and camping areas are planned for Jamaica Bay, whose natural character has already been compromised by overuse. The Park Service also has issued a number of proposals for beach recreation, automobile access and other activities that would destroy the natural character of Sandy Hook. The Sierra Club has made it clear that we are not opposed to large-scale recreation, but it can and must be provided in other than natural areas.

Gateway and other national urban recreation areas may evolve in one of two directions. The first is toward a federally funded, poorly executed system of local parks. The second is toward the creation of a few areas near cities where citizens can enjoy a predominantly natural environment. The latter would justify the presence of the Park Service; the former would not.

In areas such as New York City, there is an undeniable need for more recreation, including participant sports. Since the large urban populations requiring such services can exert considerable political pressures, they may well be able to turn urban national recreational areas into little more than local sports and entertainment complexes. These forces are further strengthened by the financial difficulties of municipal and state governments, which would be glad to rid themselves of the burden of paying for local parks. Gateway already includes some former city and state parks, and proposals exist to add additional city parks to the National Recreation Area. There are reportedly about forty

areas under consideration nationwide as possible sites for expansion of the system. If Gateway develops as a system of local parks, politicians across the nation will demand similar facilities for their constituents. There is a possibility that the country eventually might be dotted with national urban recreation areas, the federal government in effect assuming the inappropriate role as chief administrator of local parks. Such development could distort the impetus of the entire national park system.

National urban recreation areas could, however, be a boon for both the national park system and urban environments. It is vital that these areas be developed for environmental and historical conservation and for compatible forms of recreation and education.

Although the scenic and ecological quality of lands coming under the jurisdiction of Gateway and its sister parks is, generally speaking, lower than that of other units in the national park system, their metropolitan location and accessibility endow them with greater value than they might otherwise deserve. For these reasons, it is all the more important that their natural and historic character be preserved and enhanced.

In June and July, the Bureau of Outdoor Recreation will hold public information sessions in seventeen urban study areas to assess needs for urban recreation and open space. Dates and times are available from the Bureau's seven regional offices. The views expressed by the public at these sessions will in part determine recommendations made to Congress next September.

Ascente jackets are for the outdoors



Dacron[®]
Hollofil™ II
polyester

Ascente uses DuPont Dacron[®] Hollofil™II because it is outstanding among man-made fibers. Hollofil™II gives superior lightweight performance for protective warmth, lasting plumpness. In addition it absorbs less than 1% available moisture, fast drying, non-allergenic, odorless and machine washable.

Hollofil™II is used by Ascente in parkas, vests, jackets and sleeping bags. See your Ascente dealer or send \$2.00 for catalogue and redeemable merchandise certificate.

Pacific / Ascente
P.O. Box 2028
Fresno, Ca. 93718

® DuPont Registered Trademark

SIERRA CLUB

Embossed Pewter Buckle



2 1/2" x 2"

fits belts to 1 3/4"

\$5.00 POSTPAID

(Illinois residents add 25c tax)

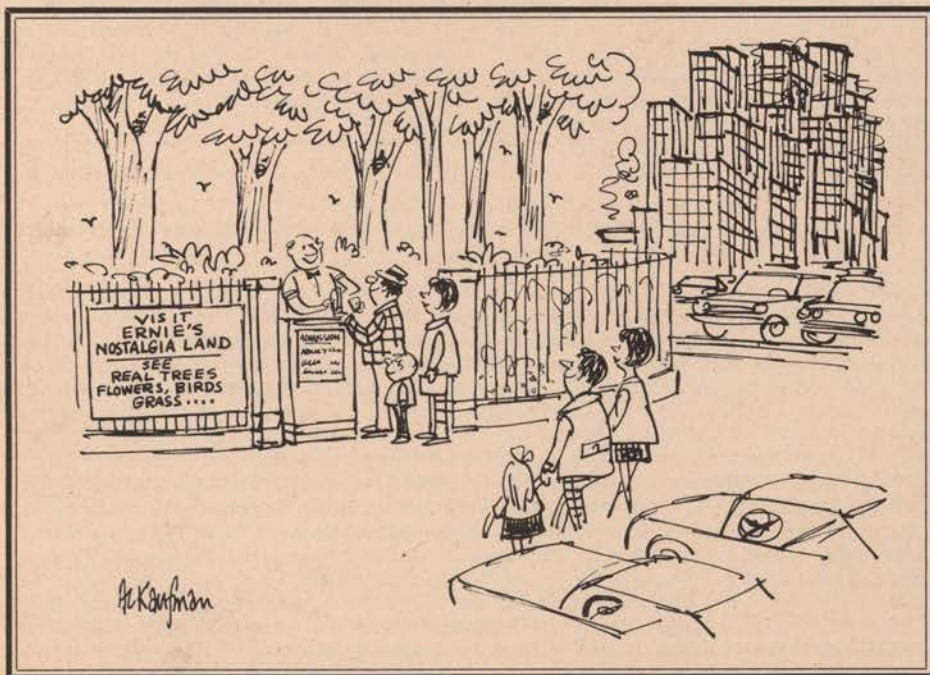
Send check or money order

Piasa Palisades Fund

1128 State St.

Alton, Ill. 62002

Proceeds Used for Conservation
Projects by Piasa Palisades Group
Great Lakes Chapter



Go Northwest, young man.

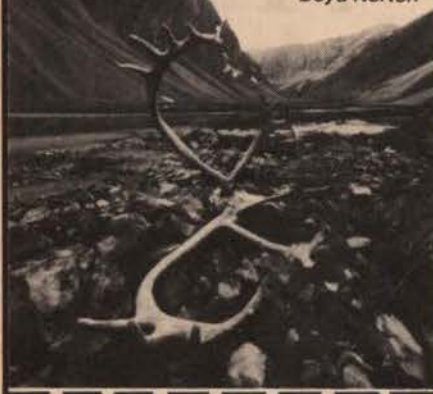
"The scenery of Alaska is so much grander than anything else of the kind in the world," said the Chief Geographer of the United States Geological Survey back in 1899. Today, thousands of people are finding truth in these words. And, to make the finding easier, this fascinating book covers 13 separate and newly designed national park areas. Everything's here: the history, development, ecology, animal and plant life of this wilderness frontier. It's the first book of its kind, as Alaska is the last place of its kind.

With 120 color plates
\$18.95.

ALASKA

WILDERNESS FRONTIER

Boyd Norton



At your bookstore or direct from:

READER'S DIGEST PRESS
Dept. MTSCB
Conklin Book Center, Inc., P.O. Box 5555
Binghamton, N.Y. 13902

Please send me _____ copies of ALASKA
@ \$18.95 each. I enclose check money
order for \$_____ total. (Please add
50c for postage and handling plus sales tax
where applicable).

Name _____

Address _____

City _____

State _____ Zip _____

News

Alaska land hearings begin

Congress has held the first in a series of hearings on the Alaska National Interest Lands. Testimony before Representative John F. Seiberling's (D-Ohio) Subcommittee on General Oversight and Alaska Lands, which plans to hold twelve days of hearings in nine cities across the country, focused on HR 39. The bill would place 115 million acres of federal land in the four national conservation systems—national parks, wildlife refuges, wild and scenic rivers, and wilderness areas. It is supported by the Alaska coalition of conservationists, which includes the Club, and sponsored by House Interior Committee chairman Morris Udall, Representative Seiberling, and eighty other representatives. Testifying at the hearings, Interior Secretary Cecil Andrus said he would make specific recommendations on acreages, management agencies, and wilderness designation in the fall. Andrus indicated that the Interior Department may move beyond the 83 million acres in the last administration's bill.

Testifying for the Sierra Club, Edgar Wayburn, chairman of the Club's Alaska Task Force, urged the subcommittee to adopt the ecosystem approach embodied in HR 39, and recommended that it give interim protection to 32 million acres in HR 39 now vulnerable to mining and state selection. A prominent theme of the hearing was Alaskan Natives' support for the national-interest lands as a means of preserving habitat to sustain subsistence hunting and fishing. The hearings are scheduled to be held in Seattle on June 20, in Sitka on July 5, and in Ketchikan on July 9. Hearings prior to those dates are to be held in Atlanta, Denver, Chicago, and Washington.

Campaign to save redwoods continues

Efforts to expand Redwood National Park are continuing at a fast pace. Help has arrived from the Carter Administration, which has proposed a 48,000-acre park-expansion plan. The Administration package will include proposals for land acquisition, rehabilitation of cut-over lands, and special efforts to mitigate loss of jobs and income through economic-development and retraining programs. It may also include provisions to control further damage to the current park through regulation of logging in adjacent areas. Environmentalists hope the Administration will take legal action to halt logging in sensitive areas within proposed park-expansion boundaries and in areas highly visible from the current park. A request for such a moratorium was made by Secretary of the Interior Cecil Andrus to the presidents of the three lumber companies involved, but the latter refused to cooperate. Andrus is currently investigating remaining courses of legal action. The Sierra Club, while recognizing the significance of the new Administration proposal for park expansion, is still in firm support of Phillip Burton's (D-California) bill, H.R. 3813, which would add 74,000 acres to the park.

Redwood loggers demonstrate

Opposition to the expansion of Redwood National Park reached a peak when angry loggers staged demonstrations in Eureka and San Francisco directed at park-expansion hearings held on H.R. 3813 by Representative Phillip Burton's (D-California) Subcommittee on National Parks and Insular Affairs. The loggers were joined in their opposition by representatives of the three timber companies whose lands would be bought, by local business interests, and by other organized labor. Burton's concern for mitigating the loss of jobs created by park expansion was evident during the hearings, as he tried to determine ways to accomplish this. It is critical that conservationists around the country demonstrate the need for park expansion to protect the existing park, for rehabilitation of cut-over lands, and for adding remaining outstanding old-growth groves in Devils and Bridge Creeks and on the east slope above the endangered "Worm." This is the best and last chance we will have to create the kind of a park this internationally important resource deserves.

President Carter issues environmental message

In the first environmental message sent to Congress since 1973, on May 23 President Carter called for replacement of the 1872 Mining Law. He also called for acceleration of the wilderness designation program, rehabilitation of the Wildlife Refuge system, and expanded protection from toxic substances for human health and the environment. The twenty-three-page wide-ranging message emphasized effective administration of existing law rather than the need for new legislation.

Other important features of the message were proposals for designation of eight Wild & Scenic Rivers and study of twenty others, establishment of three new National Scenic Trails, an Executive Order restricting introduction of potentially harmful exotic plants and animals to the United States, and an accelerated effort to identify critical habitat for endangered species. Brock Evans, director of the Club's Washington Office, said, "While there were a few disappointing features—notably in the failure to ask for more money for the Toxic Substances Control Program—the basic thrust of the message was strong, positive and most welcome. It is easily the best Environmental Message ever sent to Congress, and because it was backed up by strong and specific Executive Orders, it shows the President means business."

Wetlands saved again— for the time being

The House-Senate conference on the Local Public Works Jobs Bill ended when the conferees agreed to delete all water-pollution provisions. The Senate had tried to include a simple extension of the funding for state water-pollution cleanup programs. However, the House version of the water-pollution provisions would have given up federal regulation of dredge-and-fill operations in some eighty percent of the nation's wetlands and ninety-eight percent of the nation's stream miles. Moreover, it would have turned over to the state the authority to administer the construction-grants program for sewage-treatment facilities and to determine spending priorities, in addition to making other detrimental changes in the law. After eight conference meetings, the Senate conferees decided that the House amendments would be too high a price to pay in exchange for the program-funding authorizations. Breathing a sigh of relief, the Sierra Club and other participants in the clean-water campaign see this move as a victory and look ahead to Senate oversight hearings in early summer, including a new try for funding. Letters to your senators and representative in support of maintaining a strong Clean Water Act, including comprehensive protection of wetlands, are still needed.

Australians fight to save wilderness area

The Tasmanian Wilderness Society is fighting to protect the southwestern part of the state of Tasmania from future hydroelectric development, mining and forest clearing. The society wants the area declared a "world heritage preserve" because it is one of the Southern Hemisphere's last temperate wilderness areas and an integral part of a set of southern oceanic wildlands, which include New Zealand's Fiordland and the Andean Patagonia of South America. A government land-use study now being prepared on the area is expected to recommend development. The Tasmanian government has prepared a draft management plan to protect the delicate yet much abused principal catchment of the island on the Central Plateau. Nevertheless, proposals for a national park for part of the area have been ignored and provision has been made for unneeded, further hydroelectric development.

U.S. appeals Darién Gap decision

The United States government has appealed a September 1976 court decision halting further appropriation of funds for the proposed Darién Gap highway in Panama on the grounds that the Department of Transportation's environmental impact statement (EIS) on the project was inadequate. The appeal, which was set in motion by the Ford Administration, claims that the EIS was adequate on all but lesser environmental impacts. The Club and other environmental groups sued to stop the highway because of the possible spread of hoof-and-mouth disease into North America, the highway's impact on local peoples, and the failure of the government to consider alternative routes. It is possible that the Carter Administration will decide not to proceed with the appeal.

Carter announces final water-project cuts, gets a rebuff from House subcommittee

President Carter has announced his final proposal for water-project funding cuts. He recommended that fifteen major projects be scrapped; that funds be withheld for three projects pending further review; that only partial funding be provided for five projects; and that complete funding be continued for nine others, including the South's colossal \$1.6-billion Tennessee-Tombigbee Waterway. The President's recommendation follows six weeks of Administration reviews and hearings across the country. Club members and others testified on the economic feasibility, environmental impact, and safety of the nineteen projects initially listed for possible funding cuts. (A later supplemental list boosted to 32 the number of projects reviewed.) This review was part of a still larger, long-term study of 320 current Army Corps of Engineers and Bureau of Reclamation water projects ordered by Carter in an effort to develop "comprehensive reforms." In spite of the poor cost/benefit ratios, severe environmental impacts and significant safety problems associated with many of the projects, congressional opposition to proposed funding cuts remains adamant. Recently, the House defeated by a vote of 143 to 152, an amendment that would have reduced the 1978 budget ceiling for water projects. Support for Carter's proposal from environmentalists and citizens concerned about the waste of their tax dollars and the destruction of their environment is essential if the projects are to remain out of next year's budget. Sierra Club members are urged to contact their senators and representative expressing support for Carter's proposed water-project cuts.

BE A KNOW-IT-ALL

... with the SIERRA CLUB CONSERVATION ISSUES PACKET, now available from Information Services.

LAND USE
ALASKA WILDERNESS
MINERAL KING • WILDLIFE
ENVIRONMENTAL EDUCATION
ENERGY • LEGAL DEFENSE FUND
REDWOOD NATIONAL PARK •
AGRICULTURE POLICY • FOREST
MANAGEMENT • POPULATION
CLEAN WATER • AIR POLLUTION
ENERGY • POPULATION
MINERAL KING
WILDLIFE

Increasingly, the successful outcome of environmental campaigns ranging from wilderness preservation to energy policy depends on a well-informed and vocal constituency. Yet as the number and complexity of issues increase, it becomes more difficult to keep up on them all. Alaska lands, energy, forestry, air pollution, land use, agricultural lands, snowmobiles, population... What are the facts about these and other issues? What does the Sierra Club advocate? An excellent way to answer both questions is to send for your copy of the SIERRA CLUB CONSERVATION ISSUES PACKET, which contains policy statements, fact sheets, reading lists and articles about these issues and many more. For your copy, send \$2.50 in check or money order (includes the cost of postage) to Sierra Club Information Services, 530 Bush St., San Francisco, CA 94108.

BE A KNOW-IT-ALL

Free Catalog



An unique collection of the world's finest outdoor equipment for the self-propelled outdoor enthusiast.

Lightweight backpacking & mountaineering tents. Gore-Tex® rain wear, waterproof, yet breathable down clothing & bags. Internal frame packs. The finest snowshoes & much more!

New!
3½ lb.
2-person tent,
1 minute set up!

Early Winters, Ltd.

110- BE Prefontaine Pl. S., Seattle, WA 98104

For fast easy service

CALL TOLL FREE (800) 227-1464, Ext. 8131

In California call: (1-800) 722-3909, Ext. 8131

In the Seattle area call: 622-5203

Yes! Please send your new catalog of unique lightweight equipment available nowhere else.

Name _____

Address _____

City/State/Zip _____

To the Editor:

I agree fully with William Futrell's editorial (March *Bulletin*) calling for Sierra Club leadership in a grassroots movement for national and state land-use controls, but I disagree completely with his recommended strategy.

For the first time in history, we have a President pledged to a strong conservation ethic with a solid state record of support for land-use planning. What the defeated Jackson/Udall bills lacked was presidential backing; in fact, these measures were gutted mainly by the Oval Office. This is no time for a defeatist strategy. The President must be encouraged to develop a sound administrative position on national land-use planning and a bill that mandates state comprehensive planning. Our support must continue in both Houses to assure passage. We must, as we always have, aid piecemeal efforts as we and others identify specific endangered areas and resources that need protection. This must constitute not our basic interest, however, but simply a fall-back position from which our main work can resume. Otherwise we may lose the war for comprehensive planning as we abdicate state and federal responsibility to special interests and single-purpose agencies.

Until recently, control over land use has been exercised at the local level or not at all. The states long ago delegated most of their police power, the constitutional basis for land regulation, to local government. And in most cases, local government has failed in its stewardship of the land.

Venality and corruption characterize areas where local officials and their supporters make money as a result of their own land-use decisions. But there are also institutional factors beyond local control that beg for failure—tax policies, regional problems too big for local jurisdictions, "lay" planning commissions screening the people from their elected leaders, and the absence of state policy and direction.

A vacuum of policy and direction also exists at the federal level. Over forty separate federal agencies join their counterparts in the states in "hit-or-miss" uncoordinated programs to manage (and mismanage) our resources and land. On the whole, these agencies have been created with their own independent policy-making powers to carry out single-purpose programs. There is no national policy on how land should be treated and no single national policy to protect the considerable national investment in the beauty and productivity of the individual states.

Major responsibility for conservation and development planning belongs with the



states. Here again the need is to coordinate powerful single-purpose agencies, but there must also be state guidelines to regional and local governments, where the details of land-use planning and development programs are prepared and administered. Single-purpose agencies desperately need central, clearly stated, official public policies and state conservation and development plans as shared visions of what the states want to become.

We not only require state policies to keep our agencies in line, we especially need guidance when we battle with powerful federal agencies that function in such heavily financed areas as water development, air and water pollution, transportation, housing, land use, and resource development. The Department of the Interior, for example, is proceeding with offshore drilling leases contrary to California state policy and local pleadings. In the absence of solid policies, backed by comprehensive plans, states have little or no leverage against such federal threats to land and resources.

The incremental, piecemeal approach—"regulate first and plan later"—seems to have frustrated rather than assisted state planning. Problems of social and environmental disruption are met singly, if at all, as they become visible and as the public becomes alarmed about them. The situation may and probably will get worse if the land-use strategy recommended in the editorial is followed. A rationale surfaced a short time ago in California's diverse planning community that state comprehensive planning is a hoax and functional planning, done comprehensively (how this could happen is a mystery) and adequately reviewed, will obviate the need for a state plan. Some lip service was paid to coordination and comprehensive planning, but no integrated framework exists for making public policy around which functional efforts can be coordinated.

The preliminary draft of California's "Urban Development Strategy" seems

to indicate that the administration has adopted "incrementalism" as its planning process. Other reports, adding policy pieces, will deal with rural development, social services, education and health care, and the state's economy. The preliminary draft recognizes that all these areas are interrelated and interdependent, "but rather than attempting to address all problems at once, this administration has adopted an incremental approach to policy setting, tied to long-range goals and specific short-term actions." How such bits and pieces of policy can be said to be tied to goals, when the bits and pieces are themselves all that can pass for goals, is not explained.

There is no question that the coastal program—one of the great bits and pieces—is a conservation victory, without doubt the most comprehensive land-use planning undertaken by the state. But once again, while it protects a vital piece of real estate, it is single-purpose in scope and limited in effect. Stacking such pieces of plans on top of each other like pancakes will not substitute for, or automatically become, the unified and unifying plan for all its land and resources the state so desperately needs.

Rather than follow Governor Brown and his administration into this trap, the Sierra Club should insist that he return to his pre-election pledge to achieve a comprehensive plan for California. The grassroots effort proposed by Mr. Futrell should support President Carter's effort to honor his campaign pledges to achieve a federal land-use policy and a plan that encourages unified state and local integrated planning programs.

Samuel E. Wood
Sacramento, California

Land Ethics

To the Editor:

A basis of Aldo Leopold's land ethic is that land as a community is a basic ecological concept, but land to be loved and respected is an extension of ethics. Two recent articles ("Leopold's Land Ethic: Wishful Thinking or Workable Dream," Edward Schriver, *Bulletin* March 1977; "The Case For Environmental Education," John Miles, *Bulletin* November/December 1976) provide a foundation for environmental thought and action based upon Leopold's ideas that should be understood by persons interested in preserving environmental quality.

This foundation is that Leopold's land ethic is a concept that should prevail in determining our relationship to the environment. Schriver discusses obstacles that prevent adoption of Leopold's land ethic by society's decision-makers. Ex-

amples are our historical mastery of man over nature; environmental, political and economic trade-offs to accommodate competing demands; and blind faith that acceptable technological solutions to environmental problems will occur.

A concept that Schriver failed to emphasize, but that is an important obstacle to adoption of Leopold's land ethic, is society's answer to the question: What is ecology?

For two hundred years, society has thought of science as being politically and ethically neutral. As such, it was a tool to be used at will by political decision-makers. Harvey Wheeler, of the Center for the Study of Democratic Institutions at Santa Barbara, California, has suggested that ecology is a synthetic applied science in which the physical and social sciences are integrated and explored in terms of their ethical and political implications. Moral obligations (ethics) and political imperatives result from the fact that once an ecological truth is discovered, an obligation exists to rectify an adverse ecological impact through the collective action of politics.

When politicians cannot treat ecology as an ethically neutral tool in decision-making, politics loses its autonomy. It is then confronted with scientific limits and imperatives that cannot be violated. Thus, the obstacles which Schriver discusses result, in part, from what ecology says to politics and because many politicians disparage, resent and fear ecology because its findings possess ethical and political obligations.

Miles discusses the value of environmental education to environmental goals, and urges that content of environmental education programs be improved by considering the difficult issues of perceptions, values and ethics. If this were done, perhaps the obstacles to Leopold's land ethic would no longer exist.

John Lemons
Bishop, California

To the Editor:

I commend you for publishing Edward Schriver's article, "Leopold's Land Ethic: Wishful Thinking or Workable Dream?" in the March, 1977, *Sierra Club Bulletin*. While the author accurately portrays some of the criticisms that have been voiced concerning Leopold's land ethic, he fails to provide the reader with much indication of the considerable development that has occurred during the last quarter of a century in philosophical and practical bases for an ecological consciousness.

Leopold's idea of a community of humanity and nature has been developed as a legal theory by Christopher Stone in *Should Trees Have Standing? Toward*

Legal Rights for Natural Objects. Stone argues that just as rights were extended to children and indigents, we can broaden the concept of rights to include nonhuman species and even landscapes. This theory has been utilized for example by the Sierra Club in its suit over mining in Death Valley.

On different grounds but with similar results, Peter Singer in *Animal Liberation: A New Ethic for Our Treatment of Animals*, using logical argument, empirical evidence and moral indignation, argues for vegetarianism and better treatment for laboratory animals. John Lilly, on the other hand, let his laboratory animals go. He opened the gates and let the dolphins swim back to the sea from the "concentration camp" of the lab. Our responsibility for other animals, not just for their "resource values" but from an ethical perspective, is also expressed in the Endangered Species Act passed by the U.S. Congress.

Among literary men, the poets Robinson Jeffers and Gary Snyder have had a precognition of the new ecological consciousness and argued for wholeness, the "seamless web" of relationships between *homo sapiens* and other species. Jeffers' famous phrase "not man apart" summarizes a lifetime of thinking and intuition. The major revival of interest in Jeffers' work occurring in literary and philosophical circles at this time attests to his continuing influence.

Leopold felt that science could "save" us if applied with a "love of the land," a "sense of place." But the business-as-usual science that has produced "managed forests," "genetic engineering" and the atomic bomb has been challenged by new approaches. The new science harkens back to ancient truths and perspectives emphasizing humanity's wholeness with nature and God. The developments of twentieth-century physics, for instance, sent major theorists looking for parallels in ancient Eastern philosophies. Fritjof Capra in his *Tao of Physics* discusses many of these parallels, while Jacob Needleman in *A Sense of the Cosmos: Encounters of Modern Science and Ancient Truth* further expands on the psychology and metaphysics of the new science.

Some writers have begun to appreciate that ecology is not only a science, but a perspective on the world. Paul Shepard, in the introduction to his *Subversive Science*, succinctly expresses this ecological perspective of interrelatedness. Shepard writes, "If nature is not a prison and earth a shoddy way-station, we must find the faith and force to affirm its metabolism as our own—or rather our own as part of it. To do so means nothing less than a shift in our whole frame of reference and our attitude toward life itself, a wider perception of the landscape as the creative, harmonious being without losing our sense of

a great human destiny and without intellectual surrender; we must affirm that the world is a being, a part of our body."

Rather than being a dream, Leopold's land ethic now seems more realistic and practical than the nightmare of a technocratic society where problems are not seen in philosophical or even political terms but only as technical problems to be "solved" by engineers and other experts.

On the practical level, resistance to business-as-usual science and engineering is seen in attempts to articulate "appropriate technology" as urged by E.F. Schumacher in his influential book *Small Is Beautiful: Economics as if People Mattered*.

Political changes embodying some of these ideas have begun to occur. Land is no longer just a commodity to be bought and sold in the marketplace, but is seen as the basis of our lives. In the 1972 Coastal Plan referendum, for example, the people of California declared "... (that) the California coastal zone is a distinct and valuable natural resource belonging to all the people and existing as a delicately balanced ecosystem; that the permanent protection of the remaining natural and scenic resources of the coastal zone is a paramount concern to present and future residents of the state and nation . . ." The California Forest Practices Act and the proposed California Agricultural Lands Act likewise emphasize the interrelationship of ecological processes and human activities, and the fact that all the people have an interest in forests and farmlands as resources and landscape.

Leopold pioneered in the "scientific management" of wildlife, and was one of the first to recognize that we should have designated wilderness areas. His land ethic was the culmination of a lifetime of experience in wilderness and farmlands. But we must build upon his ideas. Important philosophical and political discussions have occurred during the last twenty-five years. The next step will be a comprehensive philosophical treatment of the emerging ecological consciousness.

Bill Devall
Arcata, California

Edward Schriver responds:

I have no real quarrel with Dr. Bill Devall's comments about my article in the March 1977 *Bulletin*. In fact, I agree with him in his expression of opinion. He presses, it seems to me, two major points: (1) that there is a considerable literature which I did not mention and (2) that by calling what was written "... Wishful Thinking or a Workable Dream," I was inaccurate. I will address the two points.

On point one, the development of the Leopoldian ethic in the past few years, Devall is correct. There has been more than

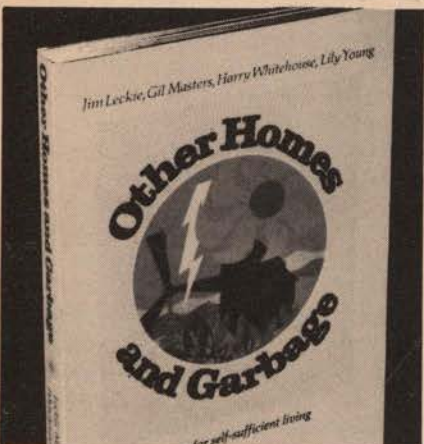


Your ticket is the

Danner
Mountain Trail Boot
#6490

This boot has been rated superior to 22 other brands by Backpacker 4. It has double-riveted lacing hooks and new, larger D rings with special washers. All rivets are covered with soft, full leather lining. Tongue and ankle are padded. One piece upper, leather insole, and Vibram® Yellow Label Montagna sole and heel. If the trail travel bug has got you, write for free catalog and the name of your nearest dealer.

Danner Shoe Mfg. Co. Dept. S
P.O. Box 22204, Portland, OR 97222



Designs for self-sufficient living...

By Jim Leckie, Gil Masters, Harry Whitehouse, Lily Young

"An excellent reference source for those who wish to study, design, construct, or renovate a building while reducing demands on the environment... Sources for materials, sample calculations, tables of properties, and many appropriate sketches all contribute to the excellence of this handbook." — *Library Journal*. Illustrated, bibliography, index. Paper only

SIERRA CLUB BOOKS

Use order form on inside back cover

I noted, *but* I did not intend more than a sample: e.g., the brief references to Dubos and Dasmann at the end of the brief essay. My concern was more with the objections to the Leopold view than with the detailed examination of the view itself.

On point two, whether I was correct in my cursory examination of the objections to the Leopold stance in calling it "Wishful Thinking" and/or a "Workable Dream," I slightly disagree with Dr. Devall. In the first instance, there has been (to quote him) "considerable development during the last quarter of a century in philosophical and practical bases for an ecological consciousness." True, but this development has made only a tiny scratch on the surface of the world of everyday decision-making. The fact that the opposition is powerful was my major point. The power lobbies in Washington, D.C., working counter to an ecological ethic are still dominant.

I must still conclude that Dr. Devall is too optimistic about how much progress has been made toward realization of the ecological consciousness. But, on the other hand, I hope he is accurate and that I am not. His assertion about philosophical progress is fine; but practical progress in any lasting sense is still to come.

Compromises

To the Editor:

Michael McCloskey's editorial, "Are Compromises Bad?" (*Sierra Club Bulletin*, February 1977), should be required reading for all conservationists. I have never seen a wiser discussion of that subject anywhere. However, there is a bit more to the subject.

Some years ago, a social scientist said that every compromise belongs to one of only two classes, which he labeled "Compromise A" and "Compromise B." Compromise A is the kind extolled by McCloskey. In this kind of compromise, each side achieves something that is meaningful to it. Some progress has been made toward a goal for everyone. Therefore, the compromise really works. The situation becomes stable; the issue cools a bit.

Compromise B, however, is an alluring trap: neither side gets anything it really wants, but each side has the satisfaction of knowing that the other side was thwarted. This satisfaction is short lived. Needs remain unfilled, wounds remain open, issues remain unresolved. Dissension is due to break out again soon, and more bitterly next time.

There is much more to this, of course. Compromises A and B have subclasses, which anyone can describe for himself with a little thought. But needless to say, we should never accept Compromise B.

Might I suggest that there is a "Compromise C," even more dangerous for conser-

vationists than Compromise B? Compromise C is the child of indecision or timidity: we cannot agree on a course of action, or we are timorous about the power and wrath of the "other side," so we "compromise" by voting "to take no action at this time." This involves an internal Compromise B, but our compromise with the "other side," the non- or anti-conservationist side, is to let them go on getting away with whatever they are doing. The trees still get cut, the insecticide gets sprayed, the whale-killing goes on, the pollution spews forth and so on.

In thirty-seven years of conservation causes I have seen waves of Compromise C come through again and again. Often the waves are triggered by some new name the anti-conservationists are calling us. We've been called sentimentalists, we've been called Rachel Carsons (for my money, that's like calling us angels; I'm honored to be ranked with Miss Carson), we've been called hysterical. The latest taunt-word is "elitist." Fortunately the taunt-words quickly lose their force and the waves of Compromise C die out—but meanwhile, the bad guys have been getting their way.

Nicholas Rosa
Los Gatos, California

Ocean Exploration

To the Editor:

The United States program for the International Decade of Ocean Exploration (IDOE) will end as scheduled in 1980. Plans are now under way to design the ocean-research program that will follow the IDOE. The goal will be to identify promising directions for marine research, their potential contributions to national oceanic interests over the next five to ten years, and the management approach most appropriate for carrying out these programs.

The basis for this planning effort will be four workshops in each of the major oceanographic disciplines: physical, biological, chemical and geological. A final workshop, planned and organized by the National Academy of Sciences, will bring together recommendations from these workshops and report them to the National Science Foundation in late 1977.

The Office for the IDOE invites the interest and participation of the scientific community in planning for the post-1980 program. Comments, recommendations, and requests for additional details may be sent to:

Head, Office for the International
Decade of Ocean Exploration
National Science Foundation
Washington, D.C. 20550

These comments and suggestions will be available as part of the background for the planning activities.

Crooked Road: A History of the Alaska Highway, by David A. Remley; The American Trails Series, McGraw-Hill, New York 1976. Cloth, \$10.95.

American history," Garrett Mattingly remarked to Bernard DeVoto during the writing of *The Course of Empire*, "is history in transition from an Atlantic to a Pacific phase." The remark crystallized for DeVoto the whole process of continental search-and-seizure, the whole progress from fantasy to fact and from infinite possibility to awesome realization, the whole progressive effect of the New World upon the Old World imagination, that had begun when Columbus made landfall in the West Indies and had ended when William Clark jotted in his journal at the mouth of the Columbia, "Ocean in view. O! The joy!"

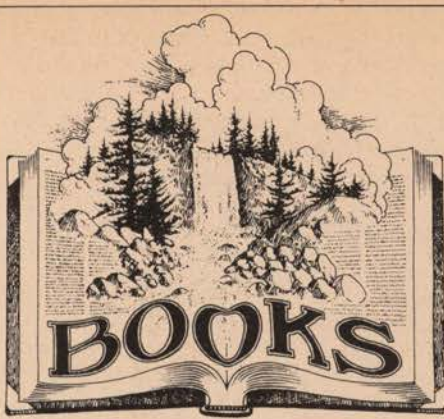
At least for DeVoto it ended at the mouth of the Columbia. In *Crooked Road*, David Remley suggests that an important chapter remained to be acted out, and that the search for the Northwest Passage was not completed until Army Engineer and Public Roads Administration crews touched bulldozers above Kluane Lake in November, 1942, and completed a passable road from Dawson Creek to Fairbanks.

It is an interesting thesis, in some ways obvious, in some ways misleading. If the search for the Northwest Passage means only the opening-up of the wilderness continent, then the Alaska Highway is its last great act. But it means more; it means the opening up of Asia, it means focussing on infinity. From the mouth of the Columbia the way lay open to all that Marco Polo and Vasco da Gama had explored from the other side, what European and American ships had found the hard way, around the Horn. "Asia is found and has become our neighbor," William Gilpin told an audience of Colorado miners in 1868. Destiny was made manifest and inevitable by Jefferson's two captains.

But the Alaska Highway was not built to open Asia; it was built to stave it off. It was created as a secondary supply route for America's northern defenses, indispensable only if the Japanese closed the sea lanes.

Though it corroborated much American mythology and strengthened the pioneering self-image, it does not seem that the Alaska Highway added anything new to the American imagination. It is a connection, a linking-up of remote outposts, not an extension. If there was truly a twentieth century extension of the Northwest Pass-

Novelist, essayist, and historian of the West, Wallace Stegner's latest book, The Spectator Bird, won the 1976 National Book Award for fiction.



A Footnote to the American Dream

Wallace Stegner

age, it was probably Charles Lindbergh's pioneering of the northern air route to the Orient. What makes me unwilling to accept the Alaska Highway as an extension or reaffirmation of our national character and national destiny is that it leads literally nowhere. It deadends against a row of rusty oil drums in the abandoned mining camp of Circle, Alaska. Symbolically, it seems a dwindling and dribbling out of the strenuous American Dream rather than its triumphant final act.

This is a quibble, almost the only quibble I have to make against Mr. Remley's good book. No, there are two other small ones: his prose lacks visual impact, it is short on pictures; and the single map that his publishers provide is not sufficiently detailed to let a reader follow the admirably precise text from pass to pass and settlement to settlement and river-crossing to river-crossing.

Crooked Road is much more than a traveler's report, of which we have had many. It is history, based upon broad and deep research and reinforced by extensive personal experience. Moreover, when it edges over into the personal, as it does constantly, it does not emphasize Mr. Remley's own impressions, but gives us, in full and in the accurately reported lingo, the impressions of the trappers, bush pilots, pioneer women, Indians, frontier priests, construction workers, and truck drivers for whom the road was a great adventure, a watershed in their lives. Their voices, amused, bewildered, indignant, casually heroic, often only half articulate, rise out of the pressing crises of the job itself. They speak of events brought down to human scale, they make none of the cosmic generalizations that historians or philosophers are tempted by. Their collective hands made this enterprise; their collective hopes, expectations, doubts, and disap-

pointments ultimately coalesce into the truth that historians will have to comprehend.

About the feelings of the people through whose lives and by whose labors the road was made, and about the enormous difficulties of construction—ferocious weather, permafrost, muskeg, braided rivers, icing, and all the rest—Mr. Remley is intimate, informed, and instructive. Even while he is filled with admiration for the ingenuity, persistence, dedication, and pioneering toughness that made the highway possible, he understands what it means when a high-energy civilization backed by war and crisis comes crashing in upon a society that operates, both white and Indian, by a few hard survival skills. High wages, acquaintance with monumental waste, introduction of new temptations and new wants, improved access to demoralization, must be assessed against the sheer drama and the frequent heroics and the high dedication of the construction. Mr. Remley leaves us with a most ambiguous feeling about the highway, whether we consider it as an example of international cooperation or as an example of high powered wilderness-busting.

In his pages it is possible to watch an extraordinary vital energy, an extraordinary social organization and industrial skill, that harm while they succeed—harm more, the more they succeed. Northwest Passage or not—and I apologize again for riding my hobby horse through Mr. Remley's text—this action was admirably and disastrously American. We recognize it. Its name is Progress. And we fully understand Mr. Remley's feelings when he hopes that the highway won't be blacktopped, that it will never be improved into a high-speed threat to people and country we would like to see saved from ourselves. SCB

Backpack thru Alaska Wilderness

One week, small group, summer treks—most start from Anchorage.



write or call for information

Gerry O'Connor, Alaska Wilderness Treks P.O. Box C
Eagle River, Alaska 99577 Tel: 907-694-9400



OUR 1977 CATALOG FOR NATURALISTS



Featuring nature books, pocket magnifiers, weather tools, bird whistles, binoculars, wildlife prints, star maps and other paraphernalia. Write.

the Nature Company
Books & Paraphernalia for Naturalists
1999 El Dorado, Dept. SC-3,
Berkeley, Calif. 94707



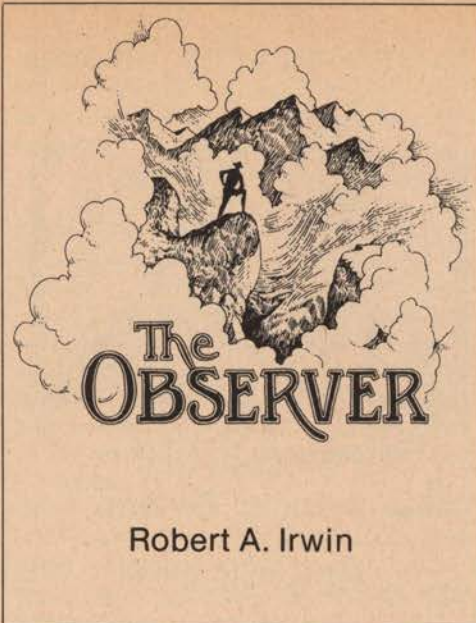
The May Board Meeting

The Sierra Club's annual meeting in San Francisco on the weekend of May 6-8 was full of surprises—informative, amusing or unabashedly and joyfully emotional. All were sprung on one day—Saturday. The first was revealed shortly after the Club's board of directors convened that morning. Bill Futrell, the Club's new president, announced that California's Governor Jerry Brown would be dropping in sometime after noon and later would sit down to a brown-bag luncheon session with Club members in the Sierra Club library.

Claire Dedrick, who was Club vice president in early 1975, when Governor Brown appointed her to his cabinet as Secretary of Resources, introduced Brown, who opened his remarks with: "I'm impressed with your Club's new president from Georgia—a very good omen." He struck his familiar theme of the need to realize that everyone—including environmentalists—are up against limits. He spoke of a growing polarization in society and urged that opposing advocacy groups learn to communicate with each other.

Some lively questioning followed. Director Edgar Wayburn pointedly asked Brown why he, as governor of California, had so far not spoken out in favor of expansion of the Redwood National Park, especially, he said, when his support now would immensely strengthen the chances of finally attaining a park worthy of its name. To Brown's reply that his administration had acted to protect the park and had sought a moratorium on nearby logging, Wayburn persisted in asking Brown why he had still not spoken out unequivocally. Brown then indicated that when the legislative process in Washington is further along, he will indeed be prepared to speak out. Later, out of the glare of Klieg lights and in the more relaxed environment of the library, Brown deftly and a little more openly fielded questions and responded to criticism. In the main, he revealed himself as sensitive to environmental values, but also genuinely concerned for people and their needs. But, of course, there was a lot more to the annual meeting than the governor's surprise appearance.

One of the first items of business of the board of directors' meeting was the official report of the April 9, 1977, Sierra Club election by Lewis Clark. For reasons unknown, member response was exceedingly low. Only about twenty-one percent of eligible (all except Junior) members cast ballots—about 10,000 fewer than a year ago. Perhaps the drop-off was caused by a combination of factors: (1) four incum-



bents were running, all of whom were re-elected, (2) there were no controversial issues to be resolved, such as last year's proposed dues increase, and (3) all ballots to the lower forty-eight states were mailed third class. The board of directors gained one new member. Helen Burke of Berkeley, California, chairperson of the Land Use Task Force of the Northern and Southern California Regional Conservation Committees. She replaces June Viavant of Salt Lake City, who did not run for re-election. (For the complete roster of the officers and members of the new Board of Directors, see page 46.)

Through Saturday morning into the early afternoon and all day Sunday, the board worked its way through the forty-item agenda. It debated and acted on a wide range of conservation and environmental matters, including the whale boycott, plutonium and nuclear exports, Antarctica, utility-rate structure and population policy, among others. A "sunshine bill" was debated and approved: henceforth all less-than-unanimous votes by the board will be recorded. A mid-year budget review revealed that despite gains in membership, less income had been realized than was forecast. Consequently, a number of 1977 budget adjustments were adopted. Other necessary housekeeping tasks and reports from the staff were also attended to. Then, shortly before the end of the morning session, came the second surprise, a rousing adoption-by-acclamation of a resolution of commendation for Susan Miller, the board's secretary, who after more than a dozen years of service at Club headquarters is retiring to study at the University of California. Her quiet, patient, and cheerful assistance will be sorely missed.

The Dinner and More Surprises

This year's Annual Dinner was held Saturday night at the Sheraton-Palace Hotel in San Francisco. The featured speaker was former California Assemblyman Charles Warren, who now chairs the President's Council on Environmental Quality. Though his speech was low-keyed and marked with restrained optimism, he did say that he expected to see significant environmental successes during his tenure at CEQ. Upon receiving a Distinguished Achievement Award from the Club for his leadership on environmental issues while serving in the California State Assembly, Warren declared he would display it prominently in his Washington, D.C. office.

Distinguished Service Awards, which are presented to public officials who have shown a strong and consistent commitment to conservation, also went to Senator Edmund Muskie and former Assistant Secretary of the Interior Nathaniel Reed.

The John Muir Award, the highest annual honor bestowed by the Club, went to David R. Brower, former executive director of the Club and founder of Friends of the Earth. Brower was honored "for his vision and determination to make the enjoyment, appreciation and protection of the earth's resources a major force in our society. His leadership in the struggle 'to do something for wildness and make the mountains glad' has nurtured the tradition and spirit of John Muir."

The William E. Colby Award went this year to Holway R. Jones "for his devotion to the Sierra Club and the preservation of wilderness. As Director, chairman of the Wilderness and Publications Committees, author, worker, and enjoyer of the wilderness . . . he has carried on, par excellence, the tradition established by William E. Colby."

The Walter A. Starr Award was presented to Paul Brooks, author, publisher and former Director, "for his continuing service in defining and giving substance to Sierra Club values and goals. For over twenty years, he has contributed to the publications program and to conservation campaigns . . ."

Other awards included—

- The Francis E. Farquhar Mountaineering Award to Galen Rowell;
- The Oliver Kehrlein Award to Carol Dienger for her work in the field of environmental education;
- Special Achievement Awards to—Miron Heinselman, for his "long and valiant defense of the Boundary Waters Canoe Area"; James V. Elder, for his "spirited and steady leadership" in the campaign that resulted in National Monument status for the Congaree Swamp; Betsy Barnett,

for her "foresighted and outstanding leadership of the Southwest Regional Conservation Committee and the Rio Grande Chapter"; and Richard Fiddler, for his "dedicated leadership of the Northwest Regional Conservation Committee" and his personal contributions to the campaigns that achieved within a single year the establishment of the Hells Canyon National Recreation Area and the Alpine Lakes Wilderness.

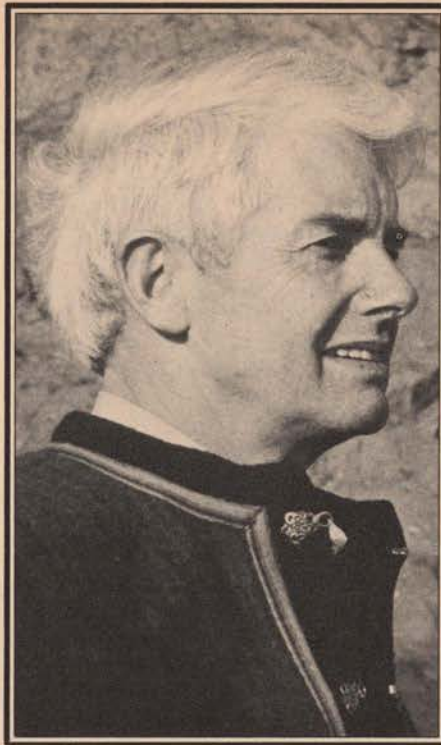
• Susan Miller accepted the gift of a camera from Club leaders whom she had served so long and well. In addition, the members of the board gave her a stack of silver dollars for a stereo.

The Council and the Grass Roots

One of the greatest values of the Club's annual meeting—and of the other so-called "circus" meetings as well—is the opportunity it affords members from all regions to exchange ideas and see how the Club works. The Sierra Club Council, established in 1956, is the vehicle that fosters participation by chapter delegates in the Sierra Club at the national level. It is made up of fifty-one delegates—one from the National Outings Committee and one each from the fifty chapters in the United States and Canada. The combined Board/Council meetings, scheduled three times a year in San Francisco—as the budget allows—are dubbed "circus meetings" because of the numbers attending and the multitude of activities crowded into those weekends.

Long before the formal session of the Council opened on Saturday afternoon, some delegates from distant chapters had arrived to get acquainted with the staff at Club headquarters. At 1 p.m. Friday, a series of three council-sponsored workshops opened. The first, on inner-city outings, featured Pamela Johnson of the San Geronio Chapter and Emilio Garcia of the Loma Prieta Chapter, both in California. (See Observer columns for March, 1977, and October, 1975.) Each presented guidelines and advice for setting up and running wilderness outings for underprivileged youths and minorities. Trips into wilderness, not developed parks, are particularly therapeutic, Garcia pointed out, because they provide a complete break from urban habits and values—no soft-drink machines, no ice-cream stands, no radios. The second workshop explored opportunities for using television and radio to get the Sierra Club message to the public, and the third discussed methods and techniques of increasing the Club's political effectiveness, including how staff and volunteers can join forces in such efforts.

There was no rest for council delegates Friday evening either. Between 7:30 and



David Brower

10:30, five council committees were in session: Outing Policy, Membership, Chapters, Volunteer Activism, and Outing Leader Training. At the same time, a number of national committees were also meeting in other corners of Club headquarters. By 8 a.m. the following day, new delegates—roughly half the council's membership—were attending an orientation, coffee-and-rolls breakfast in the Club's library. Council delegates, they were told, should be prepared to make commitments of two or three years, to devote three entire weekends each year to all phases of the "circus" meetings, and to participate in at least one committee. The council is responsible for advising the board of directors on the internal workings of the Club at all levels. It conducts studies and makes recommendations to the board, which has final authority.

This year, the Council instituted an award to recognize the work of behind-the-scenes volunteers who do the necessary chores to keep the wheels of their chapters turning smoothly. The aptly named Susan Miller Council Award was given for the first time at the Saturday session to three such volunteers. Nominations for the award are submitted by the chapters and will be given to as many as three persons in any one year. From the 19 named this year, the following three were selected:

• Joan Phillips, New Orleans, Louisiana—for her outstanding service to the Delta Chapter in recruiting volunteers, establishing effective chapter communications and

planning for outings. She showed the way to other Louisiana organizations in working together for trail development;

• Mary Sanders, St. Paul, Minnesota—for her years of service to the North Star Chapter as a member of the executive committee, chapter secretary, office manager and membership coordinator. Through her skill with public displays, the Sierra Club and North Star Chapter continue to be dramatized to the public;

• Anne Van Tyne, Santa Barbara, California—for her long record of outstanding service to the Los Padres Chapter as an officer of the executive committee, organizer of regional groups and administrator of outings programs. Her many activities (including the editorship of the council *Newsletter* and work on the National Membership Committee since 1972) continue to assure solidarity and growth of the chapter.

Election of officers for 1977-78 was the last order of business for the Council. The five officers chosen constitute the council's executive committee. The offices and the persons elected to them follow:

• Chairman: Charles Kopman, St. Louis, Missouri (Ozark Chapter)

• Vice-Chairman: Denny Shaffer, Fayetteville, North Carolina (Joseph LeConte Chapter)

• Secretary: Marlene (Marty) Fluharty, Mount Pleasant, Michigan (Mackinac Chapter)

• Fourth Officer: Joseph Jacob, Jackson, Mississippi (Delta Chapter)

• Fifth Officer: Robert Howard, Albuquerque, New Mexico (Rio Grande Chapter).

75,000 More Members by 1980

As of the May Annual Meeting, the Sierra Club's total membership was estimated at more than 175,000, or some 75,000 short of its goal of 250,000 members by 1980. Extraordinary efforts are being made to achieve this goal, and with a current projected yearly growth rate of 10.33 percent, success seems possible. In the words of energetic Membership Committee Chairman Denny Shaffer "... if we work at it, the Sierra Club will have 250,000 members by 1980. We might begin asking ourselves if that's all we want."

One such extraordinary effort, as press time approaches, is Sierra Club Membership Week, May 15-22. Of course, the returns cannot be in before the event, but the target of this campaign is you and me—the current members. As effective as the media ads and direct mailing efforts have been, we members really are the best recruiters. With or without the handy, pocket-sized application form included

with the full-page ad in the April *Bulletin*, Shaffer has been signing up new members. If he doesn't have a form handy, he takes the applicant's check anyway, filling out a form and mailing it in later.

Shaffer has been responsible for a number of innovative membership-development projects, among them three ads in the *Bulletin*, a series of four camera-ready cartoon ads for use in chapter and group newsletters, and a four-color recruiting brochure, with its eye-grabbing "crazy enough" message. Now, at last, he has full staff support in the person of Peggy Hynd, who has been hired as coordinator of membership development. Her enthusiasm and obvious ability impressed the throng at Shaffer's three-hour-long Membership Committee meeting at Club headquarters on May 8. She plans to give special attention to reducing the number of people who do not renew their memberships. In the month of March, for example, 5,278 people joined, and 3,537 others left. If anyone has ideas on how to plug that leak, or at least reduce its size, please get in touch with Peggy Hynd at Club headquarters.

The thought of promoting or selling memberships in the Sierra Club may seem repugnant to some. Hucksterism? Worship of growth for growth's sake? It needn't be either. There are people out there who care about wilderness, about the only planet they have to live on. We need them. They need us. Numbers do count, and the politicians, public officials, and the media all know it. Just to be counted "on our side," therefore, is important. To pay dues gives the Club more financial muscle to do its work.

Pleas and Announcements

This section of the Observer column is open to requests for information or ideas from members and for special notices and announcements of Club-wide interest. Mail your items to Bob Irwin, 4173 Montecito Ave., Santa Rosa, CA 95404. If they have time value, submit them at least six weeks before the event or final response date.

• The Club's Mountaineering Committee has a vast storehouse of knowledge it is anxious to share with interested leaders of mountaineering, rock-climbing, and skiing sections or groups in the Sierra Club. The committee would like to add all such persons to its mailing list. Requests should go to the committee chairman, Norman Kingsley, Box 262, La Canada, CA 91011. Committee membership is open to any mountaineering/skiing chairperson. The committee regularly conducts mountain-rescue seminars, and it plans to offer

mountaineering seminars at its national meetings. It recently has been asked to send a delegation of climbers to the Soviet Union to attend a climbers' camp in the Pamirs.

* * *

• Slides on winter backpacking, primarily for a late-teens audience, are being sought by the Cumberland Chapter. Doris Tichenor, who is preparing a slide program, needs high-quality slides depicting techniques and good use of winter gear. If you would like to help, send your slides to her at Cave Spring Farm, Route 1, Nicholasville, KY 40356. She'll make duplicates of the ones she can use and return all your originals promptly. When her program is completed, it will be available for use by other chapters and groups.

* * *

• Limited funding is available for sending chapter members to Washington to testify on high-priority environmental legislation before Congress, especially on the Endangered American Wilderness Act, according to Paul Swatek, the Club's assistant conservation director. For help from the Conservation Assistance Fund, members should contact their chapter's Regional Conservation Committee delegate.

* * *

• Ideas and suggestions for improvements in the organizational structure of the Sierra Club are needed from members. From July 20 through July 24 a small group of Sierra Club leaders will be meeting at a remote ranch in northern New Mexico to study possible changes. Your thoughts would be helpful. Send them as soon as possible to President William Futrell at Club headquarters.

* * *

• Judith Kunofsky, the Club's population specialist and editor of the monthly *Population Report*, has been elected the new national president of Zero Population Growth.

Chapter and Group Notes

The 415-member Mary's Peak Group of the Pacific Northwest Chapter—with its bank balance down to \$18—held its third successful garage sale of the year on April 30. Proceeds from the first two sales were used to help finance its Roadless Area Guide, the (Oregon) Legislative Task Force, and a trip to Washington, D.C., for two of its members to testify on wilderness legislation. In its latest garage sale, the group cleared \$150—"mostly for junk," the sales manager, June Belli, confided. The first two sales had drained the

members' supplies of salable items. She suggested one big sale a year would be more worthwhile, provided items could be systematically collected and stored during the year.

* * *

The Ohio Chapter has taken its first step toward hiring a full-time lobbyist in Columbus, the state capital. It appropriated \$1,000 as a retainer to a lobbyist for a two-month trial period. In the meantime, it has opened a fund drive to support the lobbying effort full time.

* * *

The Cumberland Chapter has published an attractive and useful Chapter Handbook, for which it's asking a donation of \$1 or more to help defray printing costs and especially insurance costs, which have quadrupled since 1976. The handbook lists officers of the chapter and of its two groups, provides data on the Sierra Club and outings, with listings of backpacking, canoeing and day-hike outings for all of 1977.

The chapter's Louisville Group may have achieved a literary first in the Sierra Club with its recent appointment of an official Poetry Reciter in the person of Sam Fulkerson. He is noted for his stirring and nostalgic campfire recitations of James Whitcomb Riley's poems.

* * *

A more ambitious publishing venture has been undertaken by the Ozark Chapter, which is planning a 1978 Missouri Wilderness Calendar similar in quality and format to the national Sierra Club calendars. Thirteen full-color photographs will be selected from entries in a chapter-wide contest. The chapter is vigorously promoting sales among its members at \$4.24 each. The price in retail outlets will be \$5.

Updates and Follow-ups

Last September this column reported the remarkable fund-raising success of the Columbia Group of the Pacific Northwest Chapter in its Second Annual Auction Fair. The 1,200-member group centered in Portland has done it again. Despite a slightly smaller turnout, 175 bidders, the auction netted the group \$2,500. The hottest bidding, according to the auction coordinator, Linda Jones, was an offer to custom-make a fancy shirt with a large Sierra Club logo embroidered on it. The winning bid was \$35. Photographer Ray Atkeson donated twelve of his large color prints, which went for \$50 each. Among the unusual "items" offered was one day of breadmaking lessons in a mem-

ber's home. A system of silent bidding proved popular. It actually got quite competitive, almost bloodthirsty, said Jones, with people pushing to get to the bidding sheet to enter their names and raise the ante. The system saved time, too, because it could go on while the auctioneer was carrying on his spiel on the bigger-ticket items.

What's the group doing with all its money? For one thing, it is giving generous support to the Oregon Wilderness Coalition, and for another, it will be sending people to testify before congressional committees on the Endangered American Wilderness Act.

* * *

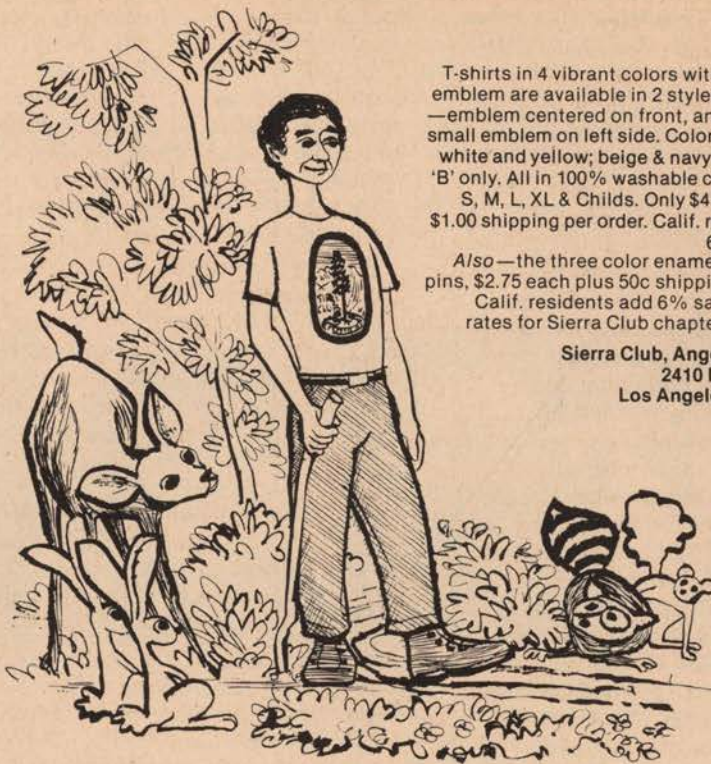
The \$25,000 grant to the Ontario Chapter reported here in the February issue has since been raised to \$35,000 by the provincial government. The Porter Commission hearing on the future power-generating needs of the government-owned Ontario Hydro system is requiring more time than originally planned. The chapter is involved in two additional studies, one aimed at a more accurate prediction of future demand for power by use of an econometric model. Instead of the usual straight projection from past usage, the demand for electricity is linked with other factors such as gas supplies, road construction, employment and population patterns. The data are fed into a computer at the University of Toronto. The second study is looking into the probable effects on power demand of various energy-conservation measures such as increased use of insulation and revision of rate structure. The hearings now are in the debate stage, Chapter Chairman Ric Symmes reports, and the chapter will start to present its testimony in November.

The Ontario Chapter's successful efforts to have the entire 265-mile length of the Missinaibi River declared a park reservoir was mentioned here in the April issue. Now its work has received official recognition in the Ontario Ministry of Natural Resources background paper on the reserve. It states that the value of the river as a recreational resource has long been recognized by the government "as well as conservation and recreation groups. Foremost amongst the latter was the Sierra Club of Canada."

* * *

The Ventana Chapter's new Environmental Center, reported in the last issue, had its grand opening on May 6. Ansel Adams was on hand for the hanging of three Yosemite photographs he had contributed to the chapter, of which he has been a member for many years. Adams joined the Sierra Club in 1919 and served several terms on the Club's Board of Directors.

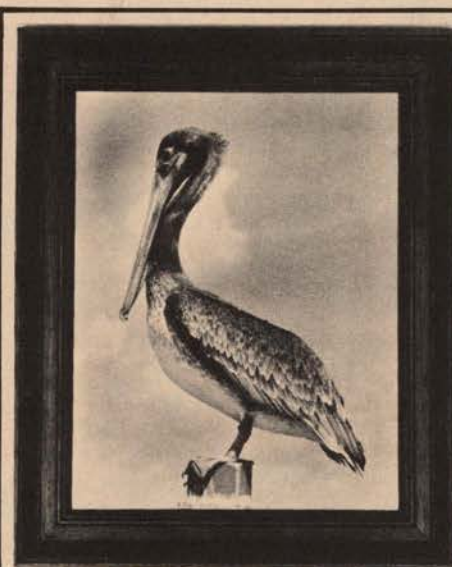
wear the badge of friendship



T-shirts in 4 vibrant colors with Sierra Club emblem are available in 2 styles . . . Style 'A'—emblem centered on front, and Style 'B'—small emblem on left side. Colors are lt. blue, white and yellow; beige & navy blue in Style 'B' only. All in 100% washable cotton—sizes S, M, L, XL & Childs. Only \$4.50 each plus \$1.00 shipping per order. Calif. residents add 6% sales tax.

Also—the three color enamel Sierra Club pins, \$2.75 each plus 50c shipping per order. Calif. residents add 6% sales tax. Bulk rates for Sierra Club chapters & groups.

Sierra Club, Angeles Chapter
2410 Beverly Blvd.
Los Angeles, CA 90057



A beautiful pet. And you don't feed it. one of Florida's foremost residents, the Brown Pelican*

This beautiful full-color photograph on canvas** of the Gulf Coast's large and lovely fisherman is so life-like you feel you could reach up and feed it. Attractively framed, this work of art is available in three sizes to fit any decor 18" x 24"—\$59.95, 16" x 20"—\$49.95, 11" x 14"—\$39.95

* Sanibel Island, off the lower southwest Florida coast, is the site of the J. N. "Ding" Darling Wildlife Sanctuary where the brown pelican and countless other gifts of nature live.

** A note on the special print process

ART FAC is a patented process that actually makes the original image of a photograph a part of artist's canvas. The result is incredible brilliance, real texture and a lasting work of art. Your satisfaction is guaranteed.

ART FAC Sanibel, Inc.

Dept SC6
P. O. Box 357
Sanibel Island, FL 33957

Please ship Brown Pelican in

_____ 18" x 24" — \$59.95

_____ 16" x 20" — \$49.95

_____ 11" x 14" — \$39.95

(Plus \$2.00 shipping charge., FL residents add 4% tax.)

Enclosed is \$ _____ (check or M.O.) or charge

Master Charge BankAmericard

Acct. # _____ Expires _____

Signature _____

Name _____

Address _____

City _____

State _____ Zip _____

Allow 4 weeks for delivery.

BOARD ELECTION RESULTS

Results of the 1977 election to fill five positions on the national Sierra Club Board of Directors were announced April 11 by Lewis F. Clark, Chairman of the Judges of Election. Successful candidates, in order of votes received, were: incumbent Theodore Snyder, a Greenville, South Carolina, trial lawyer and current Vice President of Long-Range Planning; Helen King Burke, a Berkeley, California, resident who is active in the Club's Northern California Regional Conservation Committee; incumbent Lowell Smith, a research physicist in Washington, D.C., and current Club Treasurer; incumbent Richard Cellarius, an Olympia, Washington, college biology professor and current

Club Secretary; and incumbent Joseph Fontaine, a high school teacher from Bakersfield, California, who has been active in forestry and Alaska conservation matters.

The membership also approved a number of Bylaw amendments. Some bring the Bylaws up to date with current practices and make them conform to the current California Corporations Code. Substantive amendments made *all* powers of the Executive Committee derivative from the Board of Directors and increased the number of signatures required to place an issue on the ballot by petition to 1% of those voting in the previous election.

President	Vice President	Secretary	Treasurer	Fifth Officer
				
William Futrell Residence: Athens, Georgia, Occupation: University Law Professor	Richard A. Cellarius Residence: Olympia, Washington. Occupation: University faculty member in plant biology and biophysics	Ellen Winchester Residence: Tallahassee, Florida, Occupation: Environmental Activist	Theodore Snyder Residence: Greenville, South Carolina, Occupation: Trial lawyer	Kent Gill Residence: Davis, California, Occupation: Junior High English Teacher
				
Phillip S. Berry Residence: Oakland, California, Occupation: Trial lawyer	Kathleen A. Brown Residence: Midland, Michigan Occupation: Environmental Systems instructor	Helen King Burke Residence: Berkeley, California, Occupation: Environmentalist, Elected Public Official	Brant Calkin Residence: Santa Fe, New Mexico, Occupation: Environmental Consultant & Fund Raiser	Joe Fontaine Residence: Tehachapi, California, Occupation: High School Science Teacher
				
Mark Ganopole Hickok Residence: Anchorage, Alaska	Leslie V. Reid Residence: Pacoima, California, Occupation: Precision machinist	John Ricker Residence: Phoenix, Arizona, Occupation: Physician	Lowell Smith Residence: Arlington, Virginia, Occupation: Physicist and program director for energy and environmental public policy research	Edgar Wayburn Residence: San Francisco, California, Occupation: Physician

Guest Opinion

From time to time in this space we present "Guest Opinions"—messages from prominent individuals who are not primarily involved on a daily basis with environmental concerns, but whose voices should be heard by those of us who are. Their viewpoints on various conservation issues, while inherently interesting and important to us, do not necessarily reflect or represent Sierra Club policy.
The Editor

The Environment, the Economy and the Excluded

Ralph D. Fertig

Ralph Fertig is former executive director both of the Greater Los Angeles Community Action Agency, and the Metropolitan Washington Planning and Housing Association.

In a wealthy Maryland suburb of Washington, D.C., environmentalists led the move to block a housing development for the elderly.

In Los Angeles, a populist representative of inner-city residents stood on a freeway ramp to collect signatures protesting the "diamond" (exclusive) lane for bus and car-pool traffic.

Throughout the United States, working-class voters teamed up with industrialists to defeat nuclear-safety initiatives.

The conflict between those who pursue environmental objectives and those who seek jobs and housing has been destructive to each group. The conflict, however, is illusory, unnecessary, and subject to manipulation by those who would benefit most by ignoring both groups. It is illusory because achievement of the quality of life sought by each requires fulfillment of the objectives of both. It is unnecessary in that such conflict arises from differences irrelevant to the goals of either group. And the adversity is grist for the mills of the exploiters of labor and the despoilers of our natural environment.

The Maryland housing proposal would have increased the number of dwelling units for which that tract was zoned, but it would have reduced the potential drain on resources. Each unit would have been occupied by fewer persons than was the norm for that community of large families. There would have been no children to impact the adjacent nature preserve, and the elderly, who would have appreciated its use, would also have helped assure its protection. There would have been fewer cars than those generated by the type of development standard for the area. The bitterness of the struggle drove a wedge between those committed to the conservation of resources and those whose age and his-

toric contributions to our culture form one of the nation's most valuable resources to be conserved. It has been a costly and unnecessary division in which both parties have lost.

The successful management of improved bus service and multi-passenger private cars in the "diamond lane" in Los Angeles would have reduced the fumes, noise and traffic congestion in the inner-city neighborhoods. But the "Mercedes moderates" of the outer city were so outraged at the threat to their comfort and convenience that, together with the powerful *Los Angeles Times*, they pressured their usually environmentally supportive representatives to demand free access to all ten lanes for private single-passenger autos at all times of day and night. But environmentalists had built no alliance with those who would have preferred improved bus service, who could not pay skyrocketing fuel costs or who wished to draw upon the well advertised car-pool clearinghouse. The victims of obsolete transportation policies and those who are leading the struggle for positive change never came together. So a representative of those whose homes absorb the greatest concentration of emission poisons and noise led the protest against the diamond lanes.

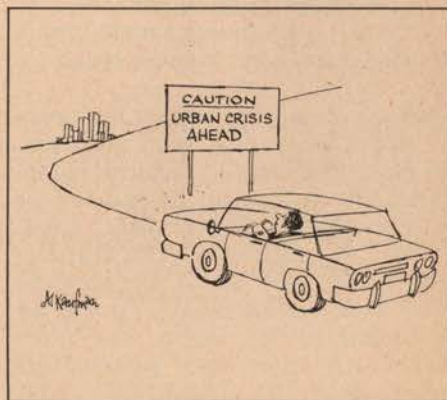
In the recent round of nuclear initiatives, wage earners were convinced that they had to choose between the more immediate possibility of unemployment and the remote possibility of devastation. Something had to be wrong, they felt, with an environmental movement that allowed the fate of generations to be fought on the grounds of such a bizarre statement of alternatives! The concentration of high-level positions in the nuclear industry, with fewer jobs at union level, could have been more effectively contrasted to the broader distribution of work in the development of alternative fuel sources. Surely, the construction of windmills and solar panels, for example, is far more labor-intensive than the nuclear industry's highly technical projects which were supported, in effect, precisely by those who would be looking for work as

soon as the building of scheduled plants is completed.

Why, then, have the workers and the elderly, the residents of the inner city and those of moderate and low incomes not been brought into the ranks of the environmental movement? Why, when an improved system of transportation with reduced pollution and safer environment will most benefit those who most depend upon the public systems, are they instead so often allied with those who seek private benefits, special favors and an avoidance of responsibility to those whose air and water they poison? The loose but effective alliance between the despoilers and their victims hangs together on the basis of history and hope, illusions and promises. But this unfortunate alliance also persists because environmentalists have not adequately reached out to involve the poor, the elderly, those seeking work or better housing, those who need better public transportation and lower prices for the fuel to heat their homes.

Too often, residents of the inner city regard "ecology" as too esoteric and remote a concern; they are too caught up in the daily struggle for more basic needs. So much more than words are lost in the translation. But clearly, environmentalists must learn the words to build the alliance.

Too often, it is thought that the poor and the disadvantaged hitch their wagons to the star of economic growth alone, while



environmentalists want to enjoy the stars through a sky that will only be clear when there is no growth. In fact, both groups are ill served by such simplicities; they need to come together to plan the real strategies of optimum growth. Environmentalists have to recognize that the hopes of those historically left out hinge on increased opportunities and that no plan for improved ecological balance can succeed without providing some options through economic development or reallocation. A review of the history, some concerns, and some possible actions in the roles of cities and of industry may help illustrate how the new coalition might work.

Isolation of the poor

Most American cities built since the industrial revolution have a classic east-west split: the east sides of towns were generally set aside for the fume-generating factories, downwind from the finer homes of the plant owners and managers. Increasingly, low-income and minority populations have been relegated to the most polluted neighborhoods in East Los Angeles, East Oakland, Hunter's Point in San Francisco, East Chicago (which, because of the way the Chicago area wraps around the base of Lake Michigan includes much of the South Side on into Gary, Indiana), East Harlem and across the East River to the Bronx and Bedford-Stuyvesant, and "east of the park" in Washington, D.C.

The isolation of low-income populations in the already plundered areas is compounded by the withdrawal of those who contribute most to the tax base and job structure to their own incorporated towns with their own school systems and planned open spaces. The proliferation of new occupational centers that have lower levels of pollution and are more accessible to upper-income employees and managers tends to follow the flow of affluence westward, farthest from those most in need of work and least able to commute great distances. Those who left the polluted city behind are anxious to avoid a duplication of inner-city land uses in their new communities, but this concern need not find expression in efforts to exclude migrants from the inner city. Instead, such concerns could form a basis for coalitions to maintain the center city.

The downtown areas of most metropolitan regions are the only places where East can meet West. Existing factories and infrastructure, water supply and sewage systems, power conduits, roads, public transportation hubs and parking structures already exist; their duplication elsewhere would wreak ecological havoc. It is in the best interests of the economy, the environment and the democratic goals of our society to reaffirm downtown development.

In Washington, D.C., the government—as major employer—was leading the commercial development of the west side of town through leasing and constructing of office buildings in Montgomery County and Northern Virginia until litigation by the Metropolitan Washington Planning and Housing Association and its attendant publicity forced the issuance of a new executive order. Since then, the federal government has required that all of its employment sites be related to the availability of housing for personnel at all grade levels. This has forced a reversal and a revitalization of downtown office buildings and related commercial activities, supported the restoration of some historic inner-city structures, helped to preserve open spaces in several suburban locations that had earlier been earmarked for broadside development and encouraged increased interaction among people from diverse sectors of the metropolitan area.

Similar policies by local planning agencies could be pursued by environmentalists and inner-city economic and ethnic alliances, joining forces for mutual interests in other cities throughout the United States.

There is a danger in the success of such efforts: the value of inner-city land will rise and this will affect low- and moderate-income residents. Environmentalists will have to share in the effort to provide options for housing on an integrated basis throughout the metropolitan region. By seeking ecological balance through five large-lot zoning, environmental concerns have too often been used to keep minorities and the poor out of communities. Somewhere, in most townships, there could be a cluster of units in which there could exist a diversity of income. Such housing need not disrupt the ecology, nor should it lack the amenities required for other residents of the community. We have long since passed the era of "low-cost housing," the slapping up of a structure for those with less money. We shall have to house low- and moderate-income neighbors through subsidy by either government or the marketplace (much as we require large-scale builders to set aside portions of their development for other public purposes, with the cost spread over the price of other units). No alliance with inner-city residents can work without a plan to assure them a choice of decent housing at reasonable rates. But no absorption of center-city functions by fragmented suburban centers could take place without still greater disruption of the environment and more isolation of people from one another and of those most in need from the opportunities of our society.

Workers today often support the rights of their employers to pollute the very water they drink and the air they breathe, believ-

ing their only alternative would mean a loss of income. But if industry were held accountable to those victimized by its industrial carelessness, the responsibility could be extended to assure that workers would not lose income because the employer has to conform to community health standards.

Why not workers

Ohio and California courts recently ruled on cases in which workers sought recovery for wage losses suffered when their places of employment were shut down because of employer negligence. In Roseville, California, for example, a trainload of military bombs detonated in a railroad's freight yard. A series of violent explosions caused damage throughout the neighborhood. Twenty-four plaintiffs sued the Southern Pacific on the grounds that the plant by which they were employed was destroyed by the explosions and they had thus lost employment and wages. Courts have allowed plant owners to recover their losses. Why not workers? The appeals court, in denying the workers' suit, followed precedents established by the California Supreme Court, but Justice Friedman, reviewing the history of such decisions through 1975, suggested they "may be ripe for renunciation or limitation."

He noted that the "foreseeability of harm" has become the prime test of negligence liability and may be extended even to "secondary victims" in analogous cases of personal damage. A judicial action that would recognize the compensation due workers or householders because of the negligence of an enterprise could be as significant to environmentalists as it would be to workers. If the corporation's violation of public standards led to a situation in which its plant, or that of a neighboring business was forced to cease operation, the worker should not be the victim. And this should hold true, whether the shutdown was due to carelessness leading to an accident in the plant or to carelessness that polluted the air or water of the community in which the plant is located.

Environmentalists should frame suits or draft legislation to achieve this purpose. Organized labor would be a natural ally, anxious to ensure that workers are not victims of layoffs, lost wages, or lost jobs, owing to their employer's negligence.

Environmental goals can be achieved in coalition with the victims of the despoiling practices of the past. Failure to form such natural bonds has led to significant losses and will cripple future efforts. The most important thing is to begin: to start by reaching out to those historically left out; to come together in joint planning for common goals; to learn each other's words and to share in the understanding and preservation of our one world. SCB



One Last Chance for Shasta

PHILIP T. RHODES

Mt. Shasta and Mt. Rainier, each more than 14,000 feet in elevation, are the two highest peaks in the Cascade Range of the Pacific Northwest. Though separated by 500 miles of intervening peaks, these two enormous mountains have much in common: both are composite volcanoes composed of lava and ejected rock fragments; both completely dominate their surrounding lowlands and on clear days are visible for miles; both are greatly renowned and loved for their beauty. Yet in one critical respect, the peaks are vastly different: much of the upper slopes of Washington's Mt. Rainier are unspoiled and unthreatened within the boundaries of Mt. Rainier National Park; Mt. Shasta, however, is almost completely unprotected, its forests subject to clearcutting, its timberline to resort development and the clamor of snowmobiles. Over the years, repeated attempts have been made to secure protection for at least

part of the mountain—none have succeeded. This year, conservationists are trying one more time. It may well be the last opportunity.

Mt. Shasta, the largest volcano in the forty-eight contiguous states, rises more than two miles above its base to an elevation of 14,162 feet, is fifteen to twenty miles in diameter, and contains an estimated eighty cubic miles of rock. At the concluding stages of its development, an unusually large subsidiary cone, Shastina, grew to over 12,000 feet, a double cone unique to the Cascade Range.

The ten glaciers that lie on Shasta's upper slopes, though not extensive by more northern standards, are the largest in California, and unlike most of the world's glaciers have grown in recent decades. They make Shasta the only peak in the state that is white-capped the year round, a feature for which it was widely celebrated during the nineteenth century. The occurrence of glaciers in the United States outside Alaska was not recognized until 1870, when geologist Clarence King dis-

covered them on Mt. Shasta. John Muir was another naturalist-explorer who spent a lot of time on the mountain during this period. It was his favorite peak, but during one climb a fierce blizzard nearly killed him.

Mt. Shasta's flora shares elements in common with neighboring mountain ranges but, owing to the peak's much greater altitude and resulting weather, also contains many distinctive elements of its own. Several uncommon wildflower species occur on the mountain, including one found nowhere else. As a result of the work of early botanists, Shasta is the type locality of forty-four species of plants. Shasta's most distinctive, spectacular and valuable plant community is the Shasta red-fir (*Abies magnifica* var. *shastensis*) forest, which rings the mountain between 6,000 feet and timberline at 8,000 feet. One can hike for miles through this forest and see only an occasional Western white pine, mountain hemlock or whitebark pine. Nowhere else is Shasta red fir found in extensive stands. Certainly one of the most beau-

Philip T. Rhodes chairs the Mt. Shasta Resource Council.

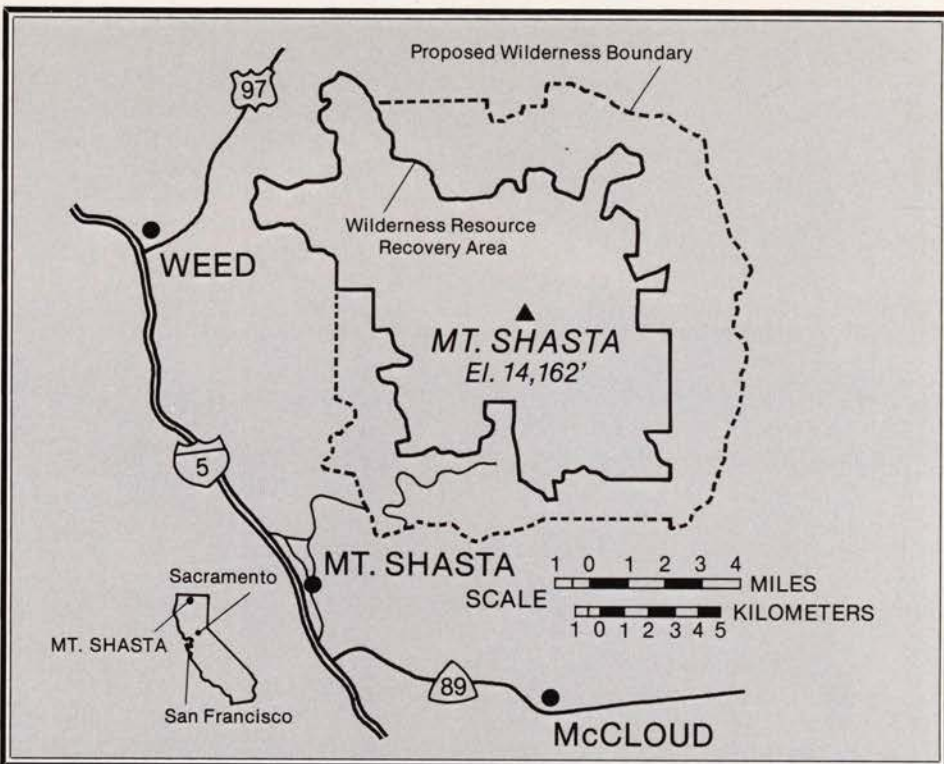
tiful of conifers, it spends its early life as a symmetrical sapling, similar to the well-known "silvertip" Christmas tree, and grows exceedingly slowly to ragged, storm-topped specimens over 500 years old. The tree's principal commercial uses are for low-grade lumber, pulp and Christmas trees.

The failure so far to protect not only this distinctive forest, but also Shasta's summit slopes, can be blamed largely on the fact that the mountain is situated next to the main transportation corridor linking California to the Pacific Northwest. The Southern Pacific Railroad chose this route at the western base of Mt. Shasta in the 1880s, and under federal statute the company received alternating (checkerboard) square-mile sections thirty-five miles on each side of the right-of-way. Half of Mt. Shasta suddenly became privately owned; the ungranted half eventually became part of Shasta-Trinity National Forest.

Land ownership has changed little in intervening years. Some Southern Pacific sections were exchanged with or sold to the Forest Service and lumber companies. In the 1920s, the Sierra Club purchased 720 acres around Horse Camp on Shasta's southwest slope. The Horse Camp hut (Shasta Alpine Lodge) and acreage are now maintained by the Sierra Club Foundation as its largest and highest land holding.

Over the years, checkerboard land ownership, more than anything else, has prevented Mt. Shasta from being protected by the government. The Secretary of Agriculture in the twenties designated Mt. Shasta a recreation area, in effect precluding its possibly becoming a national park. This designation was largely ignored, however. The Forest Service has traditionally allowed private landowners to do what they pleased and has managed its own lands primarily for timber production. Even so, the mountain's forests were not seriously threatened until the 1950s, when—thanks to the decimation of low elevation forests in the region—it became economical to log the Shasta red firs on the upper slopes. Since then, none of Mt. Shasta's forests have been safe.

In 1972 and 1973, the Forest Service designated more than twenty roadless areas in California for study as potential wilderness. Of the 150,000 to 200,000 acres comprising Shasta from summit to base, only 38,000 acres were



considered to be "roadless." With Southern Pacific threatening to log its forested lands within the roadless area, land exchanges were discussed.

The Forest Service held public meetings in January 1974 to discuss the Mt. Shasta Planning Unit, which contained the roadless area. Hearings on a recommended land-use plan for the peak, including a possible Mt. Shasta Wilderness, were to have been held in the spring. The entire planning process ground to a halt, however, when the Forest Service remembered that a mineral survey of the roadless inventory has been customary before any official proposal is made. The U.S. Geological Survey and the Bureau of Mines, which are charged by the Wilderness Act with making such surveys, did not have the time or money to complete this one right away, a delay that prompted the Forest Service to end land-exchange negotiations. This decision would have disastrous consequences.

In the summer of 1974, Southern Pacific logged its lands all the way to timberline on the east slope within the roadless area, claiming it could no longer afford to pay taxes on the land without cutting. In 1975, the company entered the roadless area again, this time a few miles north, where it logged lands right next to the forested Inconstance Creek lava flow, which extends from timberline almost to the north-

eastern base of Mt. Shasta. Its broad, gently sloping top supports an undisturbed old-growth forest, part of which will be cut if Southern Pacific finishes logging this section.

Two other spectacular Southern Pacific sections in the roadless area are also threatened with logging. One, upper Squaw Valley Creek on the mountain's south slope, contains a string of lush wildflower meadows along its spring-fed brook. North Gate, on the opposite side of Mt. Shasta, is a complex of forested lava domes and flows, with a little hidden canyon winding through this geologic maze. One deer run is so heavily used it looks like a maintained trail: good cougar habitat—for now.

Between these two areas lies Shasta's wilder eastern slope—away from Interstate 5 and the railroad—which is largely unknown and hence unappreciated except by a few mountaineers and hunters. Even though logging roads exist here, it retains an untrammelled quality suggesting that if the logging were stopped now and the roads closed it would soon revert to wilderness. Unfortunately, any hope of achieving this goal will be dashed if Forest Service plans are realized. The McCloud Ranger District, which manages Forest Service lands on the east side, plans at least six timber sales in the next five years, which will result in the removal of more than 50 million

board-feet of timber from the vast majority of their lands.

If logging alone were all that troubled Shasta, those who love the mountain would have cause enough to worry, but even as the loggers work their will on the lower slopes, ski-resort developers have plans for the land above the forest. In 1972, Ski Shasta Corporation unveiled plans for a major expansion of its facilities. Ski Shasta's existing resort, located at the end of the only paved road on the mountain, is a small operation with only three lifts. Its runs are located on south-facing slopes primarily above timberline. Largely as a result of this exposure, among other factors, the resort has been plagued by winds, whiteouts, and in many winters too much snow. Ski Shasta comes close to admitting the resort should not have been built in the first place when they argue that the only way to save it is to expand it. The company proposes to construct five chairlifts, two day lodges, two parking lots and connecting ski runs cut through Shasta red-fir forest. The complex would extend westward four miles from the existing site to McBride Springs. Many skiers oppose the design and location of the resort because the sunny northwest-to-southeast facing ski runs would have inconsistent snow conditions. These skiers also point out that almost all the slopes are too gentle for experts, yet too long and tiring for beginners and intermediates. The resort would become what ski-area planners term a "destination" complex, so that its financial success would depend on attracting nonlocal skiers, mainly from the San Francisco Bay Area. Success here is unlikely, however, because better skiing is already available in the Lake Tahoe region, which is closer to the Bay Area.

Shasta Ski's proposal envisions several miles of ski runs at least eighty feet wide cutting through the Shasta red-fir forest. One of the runs, if allowed to go through, would cross the Horse Camp trail, which provides the only access to the Sierra Club Foundation's land and lodge, as well as to the main climbing route to the summit. The developer also would like to build more than a half-mile of runs across the Foundation's property, along with a chairlift that would extend almost a quarter-mile onto this land. Three other chairlifts, a day lodge and a parking lot would be constructed in quiet Cascade Gulch, part of which was logged about

twenty years ago, but which since has been left alone and is slowly returning to a more natural appearance. The proposed expansion of the ski resort would be detrimental to other existing activities in the area, which comprises virtually the same ground now most heavily used for hiking, cross-country skiing, snowshoeing, backpacking and even—unfortunately—snowmobiling. The days of snowshoeing silently into the Foundation's hut would end.

A local group, the Mt. Shasta Resource Council (MSRC), has designed a comprehensive proposal to protect the peak. The core of the plan is a 41,000-acre Wilderness Area, which would include the summit and its glaciers, lava flows, and a fringe of the Shasta red-fir forest. The most controversial parts of the proposed Wilderness appear to be the roadless lands sought by the ski-resort developers and the extensive stands of Shasta red fir between Squaw and Mud creeks.

As a complement to the proposed Wilderness, the plan envisions a 32,000-acre Wilderness Resource Recovery Area (WRRRA), which would be the key to preserving the Shasta red-fir forest. The area would comprise most of the slopes immediately below the summit Wilderness Area. These lands would be allowed to revert to a natural state by closing all roads through them. Every ten years, the WRRRA would be studied to determine the progress of recovery. Upon having completely returned to a natural appearance it would be added to the initial Wilderness, making a more scenic and ecologically complete 73,000-acre unit. The idea of allowing an area to revert to nature is not new, but a congressionally authorized Forest Service designation for this purpose would be. The concept may be vital to the preservation of a significant portion of the Shasta landscape. In addition to protecting some of the Shasta red-fir forest, the WRRRA would include many of the mountain's wildflowers and rugged canyons. It would provide a link between the proposed Wilderness and the already established Shasta Mudflow Research Natural Area at Mud Creek.

No protection plan for Mt. Shasta can be successful, however, without government acquisition of private lands on the peak. Southern Pacific has agreed in principle to exchange its Mt. Shasta holdings for less scenic national forest lands elsewhere, but the Forest Service has so far refused to ne-

gotiate seriously. The Sierra Club Foundation will exchange the Horse Camp parcel only if the Forest Service includes it in Wilderness designation. Trades or outright purchase can be worked out with other landowners.

The U.S. Geological Survey's mineral survey of Mt. Shasta, after more than three years of delay, was expected to be published as this article went to press. With the survey in hand, the Forest Service can complete its compilation and review of the Mt. Shasta Preliminary Wilderness Report, which will contain its wilderness proposal. If no further delay occurs, the report will be ready for public review in August, and formal hearings will be held in several Northern California cities in October. These hearings represent the best opportunity for individuals to voice their opinions about Mt. Shasta and thus influence the shape of the Forest Service's final proposal for submission to Congress. Those who cannot attend have a month following the hearings to send the Forest Service written comments. SCB

Mt. Shasta lies in Congressman Harold T. (Bizz) Johnson's district. He has publicly expressed approval of the ski expansion and is not a strong wilderness supporter.

The only hope for prevention of total development of Mt. Shasta is an overwhelming number of letters to Congressman Johnson, the Forest Service, and Southern Pacific Land Company. Your action now, in addition to stopping the logging and ski expansion, can also help bring a halt to ORV abuse and geothermal development, topics which though important, cannot be treated in the present article.

Addresses:

Congressman Harold T. Johnson
2347 House Office Building
Washington, DC 20515

Forest Supervisor Richard J. Pflif
Shasta-Trinity National Forest
1615 Continental Street
Redding, CA 96001

Mr. W.F. Herbert, President
Southern Pacific Land Co.
One (1) Market Street
San Francisco, CA 94105

Mount Shasta Resource Council
P.O. Box 829
Mount Shasta, CA 96067



Lilium Washingtonianum/
Shasta Lily



Viola adunca/Mountain Violet



Viola blanda/White Violet



Viola Sheltonii/Shelton's Violet

Edward Stuhl

Shasta's Perennial Advocate

STEVEN R. JOHNSON

No one is more aware of Mt. Shasta's plight or more intimately acquainted with its history than ninety-year-old Edward Stuhl. He has lived with the mountain for fifty years now, and it is doubtful that the 14,000-foot volcano will ever have a more informed spokesman.

Born in Graz, Austria, in 1887, Stuhl climbed extensively throughout the European Alps at a time when John Muir was still exploring and writing about the Sierra Nevada. He attended the Academy of Art in Munich, where he studied Renaissance and Baroque architecture and was widely praised for his painting. While in Munich, Stuhl saw the original Buffalo Bill Wild West Show, and would not remain satisfied until he saw the American West.

Stuhl came to America in 1908, settling at first in Chicago where he mastered the art of stained glass and met his wife, Rosey, who after sixty-seven years is still his companion. His travels began with a trip to Mexico where he talked with Pancho Villa. He then visited San Francisco, where he saw the Panama Exposition. He headed north to Mt. Lassen, which erupted while he was painting wildflowers there, and finally, in 1917, to Mt. Shasta, which he describes as "the most beautiful mountain I have ever seen"—a strong recommendation from one who has climbed nearly every major peak from the Canadian border to southern Mexico. His last major climb, done solo at the age of seventy-six, was to the top of Popocatepetl

(17,887 feet), Mexico's great volcano.

Stuhl's love for Mt. Shasta began after a seventy mile hike from Redding to Sisson (now Mt. Shasta City). He has lived in the area continuously since, except for two years on the

Smith River in northwestern California. From 1923 to 1946, he worked as caretaker of William Randolph Hearst's Wintun Estate on the McCloud River near Shasta. In the late twenties, Stuhl almost talked Hearst into purchasing Southern Pacific land on the peak—at two dollars an acre—for donation to the state of California for a park. The state had agreed to pay half, but Hearst could not be persuaded.

His efforts to secure protection for Mt. Shasta have been as varied as the man himself. Except for John Muir's call for a "natural park" in 1888, and Representative Raker's bill for a Mt. Shasta National Park in 1912, Stuhl has been involved in all formal (five) and informal (many) attempts to save the mountain. In 1925, he worked for Raker's second national-park proposal, which would have encompassed 206,000 acres as opposed to the 40,000 that now qualify for wilderness status. Stuhl was also involved with Representative Englebright's national-park proposals of 1927 and M.H. McAllister's attempts to establish a state park in 1929. McAllister, a Sierra Club member, was the driving force behind and prime monetary contributor toward the Club's purchase of land and building of a cabin on the south slopes of the mountain. Stuhl vividly recalls a conversation he had with a San Francisco lawyer in the summer of 1923, in which both were very optimistic that Mt. Shasta would soon have permanent protection. In 1977 Stuhl still has the same hope.

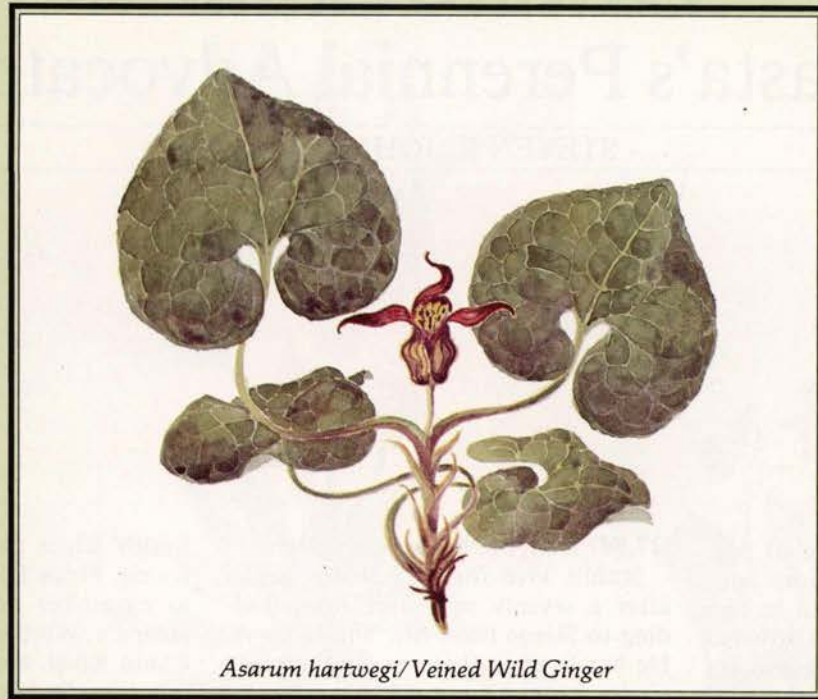
But Stuhl's relationship with the mountain goes far beyond political campaigns to save it. He took the tem-



J. R. Russell

Edward Stuhl and his wife, Rosey.

Steven R. Johnson is a regional representative and editor for the Mt. Shasta Resource Council.



Asarum hartwegi/Veined Wild Ginger



Schönlirion alba/Swamp Lily

Phlox speciosa/Showy Phlox

perature of the summit hot springs for seven consecutive summers; he tried to secure data from the Moscow archives about the possible discovery of Shasta by white men before Peter Ogden's 1827 discovery; he helped research the history of the Geodetic Monument, which stood on Shasta's pinnacle from 1875 to 1903; he has made an extensive study of the occult history of the mountain, particularly the Lemurian legends; he helped build the Sierra Club cabin and was its caretaker for a short period; he measured the entire distance from the cabin to the summit with a surveyor's chain; he named Helen Lake, one of the most popular campsites on the mountain; he helped the eminent biologist William Bridge Cooke with his extensive study of Mt. Shasta's plant life. But of all Stuhl's activities, his paintings of the mountain, its wildflowers, and his favorite tree, the Shasta red fir, most deserve our praise and attention. The watercolors are of exceptional quality, and it is to be hoped that eventually they will be published in their entirety. Actress Marion Davies, on one of her visits to the Hearst estate, offered to buy them for a substantial price, but Stuhl refused. Of the 207 kinds of wildflowers found on Mt. Shasta, Stuhl has painted 204, sometimes waiting ten years to catch a certain species at just the right moment. In his lively German accent he says, "Someday I'll get the other three."



Tofieldia occidentalis/
Tofield's Swamp Lily

SIERRA CLUB BOOKS
Box 7959, Rincon Annex
San Francisco, CA 94120

Please send me the titles I've indicated below. I enclose my check or money order payable to Sierra Club. (Do not send cash.) Prices indicated are to members only and include a 10% discount on regular retail price. (Sierra Club pays for postage and handling.) PLEASE PRINT

NAME _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

QUANTITY	SIERRA CLUB CALENDARS	AMOUNT
_____	203-0 1978 Engagement Calendar, \$4.45	_____
_____	204-9 1978 Wilderness Wall Calendar, \$4.45	_____
_____	202-2 1978 Trail Calendar, \$4.45	_____
_____	201-4 1978 Wildlife Calendar, \$4.45	_____
_____	200-6 Little Creatures (1978 Calendar & Almanac for Young People), \$4.45	_____

QUANTITY	SIERRA CLUB BOOKS FOR CHILDREN	AMOUNT
_____	111-0 My Garden Companion (cloth), \$8.95	_____
_____	112-0 My Garden Companion (paper), \$4.45	_____
_____	111-2 Sierra Club Summer Book (cloth), \$7.15	_____
_____	112-2 Sierra Club Summer Book (paper), \$4.45	_____
_____	111-4 View from the Oak (cloth), \$8.05	_____
_____	112-4 View from the Oak (paper), \$4.45	_____

QUANTITY	TOTEBOOKS®	AMOUNT
_____	099-2 Best About Backpacking, \$6.25	_____
_____	147-6 Climber's Guide to the High Sierra, \$7.15	_____
_____	048-8 Climber's Guide to Yosemite Valley, \$7.15	_____
_____	066-6 Cooking for Camp and Trail, \$3.55	_____
_____	085-2 Fieldbook of Nature Photography, \$6.25	_____
_____	049-6 Food for Knapsackers, \$3.55	_____
_____	102-6 Foot-loose in the Swiss Alps, \$7.15	_____
_____	068-2 Hiker's Guide to the Smokies, \$7.15	_____
_____	095-X Smokies Map replacement (paper), \$1.75	_____
_____	095-Y Smokies Map replacement (with plastic envelope), \$2.65	_____
_____	127-1 Hiking the Bigfoot Country, \$7.15	_____
_____	127-1 _____	_____
_____	092-5 Hiking the Teton Backcountry, \$4.45	_____
_____	078-X Hiking the Yellowstone Backcountry, \$5.35	_____
_____	081-X Hut Hopping in the Austrian Alps, \$4.45	_____
_____	100-X Huts and Hikes in the Dolomites, \$4.45	_____
_____	103-4 Reading the Rocks, \$7.15	_____
_____	172-7 Starr's Guide to the John Muir Trail, \$4.45	_____
_____	125-5 To Walk With a Quiet Mind: Hikes in the Woodlands, Parks & Beaches of San Francisco Bay Area, \$5.35	_____
_____	069-0 Wilderness Skiing, \$6.25	_____

FOR OFFICE USE ONLY

MAIL ORDER FORM
TOS:2

SP IN: _____			

Important Notice to Members:

All prices and dates listed are subject to change at any time. Please allow four to six weeks for delivery.

7177

QUANTITY	PAPERBACKS	AMOUNT
_____	062-3 Action for Wilderness, \$2.05	_____
_____	113-X Alaska: The Great Land, \$7.15	_____
_____	555-3 Ascent (1973), \$6.00	_____
_____	555-4 Ascent (1974), \$6.00	_____
_____	189-1 Ascent (1975/1976), \$8.95	_____
_____	233-3 Ecotactics, \$8.85	_____
_____	142-5 Grass Roots Primer, \$7.15	_____
_____	096-8 Island in Time: The Point Reyes Peninsula, \$4.45	_____
_____	174-3 Mind in the Waters, \$6.25	_____
_____	141-7 Other Homes and Garbage, \$8.95	_____
_____	146-8 Simple Foods for the Pack, \$4.45	_____
_____	144-1 Thoreau Country, \$8.95	_____
_____	191-3 Walking Softly in the Wilderness, \$5.35	_____

QUANTITY	HARDCOVER TITLES	AMOUNT
_____	143-3 A Closer Look, \$13.45	_____
_____	148-4 Electric War: The Fight Over Nuclear Power, \$11.25	_____
_____	045-3 Everglades, \$24.75	_____
_____	181-6 Forests of the Sea: Life and Death on the Continental Shelf, \$8.95	_____
_____	006-2 Gentle Wilderness, \$27.00	_____
_____	184-0 In the Throne Room of the Mountain Gods, \$16.95	_____
_____	000-3 In Wildness is the Preservation of the World, \$29.25	_____
_____	130-1 Lands No One Knows, \$8.95	_____
_____	007-0 Not Man Apart: Photographs of the Big Sur Coast, \$29.25	_____
_____	018-6 On the Loose, \$7.15	_____
_____	182-4 A Place to Begin: The New England Experience, \$13.45	_____
_____	051-8 Slickrock: Endangered Canyons of the Southwest, \$24.75	_____
_____	140-9 Thoreau Country, \$29.95	_____
_____	192-1 Windsinger, \$7.15	_____
_____	002-X Words of the Earth, \$13.50	_____

Total Quantity ordered _____

Total Amount of order \$ _____

+ Sales Tax (if any) \$ _____

Total Amount enclosed \$ _____

Sales tax rates for deliveries to the following areas: California—add 6% (Alameda, Contra Costa & San Francisco Counties—add 6½%). New Jersey—add 5% (No New Jersey tax on ASCENT 1973 & 1974).

What makes Sierra Club TOTEBOOKS® the best of the pack?

Why are TOTEBOOKS® superior to all other outdoor guides and handbooks — the bestselling books in their field? First of all, TOTEBOOKS® are real wilderness experts. Every one of these handy, jean-pocket sized guides has been prepared by an outstanding authority on its subject, and is crammed with invaluable practical information — on trails, campsites, natural phenomena, even food and photography — presented in clear, easy-to-read type and illustrated with dozens of photographs, drawings, diagrams and maps. Secondly, TOTEBOOKS® are "wilderness tough" — with rounded corners to ensure long life and flexible, weather-resistant bindings. Hardy, versatile and reliable, TOTEBOOKS® have, in fact, no real competition — they're that special. Be sure to take TOTEBOOKS® on your next trip. They'll pull their weight many times over.

THE CLIMBER'S GUIDE TO THE HIGH SIERRA

by Steve Roper. An all-new guide to climbing over 500 peaks and passes in the most exciting and challenging range in North America. 384 pages. Maps and photos.

HIKING THE BIGFOOT COUNTRY

The Wildlands of Northern California and Southern Oregon

by John Hart. 60 carefully chosen trips through three of America's greatest concentrations of mountain wilderness. 35 maps and 16 pages of photos, as well as notes on the geography and natural history of the area to aid the hiker.

TO WALK WITH A QUIET MIND

Hikes in the Woodlands, Parks and Beaches of the San Francisco Bay Area

by Nancy Olmstead. A book of suggested walks for those who wish to explore the Bay Area. Each walk (most of them about 5 miles long, with easy grades) offers information about history, plants, animals, general natural history. 192 pages, 30 maps and 32 photos.

THE BEST ABOUT BACKPACKING

Edited by Denise Van Lear. From a dozen articulate experts — a full pack of advice on backpacking equipment and techniques. 288 pages. Sketches and photos. Appendices.

STARR'S GUIDE TO THE JOHN MUIR TRAIL AND THE HIGH SIERRA REGION

Revised TOTEBOOK® Edition
Edited by Douglas Robinson. Twelfth edition in new format with fold-out map and mileage chart.

FIELDBOOK OF NATURE PHOTOGRAPHY

Edited by Patricia Maye. A practical TOTEBOOK® tailored to the needs of the amateur photographer and attuned to the advanced outdoor photographer. 192 pages. Photos in color and black and white.

CLIMBER'S GUIDE TO YOSEMITE VALLEY

by Steve Roper. A comprehensive guide to the best rock-climbing routes in Yosemite Valley, with a history of the area, information about campsites, etc. 320 pages. 16 "locater" photos.

COOKING FOR CAMP AND TRAIL

by Hasse Bunnelle with Shirley Sarvis. A companion to **Food for Knapsackers**, with 200 recipes for campers' meals ranging from the Spartan to the exotic. 144 pages.

FOOD FOR KNAPSACKERS

by Hasse Bunnelle. Principles of food planning, procedure and equipment, master food list, and recipes for the trail. 144 pages.

FOOT-LOOSE IN THE SWISS ALPS

A Hiker's Guide to the Mountain Inns and Trails of Switzerland

by William E. Reifsnnyder. The Swiss Alps for the hiker and backpacker — an information-packed guide to the topography, geology, transportation, trails and huts. 450 pages. Maps and photos.

HIKER'S GUIDE TO THE SMOKIES

by Dick Murlless and Constance Stallings. Comprehensive guide to the Appalachian Trail and 580 miles of trails in the Great Smoky Mountain National Park. 374 pages. Maps.

HIKING THE TETON BACKCOUNTRY

by Paul Lawrence. How to hike with confidence in the mountains surrounding Jackson Hole, Wyoming: clothing and equipment, safety, trails, campgrounds, and regulations. Maps.

HIKING THE YELLOWSTONE BACKCOUNTRY

by Orville Bach, Jr. Natural history of the Yellowstone-Teton region, weather, clothing and equipment, food, fishing and safety information. 228 pages. Maps.

HUT HOPPING IN THE AUSTRIAN ALPS

by William E. Reifsnnyder. There are 100 huts in the spectacular Austrian Alps and this book tells you how to get to them and how to enjoy them. 30 photos and maps.

HUTS AND HIKES IN THE DOLOMITES

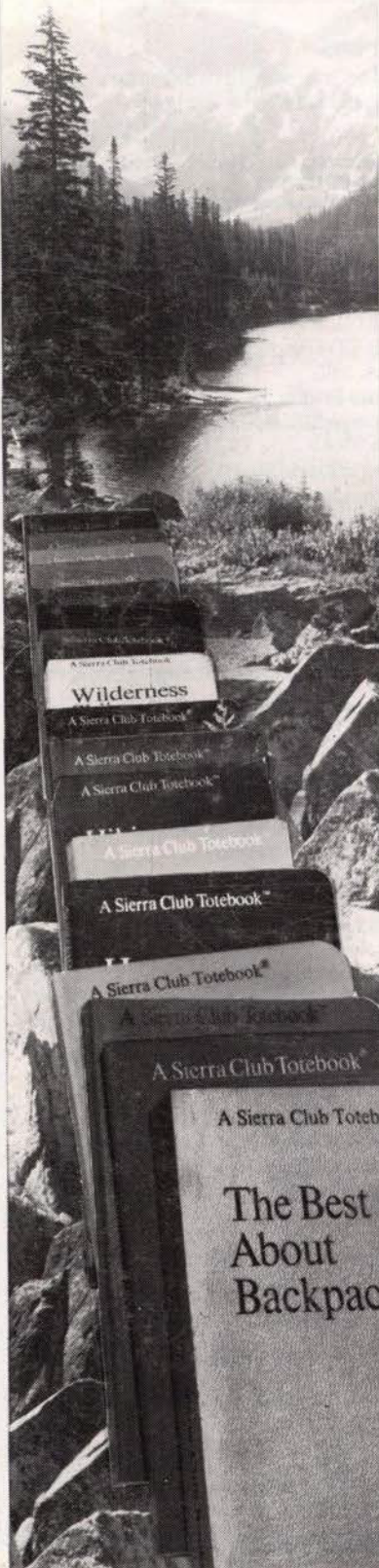
A Guide to the Trails and Huts of the Italian Alps
by Ruth Rudner. How to get there, how to get on money, food and wine; and regular Huts. 244 pages. Maps and photos.

READING THE ROCKS

A Layman's Guide to the Geologic Seppings, Mesas, and Buttes of the American Southwest
by David A. Rahm. Exploring the miles of the Colorado Plateau. Colorful photos and diagrams.

WILDERNESS SKIING

by Lito Tejada-Flores and Allen St. Wilderness skiing (Nordic and Alpine) in the U.S., Canada, and Europe. Tours, environment and hazards, the ski-touring scene in the U.S., Canada, and Europe. Sketches and photos.



Sierra Club Books

Use order form on inside back cover