

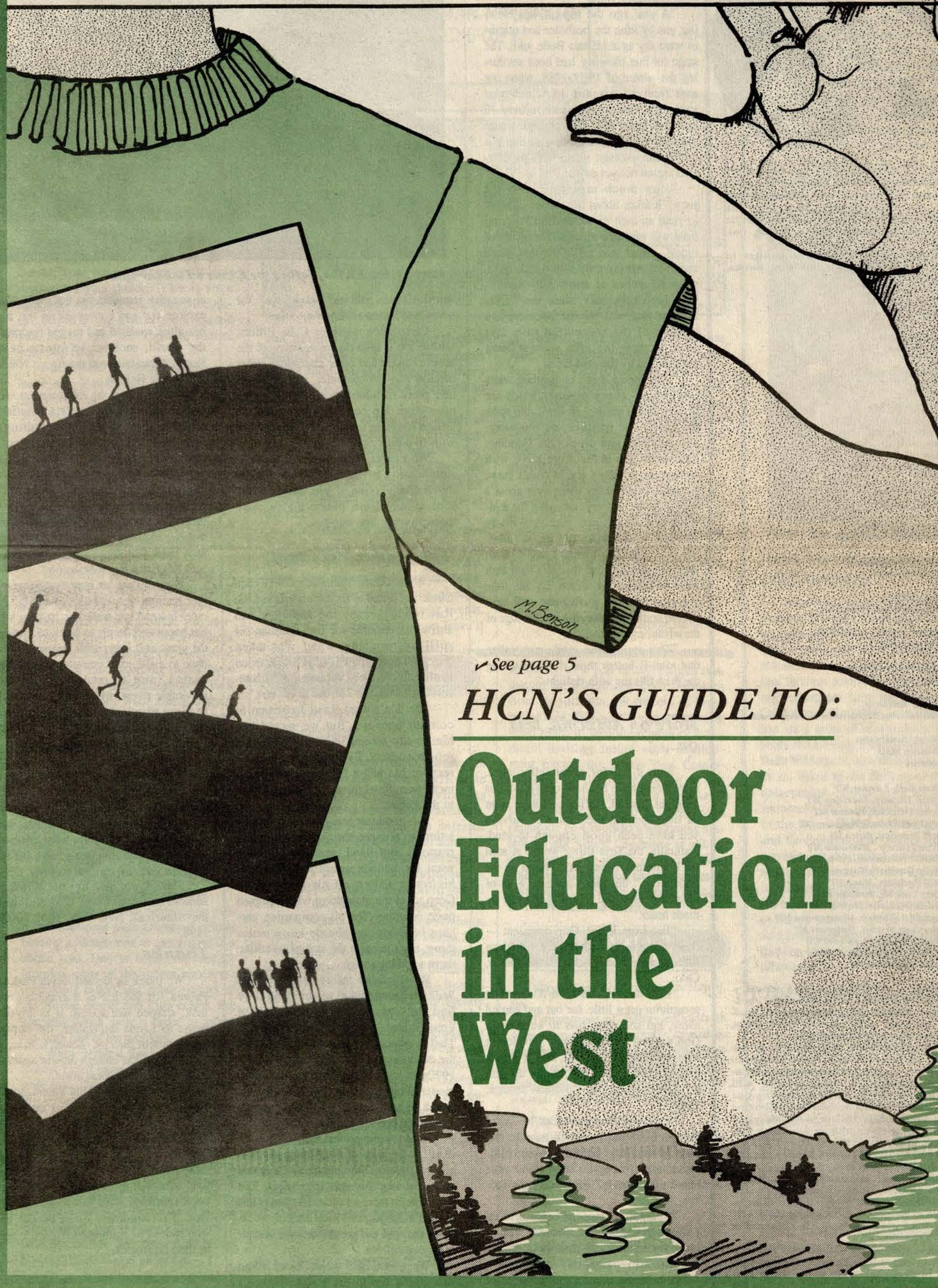
High Country News

April 24, 1989

Vol. 21 No. 8

A Paper for People who Care about the West

One dollar



✓ See page 5

HCN'S GUIDE TO:

Outdoor Education in the West

Dear friends,



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Mud is better

A year ago, this paper's microbureau chief in the Plains, Pete Carrels, was telling us of the first large-scale dust storms he had ever seen. Oldtimers were reminded of the 1930s, when dust from the Plains blew as far as New York City. Today, Pete sends very different news from Aberdeen, S.D.

"A year ago the topsoil was blowing, and by June the potholes and marshes were dry as a Milton Berle joke. The stage for that blowing had been set during the winter of 1987-1988, when our area received a scant 18.6 inches of snow. But this past winter, nearly 46 inches of snow fell. Our average winter snowfall is about 35 inches, so this is a better than average year, with the blizzard season not yet over.

"How much moisture is in the snow? It takes about 10 inches of snow to yield an inch of water, so the spring thaw will turn into almost five inches of runoff. What was probably this area's snowiest winter came in 1951-1952, when 62 inches of snow fell. Records have been kept only since the 1930s. Perhaps that was so the boomers and boosters of the homestead rush days could promote the area without being contradicted by the arid facts.

"This spring there is standing water everywhere. Many country roads are flooded or too muddy in low-lying spots for travel. The pasques are blooming, and the rivers and creeks are flooding. Last week, the skies were alive with snowgeese. I didn't try to count them, but those who did say there were about 1 million in the country, enjoying the rejuvenated wetlands and plucking newly sprouted wheat from the moist fields. My bet is that the farmers won't mind; they will just be glad that this year they have something to share. By the time you read this, the snowgeese will have moved northward, staying on the edge of the advancing thaw.

"This spring has made me realize that mud is better than dust. Watching the thaw fills me with delight."

More on Arizona, less on...

Were it not for great self control, there would have been no newspaper this fortnight. Instead, staff would have spent its time opening the boxes of surveys you have been good enough to send. Naturally, the first thing we do is scan the comments. Many say, "Keep up the good work," but there are also a lot of ideas for how the good work can be made better.

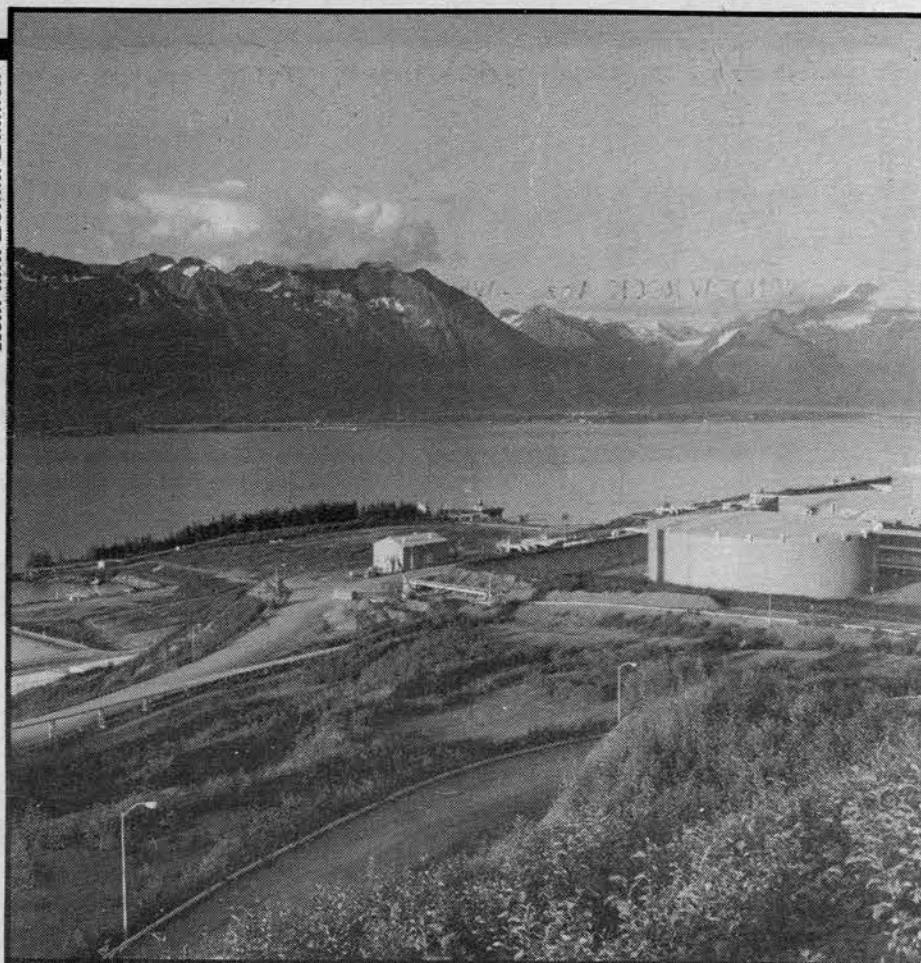
"Just keep it up! One comment — don't become an exclusively American Indian publication." R.B. Shafer, Dillon, Colo.

"Like the late Edward Abbey, you sometimes get a little far out and carried away, but someone has to keep these God damned money hungry developers from spoiling everything, and if that is part of what it takes, I can put up with it." Lowell Swenson, Colorado Springs, Colo.

"Keep publishing articles by David Brown. Continue to check your factual material carefully; do not let your objectivity in reporting be marred by your interest in a cause." Robert Tweit, Tucson, Ariz.

"I suggest you spend more time on Arizona-related stories. You may want to consider adding an Arizonan to the board. While the grizzly articles have stopped, are we about to get a surfeit of articles dealing with the Department of

Kent and Donna Dannen



Port Valdez, Alaska, before the Exxon oil tanker spill

Interior's burn policies? I hope not." Val and Chris Danos of Phoenix, Ariz.

Circulation manager C.B. Elliott, whose job it is to organize entry of the label changes and other statistical information into the computer, says there is one piece of information we can't use: nine-digit zip codes. Until the Post Office forces us to do so, we are staying with five-digit zips.

We expect these surveys to be a storehouse of advice and information for much time to come. If you have not yet sent in your form, please do so. And thanks to everyone who has.

The Valdez 'accident'

When United States Senator Gordon Slade suggested to Exxon chairman L.G. Rawl that he copy the Japanese and show his remorse for the Alaskan oil spill by resigning, Rawl was taken aback. "I don't know if I have to respond to that. But a lot of Japanese kill themselves as well, and I refuse to do that."

We don't want Rawl to resign or commit *hara-kiri*. But we would like him to stop sending us letters that lack a return address. Every publication we receive has had a full-page advertisement from Rawl titled, "An Open Letter to the Public."

It is good manners, when you send a letter, to give the recipient a chance to respond. But Rawl, perhaps afraid of what his mailbox would look like, left his return address off his letter. Mobil Corp. does the same thing with its op-ed page columns. The oil companies, perhaps believing they already know everything, can't imagine the rest of us telling them anything useful.

Rawl's letter refers to the Prince William Sound spill as an accident. If we find the time, we will remind Rawl of Freud's law: "There are no accidents." That is especially true in this case, where the oil companies succeeded in the early 1970s in waiving the National Environmental Policy Act so that the pipeline could be built outside of NEPA requirements and public involvement.

Also arguing against the word "accident" is the scale of the Alaska pipeline and its tankers. The scale is so large that an event like this was inevitable. The spill was no more an accident than is this nation's 1,000 auto fatalities a week. Both the spill and the deaths are statistical inevitabilities.

We would also write Rawl about something not in his letter: Exxon's claim that, whatever the cost, our nation-

al security requires that the oil industry explore for and convey oil in the most beautiful, isolated and rugged regions of the world, such as the forests of the Rocky Mountains and the Arctic National Wildlife Refuge.

If Rawl and the oil industry were truly interested in America's national security, they would do everything in their considerable power to wean us from dependence on oil. They would become proponents of conservation, alternative fuels, improved gasoline mileage requirements for cars, and mass transit. Instead, the oil industry does nothing to reduce our need for oil, even as it uses that dependence as a club to beat its critics into submission.

For our part, we hope that Rawl neither resigns nor commits ritualistic suicide. Instead, we want him to take what has happened deeply to heart, to think on the great and irreversible damage he has done to millions of creatures and to great beauty, and to recognize that this inevitable event, which was foreseen by so many people, but to which his corporation chose to turn a blind eye, imposes a great moral debt on him.

It is a debt he can repay in only one way — by beginning to turn the helm on the vast, \$100 billion tanker, *Exxon Corporation*. He should turn the helm not just to avoid obvious dangers, such as reefs, but to transform what is now a predatory pirate ship into a force for real progress and real national security.

Should you wish to write Rawl, his address is: Exxon Corp., 1251 Avenue of the Americas, New York, N.Y. 10020-1198.

Thanks

We thank Jackie and Kevin Parks of Paonia for the use of a grayish-green tank, shaped like a desk. It is daytime home to Linda Bacigalupi, the paper's development director. Actually, it is big enough and has enough drawer space to be used as a permanent home.

Thanks also to Colin Purrington of Brown University. He sent us the names of 10 "possible victims for you. I've been trying to get them to subscribe." The 10 potential victims will get two samples of the paper. After that, using a new hard-sell approach, they will get a note reading: "We know where you live..." If you know where people live who should be reading *HCN*, please send us their addresses.

— Ed Marston for the staff

WESTERN ROUNDUP

Chairman MacDonald tries to tough it out

WINDOW ROCK, Ariz. — What is happening now on the Navajo Reservation in northern Arizona has the look of a revolution. With each successive demonstration and counter-demonstration in Window Rock, the tribal capital, more people are pushing, shoving and shouting, and more people are threatened.

Navajo Chairman Peter MacDonald is still in office, but it's questionable whether he is still in power. He says he is, and he tells those traditional Navajos who have formed the base of his support that his enemies on the tribal council have acted illegally.

In weekly addresses on tribal radio, MacDonald asks whether the "runaway" tribal council has the right to challenge his authority. "Can it take away your right to elect your own tribal council chairman?" He asks. "Can it seize your courts, your justice department, your money and your police? This is not a fight over whether I, Chairman MacDonald, stay in office. This is about you and your future and your right to control your own future."

MacDonald now hints that he will leave only if asked according to tribal law; in other words, by a two-thirds vote of the council. But that's not likely.

Leonard Haskie, the interim tribal chairman, maintains that the council has already debated and decided to put MacDonald on paid leave until he clears his name of allegations that he took kickbacks from reservation building contractors and profited by the \$33.4 million sale of a ranch to the tribe shortly after taking office.

While tribal politicians fight and try to shore up support, the Navajo public waits for services to flow again from Window Rock. Many services are interrupted because of the rock-bottom morale of tribal workers. Recently, workers in the financial department walked out in a demonstration of their own because they were being ordered around by political supporters on both sides of the turmoil and by tribal workers demanding paychecks.

Last week, at the the biggest demonstration so far, Navajo police used tear gas to disperse two rowdy crowds. One elderly Navajo lady, a supporter of the embattled chairman, was charged with hitting a man in the neck with a board.

No one has been seriously hurt yet, but the expectation is high. The Navajo police know they're in the spotlight.

Recently, regional newspapers published front-page photographs of officers holding a Navajo man to the ground in a choke hold. They've been criticized for ignoring many of the recent temporary restraining orders and other rulings of the Navajo district and high courts. But knowing which judge's order to follow has been part of the problem.

When Window Rock District Judge Robert Yazzie barred MacDonald and his staff from their offices or from exercising executive authority, the chairman had his backers on a tribal council committee remove Yazzie. Then, when the Navajo Nation Supreme Court decided that MacDonald did not have that power and tried to restrain his replacement judge from issuing court orders, MacDonald's committee cronies fired the chief justice and replaced him with a chief justice who had been fired by the Navajo Tribal Council years ago.

Once on the bench, MacDonald's judges declared the tribal courts' rulings



and actions by the anti-MacDonald council invalid. So when more court orders followed, as is happening every few days now, the police hesitated to carry them out.

As he waits to hear from a federal grand jury in Phoenix, Ariz., investigating his alleged income tax evasion, MacDonald continues to go to work daily. At every chance he declares he is still the tribe's chairman because he was duly elected.

He blames the tribe's turmoil on a "power-hungry" council majority that voted to put him on administrative leave. Week after passing week, his interpretation of what has befallen him changes slightly to fit newly developing events. While at first he agreed to go on leave if

the council gave him a legal defense fund, tribal office space and replaced him with Vice Chairman Johnny R. Thompson, MacDonald now says that the "dissidents" are helping the Bureau of Indian Affairs take control of the reservation. He has warned that if the crisis continues, the BIA will institute martial law.

The tide seems to have turned against MacDonald. An interim chairman and vice chairman are recognized by the BIA, and their signatures are acknowledged by Citibank as valid on tribal checks. But no one can say when the confusion over leadership will end.

—George Hardeen

HOTLINE

Cason nomination protested

President George Bush's nomination of James Cason for assistant agriculture secretary for the Forest Service has sparked protests from conservationists. Cason, who worked in the Interior Department during the Reagan administration, was responsible for a move to lift barriers to mining development in national parks and for an effort to sell off federal oil shale lands at rock-bottom prices, reports the *Casper Star-Tribune*. Cason also tried to block the Forest Service from proposing new oil and gas leasing rules that industry said could hinder oil and gas development. Brooks Yeager of the National Audubon Society says, "I think Cason made his name in the Interior Department by signing off on some of the worst land give-aways during the Reagan administration." Wilderness Society counselor Gaylord Nelson issued a statement saying that the appointment of Cason and other recent Bush administration actions "blow a hole in the President's claim to be an environmentalist." Nelson added, "It is clear that the house that Watt built is still standing."

Coloradans favor wilderness

Seventy-five percent of Coloradans favor legislation that would increase the state's wilderness by 1.4 million acres,

according to a poll of 602 persons conducted by a Boulder, Colo., research firm. In addition, 69 percent of those polled said they would support granting water rights to wilderness areas even if it meant limiting future water development, reports the *Denver Post*. Conservationists say the poll shows that the tide of opinion is against Sen. Bill Armstrong, R-Colo., who has prevented expansion of Colorado's wilderness system for six years. "Someone is wildly out of step with public opinion in Colorado, and it's not the conservationists," says Darrell Knuffke, regional director of The Wilderness Society.

BARBS

Maybe they need police protection, too.

Department of Energy officials in Albuquerque, N.M., recently refused to participate in a League of Women Voters public forum on a national nuclear waste dump because they were afraid it might become "adversarial," AP reports.

Guess who has the scale.

Jeff Siddoway, an Idaho sheepman, recently told the Idaho state Legislature, "There's no place in reality for the balance of nature. Man can do the balancing."

Such a grump!

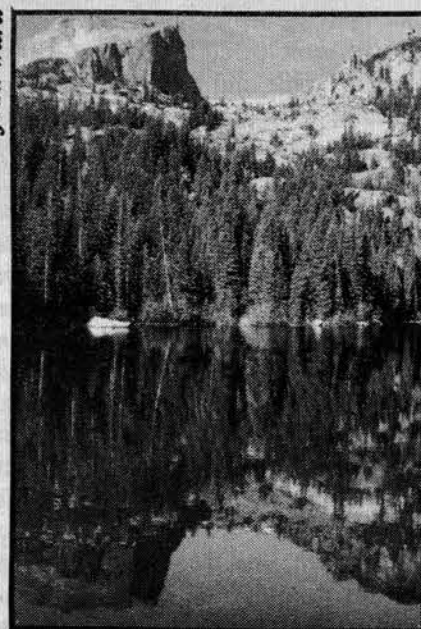
A skier from Iowa wrote the *Denver Post* that Denverites have only themselves to blame for air pollution, because 90 percent of the cars they drive hold one occupant.

HOTLINE

Spray-painters nabbed

Two men arrested for defacing a sandstone arch in southeast Utah face a maximum penalty of 10 years in prison and a \$250,000 fine. Legal migrant workers from Mexico, the men allegedly spray-painted their names and home towns on Wilson Arch, a roadside attraction south of Moab, reports AP. Passers-by saw them spraying blue, two-foot letters on the arch and took down descriptions to notify police. Bill Pierce, an investigator at the San Juan County sheriff's office, said, "If it hadn't been for the citizens who reported the incident we wouldn't have had a chance of catching them. Their involvement was wonderful." The Bureau of Land Management says it will sandblast the paint from the rock, but the surface will be discolored for years.

John Ward



Rocky Mountain National Park Acid rain threatens the high country

Snowmelt from Colorado's high peaks is bringing more than just high water to alpine ecosystems. Acid pollution trapped in the snow during winter is released into lakes and streams in pulses that increase acidity by up to 70 times, say researchers from the University of California at Berkeley. John Harte, who has led a team of researchers for nine years in Colorado's Snowmass-Maroon Bells Wilderness, says that the acid pulses are linked to the decline of the tiger salamander, which lays its eggs at snowmelt. Harte presented his findings to the House Subcommittee on Health and the Environment. Along with conservationists, he called on Congress to expand proposed acid rain legislation to include pollution sources in the West. Harte concluded that if present levels of pollution persist, "even mid-summer acid levels may reach a point where they threaten other forms of life besides the salamander."

The battle of the Burr continues

In an April 7 hearing in District Court, federal Judge Aldon Anderson agreed to conservationists' requests to send the question of paving sections of Utah's Burr Trail to the Interior Board of Land Appeals. Garfield County officials had hoped the judge would lift his injunction barring roadwork on the dirt road (HCN, 4/10/89). But Anderson delayed a decision until the IBLA reviews a Bureau of Land Management environmental assessment which concluded that paving the road would lead to "no significant impacts." Conservationists have until early May to file their appeal of that EA to Interior's appeals board.

HOTLINE

A victory for environmentalists

In a victory for conservationists, the Interior Department's Board of Land Appeals reversed a BLM decision to permit oil and gas development on lands surrounding Hovenweep National Monument in southeastern Colorado. The ruling came as a response to an appeal filed by conservationists, who said the Bureau of Land Management violated the National Environmental Policy Act by not fully assessing impacts resulting from drilling near the 785-acre monument. The monument and surrounding lands contain ruins of the Anasazi Indians and include towers of sophisticated masonry that archaeologists say represent the "climax" stage of Anasazi culture. The Park Service had hoped the monument would be expanded to protect the outlying areas, but a draft management plan released last summer said the Park Service and the BLM would co-manage a "resource protection zone" surrounding the monument (*HCN*, 5/23/88). Last September, the BLM approved an application to drill within the protected zone. A hole was drilled while the conservationists' appeal was pending but was later capped and abandoned when no oil was found. Conservationists that won the appeal are the Colorado Environmental Coalition, National Parks and Conservation Association, Wilderness Society, Sierra Club and several individuals. Terri Martin, staffer for the National Parks and Conservation Association, says the ruling "should help assure that oil and gas development impacts to Hovenweep are fully assessed in the future and, hopefully, minimized."

A new parks director

James Ridenour's appointment as director of the National Park Service has not pleased most conservation leaders. They said his record as director of the Indiana Department of Natural Resources shows he is pro-development and pro-big business. Nancy Light, a Sierra Club spokeswoman, told *AP*, "He is the James Watt of Indiana." Ridenour served as finance officer during vice president Dan Quayle's first campaign for U.S. Senate in 1980. He holds bachelor's and master's degrees in parks and recreation from Indiana University and a master's degree in public administration from the University of Colorado. In appointing Ridenour, Interior Secretary Manuel Lujan said he had demonstrated superior management skills and a strong commitment to protecting the environment.

BARBS

A parable for our times.

A Long Island man has designed fins that allow a person to "jog" on water. But the inventor says: "Unless you run like hell, you'll go down like a stone."

Whew! Political standards are rising.

Former Arizona Gov. Evan Mecham — indicted and removed from office a year ago — said he will run again in 1990, reports *AP*. "I committed no impeachable offense," he told Republican supporters.

Yes, and we know exactly what they care about.

Interior Secretary Manuel Lujan told a group of oil industry leaders that despite the Alaskan oil spill, "I believe you care."

BULLETIN BOARD

MONTANA'S GUIDE TO OUTDOOR EDUCATION

An excellent directory of conservation-education resources in Montana is just off the press. It lists training programs for educators, extra-curricular youth programs, school programs and curriculum resources. Each listing includes a detailed description, dates, costs, locations, contacts and whether or not credit is given. Teacher-training programs range from workshops and seminars to summer or winter-long field courses with organizations such as the National Outdoor Leadership School or Canyon Ferry Limnological Institute. Eleven environmental education programs in Montana schools appear in the directory as well as 14 extra-curricular youth programs. The directory offers ideas for field trips and information on visiting fish hatcheries, state parks and national forests. You can also find out about Project Wild and the Starlab portable planetarium, newsletters, magazines and audio-visual resources. The directory was a joint project of Montana's Department of Natural Resources and Conservation and Office of Public Instruction. For a free copy of the 67-page Conservation Education Resources Directory write to Joan Schumaker, Conservation Districts Division, Montana Department of Natural Resources and Conservation, 1520 E. Sixth Ave., Helena, MT 59620 (406/444-6667).

PACKAGED ENVIRONMENTAL EDUCATION PROGRAMS

The Forest Service has compiled information about 12 science and environmental programs that have been designed for K-12. Many of the materials could be used as supplements to environmental education. One of the programs listed, for example, is called "Greenbox" and contains hundreds of activity cards organized by topics such as energy, water, adaptation, plants and animals. Another choice is a guide for teachers called Project Learning Tree that describes activities organized around environmental awareness, resource management and lifestyle modification. Other suggestions include educational nature magazines and modules on outdoor teaching strategies. The six-page handout is free and available from Vern Fridley, USFS, 324 25th St., Ogden, UT 84401 (801/625-5348).

AFTERMATH OF THE FIRES

"The ecological consequences of the 1988 Yellowstone Fires" is the theme of the Greater Yellowstone Coalition's annual convention May 19-21 at Old Faithful Lodge. The event will combine a scientific conference with its yearly meeting and field trips. Speakers will cover a range of Yellowstone issues, ranging from grizzly bear management to hardrock mining and timbering in the greater Yellowstone ecosystem. Keynote speaker Tom Brokaw of NBC-TV will review the media's role in the Yellowstone fire story, and other speakers include Park Service critic Alston Chase, University of Colorado environmental law professor Charles Wilkinson, Sierra Club representative Larry Mehlhoff, grizzly biologist Forrest Hammond and Colorado State University philosophy professor Holmes Rolston. The deadline for reservations at Old Faithful Lodge is May 5. Camping is available. For more information contact Gwen Arnesen, Greater Yellowstone Coalition, P.O. Box 1874, Bozeman, MT 59715 (406/586-1593).

LETTERS

ABBEY NATIONAL PARK

Dear *HCN*,

The passing of Edward Abbey needs to be memorialized by dedicating a southern Utah desert area to his philosophy and writings to protect the desert landscape. What better movement is there than to establish "Ed Abbey's National Park" in the San Rafael Swell region? Utah conservation groups, such as the Southern Utah Wilderness

**COLORADO'S WILDLIFE**

The Colorado Division of Wildlife has begun publishing a quarterly four-page bulletin of opportunities for appreciating wildlife. Called *Colorado's Wildlife Company*, the newsletter focuses on non-game, endangered and watchable wildlife. The spring issue, for example, tells readers about the DOW's peregrine falcon reintroduction program, which placed five peregrines in the urban canyons of Denver last fall. The bulletin also introduces the Urban Wildlife Partnership, an association of the Colorado Division of Wildlife, Colorado Wildlife Federation, Denver Audubon Society and the Denver Museum of Natural History. The partnership intends to promote public awareness and involvement with urban wildlife, from airport-dwelling coyotes to suburban deer, by producing a book, starting a wildlife photography club and sponsoring an urban wildlife display at the museum. For a free copy of *Colorado's Wildlife Company*, write the Colorado DOW, 6060 Broadway, Denver, CO 80216.

WESTERN WORKSHOP FOR TEACHERS

The Forest Service will offer workshops this summer for educators interested in teaching about natural resources. The workshops will look at teaching strategies and field trips will examine topics ranging from water to wildlife. In addition, participants will learn about "packaged" natural resource educational material such as Project Wild and Project Learning Tree. In Idaho, the Sawtooth Workshop June 25-30 is at Camp Sawtooth north of Ketchum, and the Alpine Natural Resource Education Conference takes place June 18-23 at the Eastern Idaho 4-H Camp. In Nevada, the Galena Creek Workshop near Reno is set for May 25-26 and the Central Utah Outdoor Education Workshop near Salina will take place July 29-Aug. 4. For more information, contact Vern Fridley, U.S. Forest Service, 324 25th St., Ogden, UT 84401 (801/625-5348).

ON-THE-GROUND LEARNING

The Association for Experiential Education is a 15-year-old organization in Boulder, Colo., that serves educators and institutions in recreation, physical education, mental health and youth services who are "united in their belief that learning and human development are best achieved from experience." A publication for its 1,200 members, called *Jobs Clearinghouse*, lists jobs and internships available each month; its *Journal of Experiential Education* comes out three times a year. Membership starts at \$35 annually. For more information contact the Association for Experiential Education, C.U., Box 249, Boulder, CO 80309 (303/492-1547).

Alliance or Utah Wilderness Association, could lead the campaign to accept donations to finance the purchase of special interests in the lands of the San Rafael Swell.

Abbey's love for the slickrock canyon country would then prevail for future generations in honoring his passionate love for wilderness and wildlife, and his leadership role to preserve and enhance the Colorado Plateau natural areas.

Sincerely,
Paul Fritz
Boise, Idaho

FOR THE DISABLED OUTDOORS

Would you like to know if Canyonlands National Park has trails for the handicapped, or how to find a school that teaches disabled skiing? A valuable two-volume resource guide for disabled recreation in the Rockies is available from Idaho State University. Part One is a compilation of outdoor recreation areas accessible to the disabled in Colorado, Idaho, Montana, Nevada, Wyoming and Utah. The document gives addresses and contacts of 157 national and state forests, parks and monuments, and lists facilities at each that are available to handicapped recreationists. The second volume describes 136 groups and organizations that offer programs for the disabled in the Rocky Mountain region. It includes information on activities ranging from archery to water skiing, special facilities, and the types of disabilities served by the organization. The guide was researched and compiled by the Cooperative Wilderness Handicapped Outdoor Group, which hopes to increase communication about services for the handicapped in the outdoors. Copies are available for the cost of mailing and reproducing from the Cooperative Wilderness Handicapped Outdoor Group, Box 8118, Idaho State University, Pocatello, ID 83209. Paper: \$12.50 each. Part One: 47 pages. Part Two: 53 pages.

GLOBAL CHANGE CONFERENCE

Global climate change, the world economy and new ideas in international security are some of the topics to be addressed in a conference this month called "Global Change: Colorado's Risks and Opportunities." The event is presented by the Institute for Resource Management and the Center for Public Policy and Contemporary Issues in conjunction with the Club of Rome. Speakers include Club of Rome member Maurice Strong, Hubert Humphrey School of Public Policy director Harlan Cleveland, *High Country News* publisher Ed Marston, former Colorado Gov. Richard Lamm, National Center for Atmospheric Research staffer Stephen Schneider and speakers from Japan and Spain. Registration begins at 8 a.m., April 29, and lasts all day. For more information, contact Parry Burnap, Institute for Resource Management, (303/832-6855) or Barbara Volpe at the Center for Public Policy and Contemporary Issues, (303/871-2468).

ACCESS**NEAT STUFF**

PHOTOVOLTAIC POWER SYSTEMS: Composting toilets; designs and devices for high quality, low impact living. Natural Resource Co., 208/787-2495. (th Jy p)

HORSEPACKING SCHOOL AND PACK TRIP: 10-day hands-on course each spring. Everything you need to know about care and handling of horses, pack trip preparation, cooking and wilderness skills. Tory Taylor, RR 31, Box 807, Dubois, WY 82513 (307/455-2161). (2x7)

TURAN & ASSOCIATES LITERARY AGENCY: Box 361643, Melbourne, FL 32936-1643. Please write for more information. (2x8 p)

YELLOWSTONE FIRE ECOLOGY TREK. Join our three-day llama trek to see and experience the rebirth of Yellowstone Park, Aug. 21-23. Led by professional biologists and experienced mountain guides. Our sixth year of leading gourmet llama treks in the Northern Rockies. For color brochure and information packet write Yellowstone Llamas, Box 5042-H, Bozeman, MT 59717 (406/586-6872). (4x8 p)

"ALLEGIANCES: LOCATING OURSELVES IN PLACE AND CULTURE." Ideas of home and travel to be considered at the 1989 Sitka Summer Writers Symposium, June 11-17. More than just a writer's conference. Limited enrollment. For information, write SSWS, Box 2420, Sitka, AK 99835 (907/747-3794). (2x7 p)

DOWN HOME IN BON CARBO: 143 pages, 30 stories of life in a Colorado coal mining and ranching community. Send \$12 to Book, P.O. Box 106, Bon Carbo, CO 81024 (719/846-9569). (2x7 p)



There's education to be had in them thar hills

This special, four-pages-longer-than-usual issue of *High Country News* began some months ago with a letter. Staffer Becky Rumsey wrote to some 200 nonprofit groups offering outdoor or environmental education programs in the West, asking who their clients were and how their organizations were faring.

We also invited stories, first-person accounts, anecdotes, poems and leads. In exchange, HCN offered a free, 40-word listing in a state-by-state directory so that readers could contact any group that looked appealing.

We thought of that directory as the centerspread, but it has mushroomed to five pages. That tells us that next year's special issue — the second annual — will run even longer. For we know gaps exist in this initial listing of groups and hope next year some of those gaps will be filled.

What did we learn from our first foray? First, that most nonprofit groups share a common mission. They teach not just appreciation of the West's stunning mountains and deserts, but respect as well.

Groups stress habitat and the needs of animals and plants for their own turf. They stress "minimum impact" and a sense of history. The hiker illustrated above, for example, would be told to leave that small, 1,200-year-old Anasazi potsherd by his foot right where he or she found it.

Outdoor education groups also told us about the hazards of success. Because their function is teaching, skilled — even gifted — leaders are essential. Growing too fast can lead to sloppy programs or worse, mishaps that cause accidents.

Call it a cliché, but we also learned that a course can change someone's life. Perhaps because the context of instruction is so vivid, with senses engaged and bodies worked and tired, experiences seem to sink in deeper.

Teenagers will come back from the Teton Science School, for example, whose front yard is the Teton Range, and

talk your ear off about finding muskrat scat and how food — any food — tastes like ambrosia. Sometimes they conclude that a place that beautiful must be protected from asphalt and condos.

But we also learned that once in the outdoors, some young people view their magnificent surroundings as a backdrop for flexing muscles. There's even a name for the phenomenon — "the young immortals" — because their reckless behavior indicates they have not developed a proper respect for death.

The organization directors and writers who wrote to us squeezed a lot of information into a small space. Among their conclusions, we offer these:

- Finding foundation support is difficult but necessary for projects such as a new building or program development.

- Insurance premiums are taking an increasingly large chunk out of budgets.

- Rafting on rivers requiring federal permission means acquiring a commercial permit. No exemption exists for educational trips, and in Idaho this is a particular problem as commercial rafting companies edge out educational trips.

- This is certainly not a surprise, but for the record, most customers come West from somewhere else, usually the East.

- This also may not be a surprise, but it is worth noting: Outdoor education

directors and teachers are not usually in the business for the money. That does not mean salary inequities should persist, however, as Frank Borwell points out on page 19.

- Burnout is a problem, as people try to do too much with too little staff or money.

Our thanks to everyone who took the time to answer our questions and to the writers, photographers and artists who made their work and the West come alive. We hope you enjoy this issue and tell us what you'd like to see us cover next spring.

—Betsy Marston

Teaching kids to hear the desert speak

*The desert 'felt like home,
and still does.'*

—by Janet Ross

When I am leading students into the desert, usually the Great Basin Desert of canyons, mesas, buttes, pinnacles and plateaus, I like to remember how I felt 16 years ago when I came to Arizona to look at colleges with my mother.

As we drove from Phoenix and headed north, I felt exposed and scared. Later, though, I realized that it was the desert affecting me. I was in awe of its colors, shadows and light. A midwesterner, I was used to feeling rain and being bordered by trees.

But the dry climate appealed to me immediately. It felt like home, and still does.

Most people think of deserts as hot, boring places where you bake in the sun and might be threatened by rattlesnakes

or scorpions. I tell students to think of the desert as it was before the year 800, when the ancient Indians left their villages.

It is an area that speaks of those people through the artifacts they left behind. If you learn to look you can find potsherds, arrowheads or other traces of a living people in the sand. What I tell students is that finding them is like entering an outdoor museum; taking them is desecration. The true meaning of an object is lost once it is removed.

The joy of discovery is of great value and can instill appreciation for another culture. What I like to do is to take students to an area where I know they will find artifacts anywhere they look carefully. I have then watched young people become intensely curious once they stumble on that first find. They want to know who the Anasazi Indians were,

how they lived, why they are gone. And they do not want to pocket the bits of life left behind. They know that the triangular piece of pottery they've seen and held was probably used more than 1,000 years ago.

There are many concepts about living and traveling in the desert to teach, from minimum impact to how animals and plants have developed survival mechanisms to conserve water.

But a key value to impart is preservation of this unique environment. The deserts of North America are so fragile that any development leaves scars that last for more than an average lifetime.

As it is such an open, visible space, one wants leave as little trace as possible in the desert. That requires great commitment and forethought. But a teacher can always show students the evidence of thoughtless campers, and even of their own passing recently, and it will be plain to see.

□

Janet Ross is director of the Four Corners School of Outdoor Education in Monticello, Utah.

Outward Bounds' roots are in compassion and strength

'Being in a classroom isn't how you learn about life.'

by Gingy Anderson

We are standing on the banks of the Green River in the depths of Desolation Canyon admiring the Colorado Plateau. Not the one it took the physical forces of nature two billion years to create, but a miniature model, sculpted in sand from the rocks of the plateau itself. Another instructor and I had built it the night before and had slept nearby, protecting it from inadvertent trampling in the dark. We hoped it wouldn't rain.

We are a group of 21: sixteen students and five instructors on a Colorado Outward Bound course. This is my 20th day in the field, but it is the students' 48th. They are in the midst of an 80-day "Wilderness Leadership Program" in which they sample some of the wildlands of the West while learning skills to explore these areas.

"This is a place of paradoxes," I tell them as we stand around the model. "If you were flying over the Colorado Plateau you would see a dry landscape deeply slashed by drainages and canyons. You might notice that instead of flowing around major uplifts and natural obstacles, rivers have cut impressive channels through the paths of most resistance."

In the sand I point out the goose-necks of the San Juan River and Cataract Canyon cutting through the Monument Uplift, the Gunnison through the Black Canyon and the Colorado through the Kaibab Plateau. With a bucket of water and a mountain of sand I try to show how the Colorado River is thought to have "captured" the Little Colorado some million years ago. I finish after pointing out some other geographic features and Diane Hackl, a guest instructor, starts a discussion of natural resource issues on the plateau.

As we stand on the banks of the river — a ragged crew with peeling noses and t-shirts colored with 48 days' worth of stains — we are a far cry from the origins of Outward Bound.

Outward Bound, which comes from a term for the moment a ship leaves its moorings and heads for the open sea, began during World War II to prepare young British seamen for the battle in the North Atlantic. Founder Kurt Hahn, a German-born educator, believed personal strength and compassion were necessary for survival in war. He advocated adventure as a medium through which youth would mature and develop these skills.

The first Outward Bound course in this country was for young boys, and took place in the mountains near Marble, Colo., in 1962. By the late '60s, Col-

orado Outward Bound courses were coed. In the '70s, the school offered programs for adults, and later for both juvenile and adult legal offenders. A version of the semester course also began in the late '70s. In the '80s, Outward Bound added courses for corporate professionals that stressed teamwork, problem solving and stress management. This decade also saw the start of "health services" courses for recovering alcoholics, drug abusers, victims of rape and cancer patients.

Along with diversity of students came a move into new course areas. Backcountry travelers may run into a Colorado Outward Bound group virtually anywhere in the Colorado Rockies, in and around Canyonlands, in Utah's Uinta Mountains or on the rivers of the Colorado Plateau. Beyond the West, there are four other Outward Bound Schools: Hurricane Island in Maine, Voyageur in Minnesota, Pacific Crest in Oregon, Washington and California, and North Carolina Outward Bound. Each school is autonomous but is overseen by a national organization, Outward Bound International.

The group I was with had spent two weeks rock-climbing in the Mohave Desert at Joshua Tree National Monument, 10 days in Colorado's high peaks and 14 days trekking through the canyons of Utah. After our six days paddling through Desolation and Gray canyons in rubber rafts, we would shuttle downstream to run the infamous Cataract Canyon of the Colorado River.

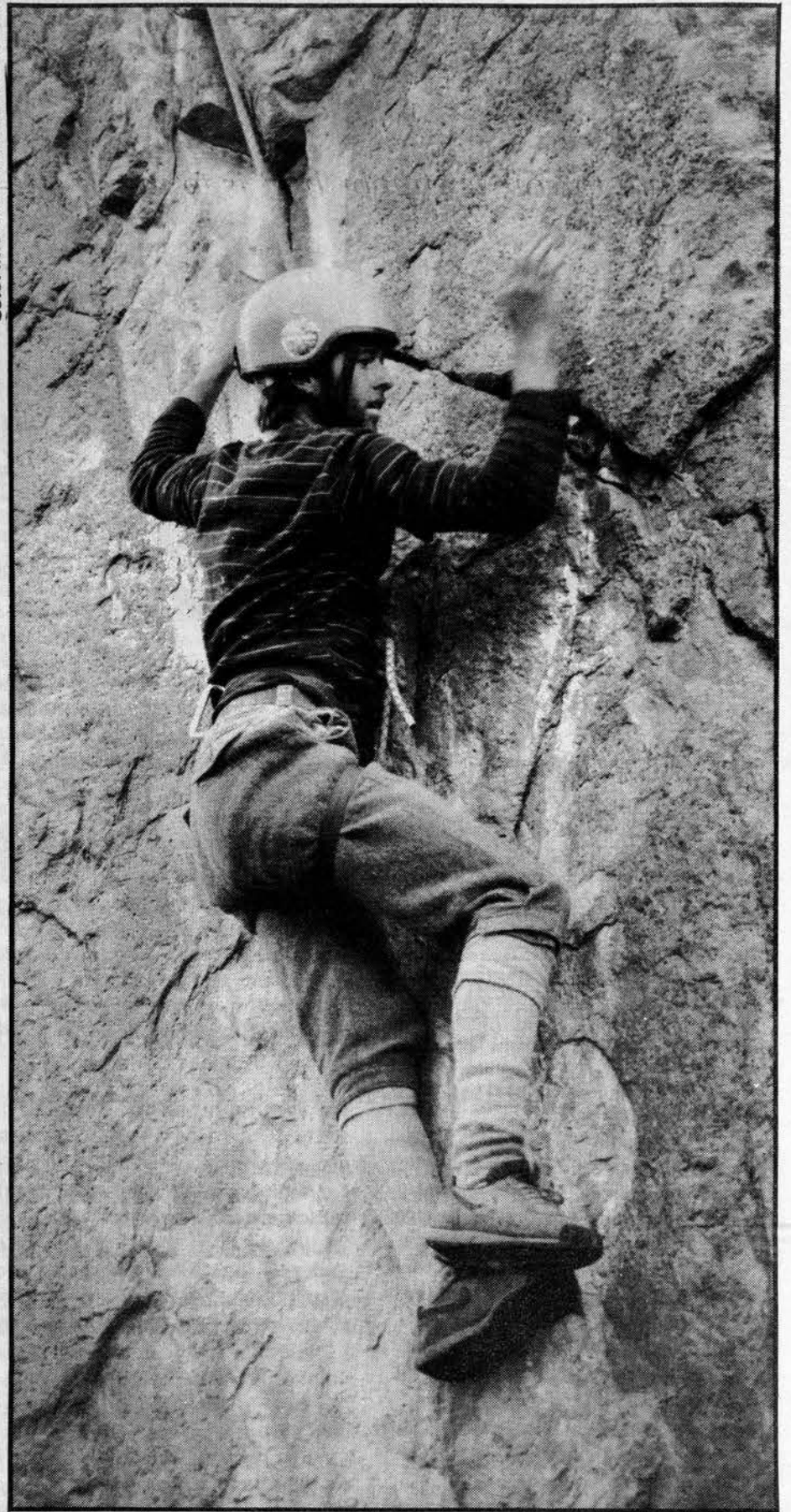
Across the nation each year, Ian Wade, the school's vice president of safety and program development, says more than 20,000 people take courses. Growing at about 10 percent a year, "Outward Bound is now a widely recognized institution, but 15 years ago we used to be 'Outward what?'" Wade says.

Demand for outdoor-environmental education has increased steadily over the past few decades, says Mark Udall, who directs Outward Bound in Colorado. In the early 1960s, Outward Bound was one of the first programs of its kind.

Ten years later there were close to 300 outdoor education programs in the U.S., and Dan Garvey of the Association for Experiential Education estimates there are more than 700 organizations today specializing in the field.

Udall says interest in outdoor education is a reaction against an increasingly mechanized world. "Wilderness offers a direct counterpoint to the way many people live, and I think we all have a deep, almost spiritual need for wild places," Udall says. Another factor, adds Udall, is the "Baby Boom" generation's interest in quality education, and "being in a classroom isn't how you learn about life."

Colorado Outward Bound School



Colorado Outward Bound student makes a technical climb

Enrollment at the Colorado Outward Bound School has increased from 2,500 students in 1980 to 5,800 in 1988. Its budget has doubled in that time from \$2 million to over \$4 million.

But growth doesn't come without a price, says Bruce Fitch, who is in charge of hiring instructors for the school. One area struggling to keep pace is staffing. Where the school used to recruit new instructors through word-of-mouth, that method no longer turns up enough people to keep up with the school's needs. Another problem, says Fitch, is that as the school grows, it loses more and more of its grass-roots feel and threatens to become more institutional.

"It would be as if the *High Country News* became the *New York Times*," says Fitch. Because of these concerns, the school recently imposed a limit on growth, aiming to expand more slowly.

Where is Outward Bound headed in the 1990s? Udall says one goal is to become more culturally diverse. Part of that thrust is an effort to increase minority involvement in all parts of the school, from students to field staff to trustees.

Steve Matous, who directs the mountains/canyons program, says, "The need to become racially diverse is the reality of our world. Anyone not pursuing that goal will become either obsolete or elite."

Outward Bound also hopes to include more urban-based programs, targeting segments of the population not normally exposed to outdoor education. But funding those missions requires money. Currently the school raises close to \$600,000 in scholarship funds annually, and that would have to increase or be redirected to offer financial aid to students in these programs.

Overall, says Udall, the Colorado school will continue to do what it always has: "teaching through and for the wilderness."

We finish our presentation by inserting dams of tree bark and aluminum foil into the miniature river drainages. With a stick, another instructor dots the Colorado Plateau's Indian reservations on our model.

But everyone's attention span is waning. A few eyes are glazed over, dreaming of lunch, while others look wistfully at the rafts, loaded and ready to go down the river. The roar of Three Forks rapid just downstream is very loud.

□

Gingy Anderson is an intern at *High Country News*.

A letter of thanks to Mary Back

'What to you is simply 'life' is to many students a new look at how to live cooperatively with the earth.'

Editor's note: Since 1976, four buses filled with high school and college students have roamed the country and Canada each year under the auspices of the National Audubon Society Expedition Institute.

The buses are filled with 80 young people, half of whom are studying for master's degrees in environmental education. They learn about the outdoors from first-hand experience, all agreeing to live in a drug-free, alcohol-free and smoke-free environment, as well as refraining from intimate relationships. They also learn how to live in a community that operates by group consensus — not an easy task, says instructor Coleen Walter.

But commitment to that ideal is strong. Walter tells why in a letter she wrote to one of the school's "teachers," the Wyoming naturalist, artist and writer, Mary Back.

Dear Mary Back,

Remembering our first telephone conversation, I marvel now at your reservoir of strength. You were making plans to lay your husband, Joe, to rest in the Absaroka Mountains of Wyoming. Unaware of his death, I was asking once again if I could bring a bus-load of

Audubon Expedition students to your home to hike one of the daily walks described in your book, *Seven Half-Miles from Home*.

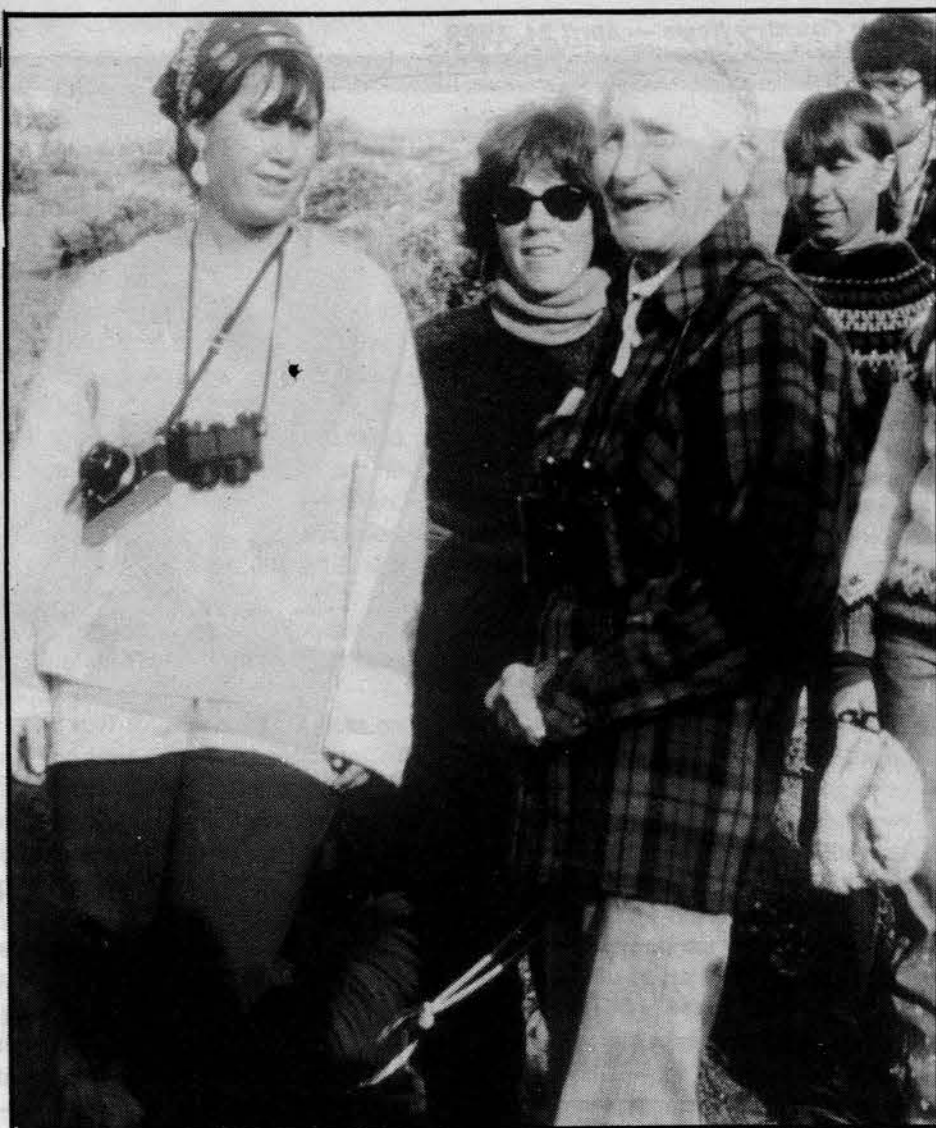
The memory of your response still warms me: "Now wait a minute," you said, "I think I would enjoy having a group of young people to hike with me. I really would be honored." And, of course, we descended on you.

I'm not sure I ever explained to you that I don't select who students talk to — they do. The first few days of the expedition are spent looking at maps and listing all the possibilities. Your name has always appeared on that list, and after your credits comes the phrase, "amazing woman." Students select you because they think you have something important to teach them.

Imagine the chagrin of a 20-year-old as he hikes short-winded behind your lean, 80-year-old frame! How easily you pick your way along the Wind River, eventually leading a group to the badlands, pointing out native plants and animals.

Even as we chopped and stacked firewood, cooked on your woodstove, or talked with you about building your own home, we learned from you and called it a course in appropriate technology, self-sufficiency or biology.

Coleen Walter



Mary Back, right, and students at her Wyoming home

In some cases the course was English as students chose to read your book and write a critical essay. The few days spent with you are always packed with experiential learning.

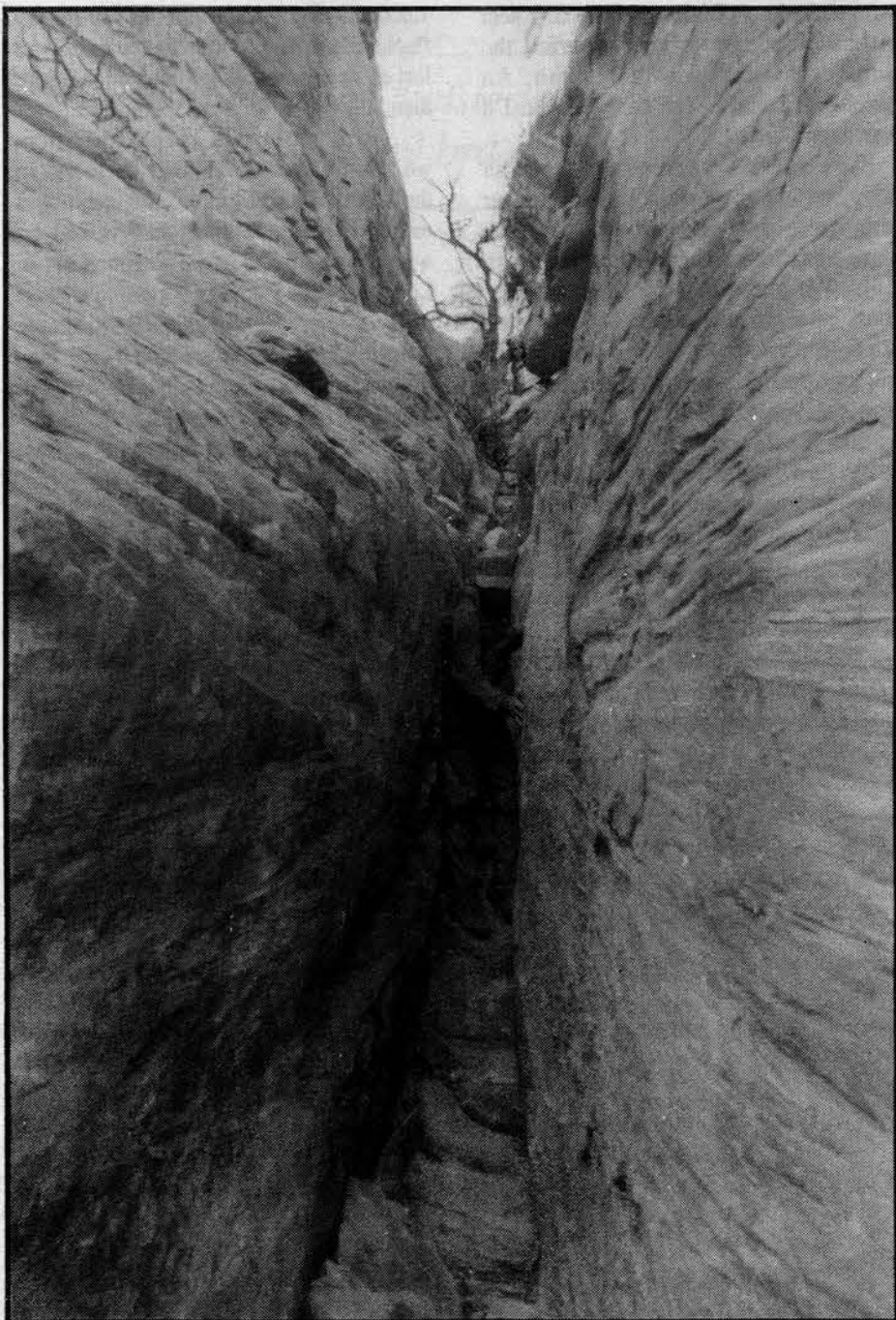
For what to you is simply "life" is to many students a new look at how to live cooperatively with the earth.

If we are to live in an environment where a diverse community of plants and animals can live with humans; if we want clean air and water for future gen-

erations — then we must provide young people with the experiences to develop an outdoor ethic. That is why we incorporate ideas such as deep ecology, biodiversity and the Gaia Hypothesis — that the earth is a living organism.

Thanks for being a living model to our philosophy.

Coleen Walter, instructor/guide
National Audubon Society
Expedition Institute



Steve Ryder

Hiking through one of Utah's narrower canyons

Earlham College students learned about the West, and each other

'It's one thing to have an ideal of community but quite another to live in a situation that puts it to the test.'

by Caroline Byrd

Three-quarters of the way through Earlham College's two-and-a-half-month Southwest Field Semester, I realized that the 15 of us had become a family. This was no "Leave It to Beaver" bunch but more like a real family with squabbles, sibling rivalries, bad moods and jealousies, along with honesty, support, jokes and even our own dialect.

By living outdoors with little inclusion of others in our group, a community had formed through shared experiences. What strikes me now that the students are back in Indiana, where the college is based, is how little we know about how to live in a community.

Outdoor education programs offer one of the rare places for exercising what it takes to develop that skill, although learning what it takes isn't easy.

Group gear such as tents, stoves, pots and pans is suddenly everyone's — and no one's — responsibility. Group chores require everyone to do more than what they think is their share. Different

physical abilities require that some people carry more weight than others.

Limits are placed on personal freedom because the consequences of each person's acts affect the whole group. This is not an easy concept to accept when you are 19 and want to climb every peak and run down every trail.

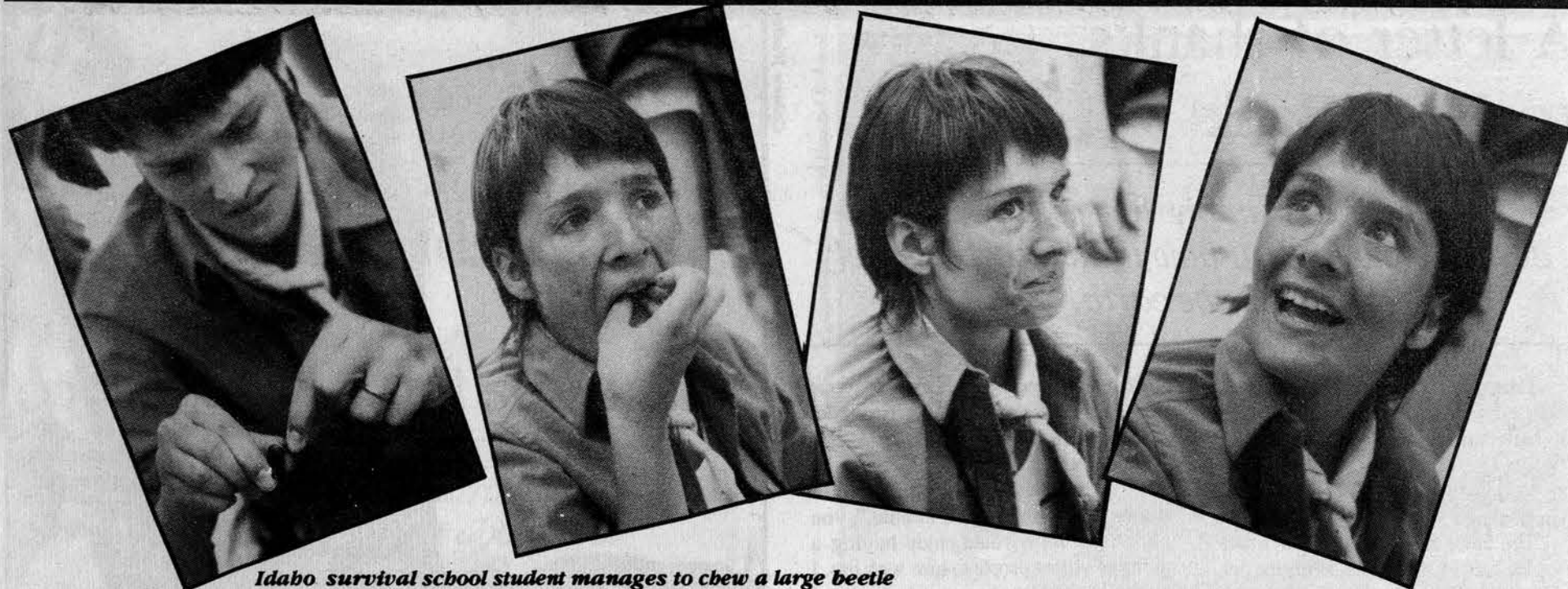
Above all, a group needs honest communication, and each person needs to take suggestions — "Why don't you put more water in the rice?" — without getting insulted.

In our group it took some time to establish the trust and support needed to work together honestly and effectively. It's one thing to have an ideal of community but quite another to live in a situation that puts it to the test.

Earlham College students learned a lot about the West this winter by living in it. They may have learned more about what it takes to make a community.

□

Caroline Byrd is an outdoor educator whose latest job was teaching and traveling with Earlham College students.



Idaho survival school student manages to chew a large beetle

How to starve and freeze your way to a wonderful time

'The only difference between agony and ecstasy is attitude.'

by Bob Neustadt

Trying desperately to keep my boots dry, I hop with my awkward bundle from rock to rock across the stream.

I curse each time I slip and a foot plops into the water. I curse the bundle of clothes I carry. I curse the water. I curse the rocks for moving. And I curse myself for not only volunteering, but also actually paying for this insanity.

Along the banks, poison ivy grows chest-high. Trying much too hard to keep my footing on the rough ground, I often stumble right into a plant. More cursing.

The name of this place is Death Hollow, in southeastern Utah. It's been two days since I've had anything to eat. And I am really tired of slipping into the river ... really tired.

With one final expletive, I resolve to trudge right down the middle of the blasted river. As I walk, the water gets deeper and the banks get steeper. Soon I am wading through water up to my chest. And I am smiling a smile that is about as wide as the sky.

I laugh out loud over the absurdity of trying to keep my feet dry. The clouds and the river laugh back at me. For the next 26 days I'm part of a group taking a course at the Boulder Outdoor School of Survival, usually called BOSS, based in Idaho.

I had taken outdoor courses before and enjoyed the challenge of physical exertion, but this time I had no idea what to expect, and I nervously wondered if I was fit enough.

David Wescott, the owner and director of the school, looked strong enough to lift the world. He smiled easily and spoke in a relaxed manner. But Wescott's presentation to us was far from comforting. When he told us of students wrapping their arms around trees and pleading, "Please, leave me here to die," my stomach sympathized. He also told us, "The only difference between agony and ecstasy is attitude."

After two days in Provo, our group of 17 students and several instructors, including Wescott, boarded a bus and headed for the southern Utah desert. After leaving the bus, the only food we would get for two-and-a-half days would be whatever we could find along the trail. And since it was going to be lean pickings, everyone wanted to get that

last snack. Gene, a 37-year-old steelworker and triathlete from Pennsylvania, had a sandwich of Oreo cookies on wonder bread. I had yogurt.

We left the bus at the Boulder, Utah, airport — an unpaved strip in the middle of nowhere with no control tower and no personnel. From there, we started hiking. We had 10 feet of parachute cord to help carry our extra clothing. We had no canteens. No rain ponchos. No food. No rucksacks. Usually, blankets are forbidden during this part of the expedition, but since the weather was cold in May we were allowed to bring one blanket for every three people.

Though harsh, our surroundings were beautiful, as well as instructive. We stopped often to taste an edible plant or learn a primitive orientation technique. (Ant hills, for example, are built so that the sun will hit the entrance first thing in the morning.)

The natural beauty of the desert in southern Utah is astounding. When we were up high and out of the canyons, the sky was immense. Ravens flew ominously overhead. We hiked until a few hours after sunset and made our camp in a large cave hollowed into the side of a cliff.

After a long, cold night, we rose eagerly at the first sign of light. It felt wonderful to get warm again. We hiked all day, an extremely difficult day. In the desert heat my body began to feel like soggy bread. I trudged lethargically.

Our only drinking water was whatever we could find along the trail, and

we knew there were some long, dry hauls ahead of us. There were times when the water tasted like horses, or worse. Polliwogs and green slime were common.

The sun would quickly turn from friend to enemy. When I was cold, walking in the river in the shade, I'd pray for a spot of sunshine. Just an hour later, the heat would be draining me of the last drop of sap, leaving me with as much energy as a dead tree baking in the desert.

On the third day of hiking we reached a base camp where supplies awaited us. (Throughout our month-long expedition, we stopped at several base camps for periods of rest and instruction. Before our arrival, staff members would drive to the area and leave provisions for us, then pick them up after we'd left.)

After days of hiking in the dry heat without food, we officially ended the "impact period" with a banana. An incredible banana. The best banana I'd ever eaten.

We spent a weekend in the base camp, eating, sleeping rolled up in our very own blankets, enjoying a fresh change of clothes and learning primitive skills. We made the cordage from plant fibers and ground chunks of river clay into fine particles for pottery. The rhythmic chopping accompanied us as we sang spirituals. This was one of many lessons in patience.

When it was time to leave base camp, we split into two groups bound for a common destination: Impossible Peak. This part of the program, called the group expedition, would introduce a new set of skills.

We learned how to make a fire from scratch using a bow-drill set. First we

chipped one stone against another to make a carving blade with which to whittle a wooden spindle. Then we made a bow with a piece of parachute cord for a bowstring and used it to spin the wooden spindle against a wooden board, creating friction. The feeling you get from starting a fire this way is euphoric, especially when you get to the flames.

We learned to catch carp, suckers and catfish with our bare hands. And we made delicious salads of wild watercress, violets, clover, yucca blossoms, cattails and bullrushes. We ate with spoons carved from bark, from bowls of burned-out cottonwood.

About half of the experience involves learning about hunger. It was probably as close as I'll ever come to experiencing real hunger, though it was still not very close. We each ate about 1,000 calories a day, with big day-to-day fluctuations. Everybody lost weight — I lost eight pounds; some people lost more than 20.

Over the course of the expedition, we sampled whatever food we found in the desert. In my journal, I wrote about eating a snake: "Dennis just walked up with a bull snake, so we're gonna eat it. Looks so pretty ... But I guess it's good to try things. The dead, skinned snake wriggled around like a live one. His cut-off head moved three inches on its own. The flesh felt cold ... as if it were refrigerated. His refusal to stay still almost defied his predators."

"...We cut him into pieces and roasted him like wienies on a fire. It tasted like a combination of chicken, fish and grease."

Four or five days after our group expedition began, we reached Impossible Peak and our second base camp, where we rejoined the rest of the group. There we were given raw, whole seed corn and wheat, the kind of grain that American farmers feed their pigs. We were told that we could have as much as we wanted but that we had to grind it ourselves, using a piece of sandstone. That was work. The grain never became very fine, and we ate a lot of sandstone in our mush.

We also learned to build shelters and make traps, and we played with the clay that we had so meticulously ground the week before.

By now, our energy was running low, and people were starting to get testy.

We spent several days at Impossible Peak before beginning our independent



BOSS students watch with distaste as a sheep is slaughtered

(Continued on page 9)

How to...

(Continued from page 8)

hike, meant to simulate the physical and mental stress of an emergency situation. We were given directions to a destination known as The Gulch and told to cover the distance as quickly as possible, each person setting his own pace.

We started a little before sunset and ended up hiking 24 miles before reaching the campfire our instructors had built. The experience, during a full moon, was great. Still, when it was over, I was glad.

I had huge blisters beneath the caluses on the soles of my feet. My body was tired and hurting.

While our sore bones and joints recovered from the independent hike, we practiced flint-knapping — shaping big hunks of obsidian into blades and arrowheads. Almost invariably I would begin to make the shape I wanted, start knocking off flakes for a thinner point and end up either snapping the piece in half or having just a tiny piece left. It took a willingness to sacrifice a fair amount of blood. The slivers of volcanic glass were so sharp that I didn't realize I'd been cut until I saw blood dripping from my hand.

Basketry required even more patience — more than I had. I have yet to complete a basket.

Then we slaughtered a sheep. When the staff brought in the sheep, students drew straws to see who would slit its throat. I



Del Benson shows off his missing 30 pounds after a month with BOSS

was curious to know what it feels like to take the life of a large animal. All the same, I was happy when I did not pick the longest straw.

After the kill, we skinned the animal, using obsidian blades. We tried not to waste anything. We tanned the hide, first scraping off the flesh, then applying a solution of brains and water and finally stretching it on a rack to dry. We dried strips of meat to make jerky. The viscera and intestines were for making sausage. We "baked" bread by enclosing dough inside the stomach and boiling it. We

made sinew from the tendons and tools (awls, needles and arrowheads) from the bones. Then came the feast.

Perhaps the highlight of the trip was the four-day solo — four days without any human contact. Four days to sit naked in the heat and watch bees pollinate. They sounded like miniature chain saws. The silence was so deep that the sound of a lizard seemed more like that of a bear. Best of all was to sit and do nothing during the long twilight hours. In canyons, evening seemed to last forever as the sun fell over the rim. It was magical.

After our solo, we had Christmas in May, the best Christmas I have ever experienced.

The staff told us to hang socks on trees, and later we found them stuffed with candy and marshmallows. It felt almost strange to be indulging so much after a month of primitive living. The festive mood of the occasion took a downswing when Bob, a well-liked student from Colorado, announced that he would be leaving the course the next day. It was a decision that he had reached during solo, and it was irreversible. BOSS isn't for everybody.

On student expedition, we split into four groups and hiked without staff.

We hiked early in the morning and late in the afternoon through spectacular landscapes and slept lazily during the heat of the day.

Four days later, when the groups converged at Harris Canyon, our feelings were mixed. We were excited to see each other, and we had enjoyed our hikes, but we were sad that this experience was coming to an end.

After dinner and a group campfire,

there was one last challenge — we had to run 15 miles along a dirt road at night until we reached the bus. I had never run that far.

We started about 1 a.m. The run was like every other one I've ever done except that it was longer and more intense. It hurt. Then it felt great, then it hurt again. There was no moon, and the road looked like a light glare in front of me. We had a lot of time to think. I thought about every book I'd ever read, my parents, my friends. I thought I'd never make it. I thought about the pain in my stomach and about my grandmother, who died of cancer. I thought about people who can climb mountains with only one leg.

After about 10 miles, I caught up with Carl and ran with him. I felt that he was always on the verge of pulling away from me, but I couldn't let him go. Cows were stampeding on the road in front of us. Stars seemed to be overflowing out of the sky. I kept checking direction by the Big Dipper and the North Star. For a long time I wondered if I'd make it. I felt like blacking out — I saw little black squares in front of my eyes — and then Carl stopped to walk and I forced myself to continue. A few minutes later I arrived at the bus. It was over.

Never have I felt so elated and tired at the same time.

For more information, write to BOSS, P.O. Box 905, Rexburg, ID 83440, or call 208/356-7446.

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Bob Neustadt, who became a BOSS instructor, teaches Spanish at the University of Oregon.

'Sure looked like turds to me.'

...the snake 'twisted himself around my bra strap.'

by Leigh Robertson

Rattlesnakes, black widows, bears, bats. To some people these are the contents of a nightmare. To me, it's just another day on the job.

For the past four years, I've been a park interpreter at Bear Creek Nature Center in Colorado Springs, Colo. I'll admit, at first I was a bit uneasy to learn I'd be caring for rattlesnakes and tarantulas, but now it's old hat.

The animals serve several purposes. Visitors can get a close look at native Colorado animals and learn which are poisonous. The animals are also used to educate school children and adults about wildlife, habitat and other environmental concepts.

One popular program at Bear Creek Nature Center involves feeding the display animals. Every Sunday at 2 p.m. visitors can watch snakes pouncing on mice, see toads zap mealworms and observe a trout feeding-frenzy. Things can get pretty exciting. Once an impatient garter snake lunged out of his cage with a gaping mouth, striking at anything that moved.

Snakes can be tricky subjects. I've had snakes go through belt loops and epaulets, into pockets and even into shirts. One chilly morning, I let a coachwhip snake go in my shirt to warm up, and he twisted himself around my bra strap. After a partial strip tease, and with the help of a co-worker, we were able to extricate the reptile.

The coachwhip snake seems to be good at embarrassing me. One December day, I was holding the coachwhip snake while talking to a wide-eyed group of Girl Scouts about reptiles. When I went to return him to his cage, I found I couldn't get the snake off my arm. I had to walk around with a snake on my wrist until it finally decided to let go.

Coachwhip is also an escape artist. Three years ago we came in one morning and found he'd gone. We searched all over the nature center to no avail. About two weeks later, someone watering plants above the eight-foot display units was startled to see a small eye peering back at him. It turned out to be the coral-colored coachwhip snake wrapped around a coral-colored pot.

Our volunteers also have many animal tales to tell. One afternoon, naturalist docent Sally Austin was leading a group of youngsters on a hike when they came across rabbit droppings on the trail. One boy yelled, "Look, turds." Sally carefully explained to the boy that the proper word was scat, or droppings. As the group started moving on, Sally overheard the boy say to his friend, "Sure looked like turds to me."

Figuring out an animal sign has posed some tricky problems for our volunteers. After learning about animal track patterns in a lecture, a group of volunteers went out to look for tracks. Soon they discovered a set of raccoon tracks. The neophyte trackers spent a good part of the afternoon trying to fig-

ure out the gait of the raccoon. The tracks didn't seem to fit the normal pattern for a walk, trot or canter. Finally, they called the naturalist and writer James Halfpenny over to help them.

After a brief examination, he said what they'd been tracing was odd: It was a three-legged raccoon.

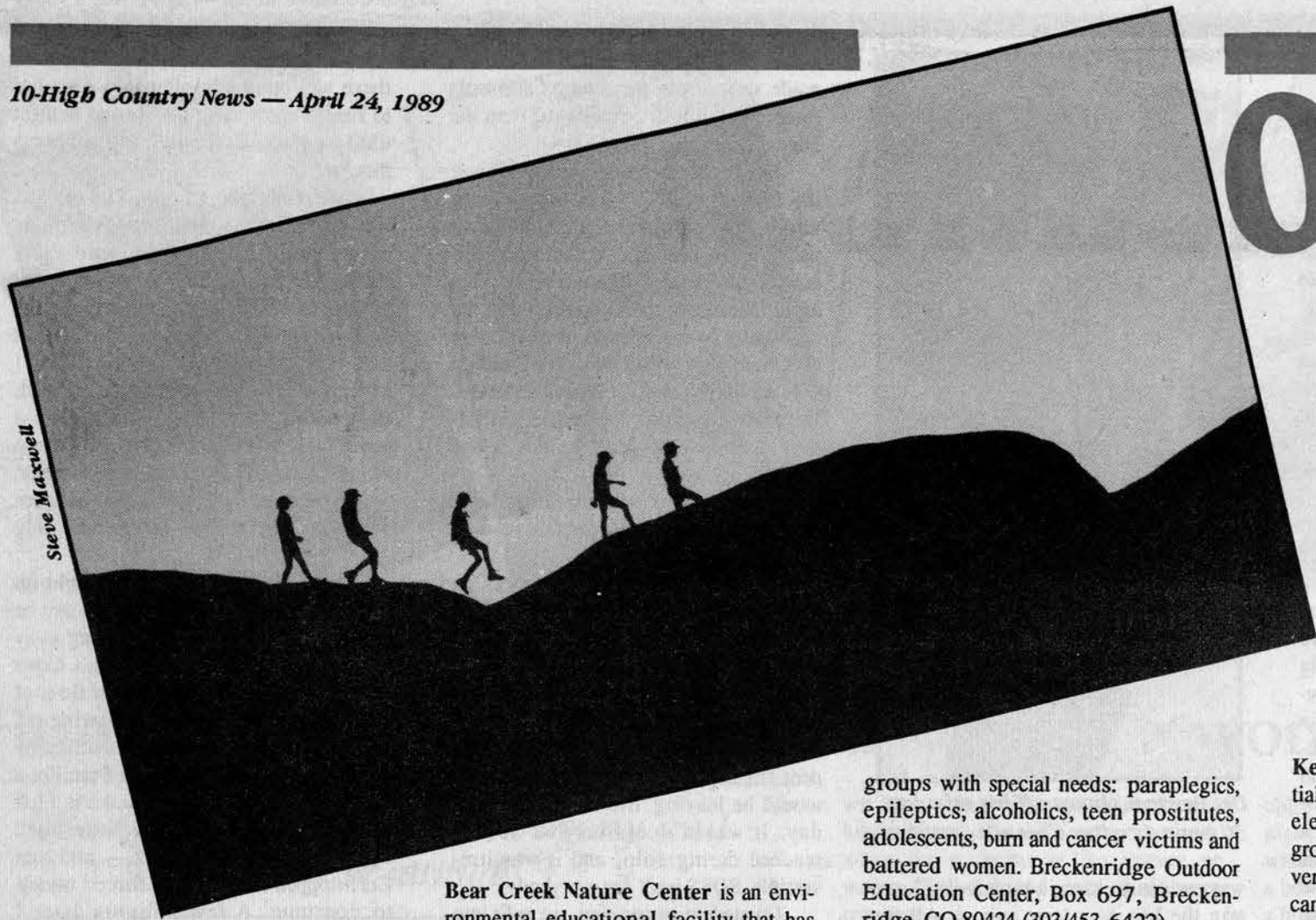
□

The Wolf

The sound of wind blowing across the snow
is the only sound.
It is a soft whispering sound.
Then a piercing howl cuts through the
thick, cold air.
The wolf on quiet paws passes over the
ground.
He is wild beauty in its purest image.
He stops to lift his nose to the air, then
he cocks one ear. Not a sound!
His long, warm coat keeps him warm.
He turns and quickly trots back to his den.
Once there, he curls up and sleeps.
All is quiet as the night crawls in.

Beth age 10

Defenders, the bimonthly magazine of Defenders of Wildlife, published this poem in 1988 by Beth Mormon. She is one of the thousands of children to write to the Washington, D.C.-based organization and start a correspondence about endangered animals or plants. Defenders of Wildlife staff answer requests for information about wildlife, thanks to the Lloyd Symington Memorial Fund for Wildlife Education, which also supports a quarterly newspaper for youngsters called The Comeback Trail. For more information, write DOW, 1244 Nineteenth St., N.W., Washington, D.C. 20036.



Steve Maxwell

ARIZONA



The Museum of Northern Arizona is a nonprofit educational and research institution dedicated to interpreting the natural and cultural history of the Colorado Plateau. We offer river trips, backpacking expeditions and seminars in the backcountry of the Colorado Plateau. Write to us at Route 4, Box 720, Flagstaff, AZ 86001 (602/774-5211).

COLORADO



The Aspen Center for Environmental Studies provides a variety of natural science education programs for people of all ages. The Center emphasizes serving local school children in three counties. Located within a wildlife sanctuary, the Center also works to protect wildlands. ACES, Box 8777, Aspen, CO 81612 (303/925-5756).

Bear Creek Nature Center is an environmental educational facility that has hiking trails and a display room which features live Colorado animals and more. Interpreters present programs to school children and the public on a variety of topics. Write 2002 Creek Crossing, Colorado Springs, CO 80906 (719/520-6375).



Boulder Natural Science School has successfully motivated children along the Front Range to develop a keen interest in the out-of-doors for over 30 years. Programs are geared to encourage their curiosity about the natural world and extend it to include scientific observations. The instructors are talented and experienced naturalists. Their enthusiasm and dedication to teaching create memorable experiences for hundreds of children each year. For information contact Thorne Ecological Institute, 5370 Manhattan Circle, Boulder, CO 80303 (303/499-3647).

The Breckenridge Outdoor Education Center offers "risk recreation" (mountaineering, skiing, climbing and rafting) to build self-confidence, promote personal growth and encourage independence. The programs are designed for

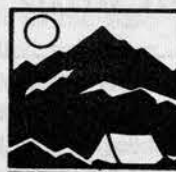
groups with special needs: paraplegics, epileptics, alcoholics, teen prostitutes, adolescents, burn and cancer victims and battered women. Breckenridge Outdoor Education Center, Box 697, Breckenridge, CO 80424 (303/453-6422).

Cloud Ridge



Naturalists

Cloud Ridge Naturalists is a nonprofit, educational organization offering field seminars in the natural sciences. Instructors include some of the West's most distinguished scientists. Sessions range from weekend to week-long in length. Fine lodges, pretty campsites, and gourmet picnics. Write Overland Star Rt., Ward CO 80481.



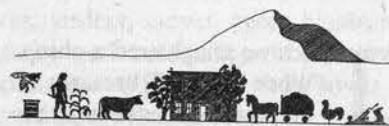
The Colorado Outdoor Education Center in Colorado is bordered by Pikes Peak National Forest and the Florissant Fossil Beds National Monument. The center includes Sanborn Western Camps, the Pikes Peak Research Station and The Nature Place, a conference and nature center. The center was designated a national environmental education center by the Department of Interior. In addition to outdoor summer camp programs for kids and teens, Sanborn Camps offers residential outdoor education programs for fifth and sixth graders throughout the year. These programs pair elementary students and teachers with high school-age counselors. COEC also has an interpretive building called the Interbarn which houses an herbarium, a planetarium, a seismograph, microscopes and interpretive and historical displays and games. The Pikes Peak Research Station offers graduate level college courses, conducts research and hosts university field courses. Colorado Outdoor Education Center, Florissant, CO 80816 (303/748-3475).

The Colorado Rocky Mountain School, Carbondale, Colo., offers a challenging college preparatory curriculum for 145 boarding and day students in grades 9 through 12. Wilderness experience, meaningful physical labor, mountain and river sports, the arts and community service. (303/963-2562).

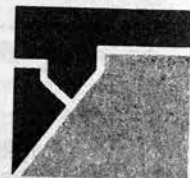
Outdoor in t



Keystone Science School offers residential environmental science programs to elementary, high school and college groups. Located 75 miles west of Denver, the school teaches ecology, winter camping, animal tracking, geology and wildlife biology in montane, subalpine and alpine environments. The school emphasizes a hands-on approach to field study and works closely with teachers to plan curricula. Keystone Science School, Box 606, Keystone, CO 80435 (303/468-5824).



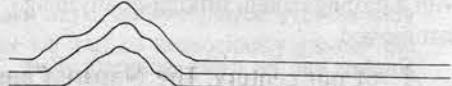
The Malachite School and Small Farm (formerly Malachite Small Farm School) is a 501(C)3 educational organization dedicated to ways of living and farming that are community responsible and environmentally sound. Short farmstays, college courses, workshops, youth programs and extended residence opportunities are offered year-round. The school is at Gardner, CO 81040 (719/746-2412).



The Museum of Western Colorado collects, preserves and interprets materials related to the social and natural history of western Colorado. A nonprofit organization, it includes a history museum in downtown Grand Junction, Cross Orchards Living History Farm, Dinosaur Valley museum, Rabbit Valley Research Natural Area, Riggs Hill and Dinosaur Hill (303/242-0971).



The Rocky Mountain Nature Association offers weekend and week-long summer seminars in Rocky Mountain National Park. Courses include plant identification, archaeology, geology, ecology and outdoor painting, writing and photography. Write to Rocky Mountain Seminars, Rocky Mountain National Park, Estes Park, CO 80517.



Rocky Mountain Biological Laboratory is a year-round nonprofit, educational and research organization located at 9,500 feet in Colorado's Elk Mountains. In the summer the lab offers eight-week college field courses in mammology, botany, ecology, entomology and animal behavior, as well



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Outdoor Education in the West

as seminars and field tours for the public. Rocky Mountain Biological Laboratory, Box 519, Crested Butte, CO 81224 (303/349-7231).



Volunteers for Outdoor Colorado conducts and promotes volunteer, outdoor work projects such as trail-building, revegetation and fish dam construction. Their goals are to involve Coloradans in improving and maintaining public lands and resources, to increase the sense of responsibility they feel for their public lands, and to further their ability to participate in land management decisions. Volunteers for Outdoor Colorado, 1410 Grant St., B105, Denver, CO 80203 (303/830-7792).

IDAHO



Boulder Outdoor Survival School Inc. is a small school operating in the high river plains of southeastern Idaho and the high desert canyons of south-central Utah. All courses are taught in the field following the skills of the Ancient Ones who inhabited these areas in prehistoric times. Write to us at Box 905, Rexburg, ID 83440 (208/356-7446).



The Cooperative Wilderness Handicapped Outdoor Group provides opportunities for the physically disabled to enjoy the outdoors and become more independent. Affiliated with Idaho State University's physical education department, C.W. HOG pairs able-bodied volunteers with disabled people of all ages in activities such as kayaking, rock climbing and alpine

skiing. C.W. HOG, Idaho State University, P.O. Box 8118, Pocatello, ID 83209. The outdoor program at Idaho State University offers mountaineering, kayaking, rafting and cross-country ski trips to anyone college-age or older. Trips are "common adventures" where each participant has equal say, responsibility and costs. The university hosts seminars in first aid and map and compass use, and offers ice climbing and avalanche workshops. **Idaho State University Student Union Outdoor Program**, Box 8118, Idaho State University, Pocatello, ID 83209.



The University of Idaho's outdoor program offers cooperative, cost-sharing adventures as well as workshops and trips. The program is open to the public as well as the university community and includes outdoor activities such as back-country skiing, winter camping and hut trips, avalanche awareness clinics, desert backpacking, kayaking and river-rescue training. Trip planners can also make use of a resource center, providing everything from maps to industrial sewing machines, and can rent equipment from the Outdoor Rental Center. University of Idaho, Outdoor Program, Moscow, ID 83843 (208/885-6810).

MONTANA



Glacier Institute — The mountains of Glacier National Park, Mont., are the setting for classes, workshops and one-day explorations offered by the Glacier Institute. Now managing two facilities, we offer outdoor educational experiences for elementary grades through senior citizens. Glacier Institute, P.O. Box 1457, Kalispell, MT 59903 (406/752-5222).



The Nature Conservancy

Pine Butte Swamp Preserve

DIG DINOSAURS WITH THE EXPERTS June 25-July 1, 1989

The discovery of duckbill dinosaur nests and young buried in the Willow Creek anticline on Pine Butte Swamp Preserve is one of the greatest finds of our century. The Nature Conservancy is offering a unique opportunity to help excavate this private site with an expert team of paleontologists from The Museum of the Rockies. Tour the Museum of the Rockies, the laboratory where dinosaurs are reconstructed and then spend 4 days learning the intricate techniques of dinosaur bone excavation. Accommodations for this workshop will be in authentic teepees in a comfortable outdoor camp. The cost of this workshop is \$1000.

FOR INFORMATION WRITE: Genny Barhaugh, Pine Butte Guest Ranch, Dept. HCN, HC 58 Box 34C, Choteau, MT 59422 (406) 466-2158.

Steve Maxwell



Directory continues on page 12

GO WEST with the NATIONAL AUDUBON SOCIETY

CAMP IN THE WEST

Stay in original homestead cabins set in a glaciated valley in Wyoming's Wind River Mountains. Participate in sessions on Native American culture and wilderness values. Spend time hiking, rockclimbing, canoeing, squaredancing and floating down the Snake River.

7-day session	June 23-30	\$475
12-day session	July 2-14 July 16-28 July 30-August 11	\$675

WILDERNESS RESEARCH BACKPACK

Help save the Yellowstone ecosystem. Join Audubon staff biologists in research projects:

- bird and mammal censusing
- plant surveys
- insect collection
- wildlife habitat mapping

Research programs involve hiking five to seven miles daily at elevations of 9,000-10,000 feet.

Wind River Mtns.	three 12-day trips	\$550 each
Absaroka Mtns.	three 12-day trips	\$550 each

ECOLOGY WORKSHOP IN SOUTHEASTERN ARIZONA

September 4-12	\$895
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Study biodiversity in a land of amazing contrast. From the dry desert floor to the cool, fir-clad mountainside forests, this workshop will focus on the variety of plant and animal life in the Chiricahau Mountains. Field trips and outdoor classes will provide opportunities to observe gila monsters, chuckwalla, spadefoot toads, peccaries, coati-mundis, elf owls, poorwills and more. The workshop will be based at the American Museum of Natural History's Southwestern Research Station.

NATIONAL AUDUBON SOCIETY
613 RIVERSIDE ROAD
GREENWICH, CT 06831
(203) 869-2017



Directory...

MONTANA



The Nature Conservancy, Pine Butte Guest Ranch combines a western vacation in beautiful cabins set in the Rocky Mountains with natural history tours: bird watching, wildflower illustration, dinosaur excavation, mammal tracking, and photography. Contact: Genny Barhaugh, HC 58 Box 34C, Choteau, MT 59422 (406/466-2158).



University of Montana Biological Station provides students and scientists with a field site for ecological studies emphasizing water-related research. An annual summer academic program offers courses in a variety of field sciences. State-of-the-art freshwater research laboratory is operated year-round. Write to Dr. J.A. Stanford, Flathead Lake Biological Station, University of Montana, 311 Bio Station Lane, Polson, MT 59860.

NEVADA

The Foresta Institute for Ocean and Mountain Studies provides training and consulting in interdisciplinary, experiential education. The institute develops environmental education curricula, conducts environmental education programs and researches environmental problems such as endangered species and habitats, cultural relationships to land use, and international concerns. Foresta Institute for Ocean and Mountain Studies, 6205 Franktown Rd., Carson City, NV 89701 (702/882-6361).



Friends of Red Rock Canyon in Nevada has an environmental education committee that facilitates workshops such as Project Wild and Learning Tree that foster a love of the outdoors. The committee concentrates on teachers, federal agency and military personnel. For more information write c/o BLM, Box 26569, Las Vegas NV 89126 (702/363-1921).

The Nevada Natural Resources Education Council is a statewide organization whose goal is to develop and promote natural resource education in Nevada. It works with resource agencies, sponsors and coordinates teacher training workshops and publishes a newsletter. This year the council will lobby the state legislature to enforce state mandates on environmental education. Contact Jim Rathbun, Nevada Natural Resources Council, P.O. Box 26569, Las Vegas, NV 89126.



OUTDOOR WORKING VACATIONS

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islatute to enforce state mandates on environmental education. Contact Jim Rathbun, Nevada Natural Resources Council, P.O. Box 26569, Las Vegas, NV 89126.

NEW MEXICO

The Randall Davey Audubon Center is the newest education center and state office for the National Audubon Society. Located in the foothills of Santa Fe, N.M., the center offers natural history science programs for school children, teachers and the general public. The center's bookstore offers an excellent collection of field guides covering the Southwest. Write us at Box 9314, Santa Fe, NM 87504 (505/983-4609).

SOUTH DAKOTA

Outlaw Ranch, in the Black Hills of South Dakota, is a year-round environmental education center. Two- and three-day residential programs for sixth graders. Activities include horseback riding, geology and ecology. Contact: Environmental Ed. Director, Outlaw Ranch, Custer, SD 57730 (605/673-4040).



Storm Mountain Center is a camp and retreat center in the Black Hills. Fine facilities as well as many acres of out-post area are utilized each year by more than 2,400 local elementary students for environmental education. Write to us at HCR 33 Box 1701, Rapid City SD 57701.

Wind Cave National Park in southwest South Dakota interprets the underground wilderness of Wind Cave and its interactions with the prairie and forest above. The "Connections Program" offers field trips for school children in South Dakota, Nebraska and Wyoming. Wind Cave National Park, Hot Springs, SD 57747 (605/745-4600).

UTAH



Canyonlands Field Institute in Professor Valley and Moab, Utah, explores the natural and cultural heritage of the Colorado Plateau region. Through seminars and field trips focusing on natural history, archaeology, creative writing and photography, CFI



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Dubois, WY 82513
(307) 455-2829

creates opportunities for children and adults to learn about the canyon country. Canyonlands Field Institute, P.O. Box 68, Moab, UT 84532 (801/259-7750).



Four Corners School offers exciting outdoor educational adventures using one of the most spectacular outdoor classrooms this planet offers — the wild canyons and mesas of the Colorado Plateau. An out-of-the-ordinary opportunity to know these lands. Write East Route, Monticello UT 84535 (801/587-2859).



The Norwegian School of Nature Life, Park City, Utah (originally from Hemsedal, Norway), offers a variety of outdoor/nature oriented programs, year-round: hiking, backpacking, canoeing, nordic skiing, mountain biking, etc., de-emphasizing stress and competition. Write Norwegian School, 544 Park Ave., Park City, UT 84060 (801/649-5322).



The Ogden Nature Center is a 127-acre wildlife habitat dedicated to the development of environmental awareness and to

the preservation of Utah's natural resources. Visitors have been discovering their peace in nature through education, science and recreation. 966 W. 12th St., Ogden UT 84404 (801/621-7595).



The Utah Museum of Natural History offers extended field trips for adults in Canyon de Chelly, Chaco Canyon and Glacier National Park. It also offers teacher workshops, adult classes in natural history and archaeology, and classes for youth from four to 18 years old. The museum's Summer Field Science Academy provides field programs for 2nd through 12th graders that involve trekking to and studying Utah's varied habitats and environments. Museum Education Office, Utah Museum of Natural History, University of Utah, Salt Lake City, UT 84112 (801/581-4887).



White Mesa Institute offers research and educational field trips, specializing in archaeology, history and Native American culture in the Four Corners area. Acknowledged experts accompany every trip. Personal discovery, low impact on the land, and flat out fun, are stressed. White Mesa Institute, 639 W. 1st South 50-1, Blanding, UT 84511 (801/678-2201).

(Continued on page 13)



The Aspen Center for Environmental Studies NATURALIST FIELD SCHOOL

Graduate credit courses

JUNE 19 — AUGUST 11, 1989

On Being a Naturalist/Ornithology	June 19 - 30, 1989
Mammals	July 5 - 8, 1989
Rocky Mountain Mushrooms	July 10 - 12, 1989
Rocky Mountain Ecology	July 17 - 21, 1989
Geology	July 24 - 28, 1989
Life in Streams, Ponds, Marshes and Meadows	July 31 - August 3, 1989
Tundra Ecology	August 7 - 11, 1989
Mushroom Hunt	July 14, 1989
Tundra Walk	August 3 or 12, 1989
Wildflower Walk	August 5 or 10, 1989

Cost is \$125 per course (does not include food or housing). We will help you find housing.

For further information, call 303-925-5756 or write:



ACES
PO Box 8777
Aspen, Colorado 81612



ZION NATURAL HISTORY ASSOCIATION

The Zion Natural History Association, a nonprofit corporation working in cooperation with the National Park Service, is supported by the sale of publications and interpretive items to visitors of Zion National Park. The Association also awards scholarships and funds interpretive projects and scientific research. Write the Association at the park in Springdale, UT 84767 (801/722-3256).

WYOMING

The Conservation Connection, Wyoming's statewide conservation education program, is sponsored by the University of Wyoming's Center for Teaching and Learning. The program publishes a statewide outdoor education newsletter, puts on workshops for teachers and youth leaders, and provides curricula for grades K-6. Workshops feature hands-on natural science activities focusing on soil, water, plants, wildlife and trees. The Conservation Connection, University of Wyoming, Center for Teaching and Learning, University Station Box 3992, Laramie, WY 82071 (307/766-6381).



Expedition: Yellowstone! is a program that offers a set of curriculum materials that include learning activities and original children's stories about the park. The program is aimed at teachers of grades 4-6. The learning activities are interdisciplinary, suitable for use in the classroom and outdoors. They cover Yellowstone's geology, history, wildlife and its importance as the world's first national park. Teachers can use the materials just in their classrooms or in conjunction with a several-day trip or "Expedition" to the park. Write: Expedition Yellowstone, National Park Service, P.O. Box 168, Yellowstone National Park, WY 82190, or call Jack de Golia (307/344-7381, ext. 2339).



National Outdoor Leadership School. Most comprehensive year-round wilderness skills training available. Mountaineering, backpacking, sea kayaking, telemark skiing and winter camping. Expeditions 14 days to 3 1/2 months in Wyoming, Washington, Alaska, Mexico, Argentina and Kenya. College credit. Contact: NOLS, Box AA, Lander, WY 82520 (307/332-6973).



DESERT WRITER'S WORKSHOP
Oct. 19-22, 1989 Pack Creek Ranch
William Stafford
Terry Tempest Williams
Elizabeth Tallent

For more information contact:
Canyonlands Field Institute
P.O. Box 68 / Moab, UT 84532
(801) 259-7750

Co-sponsored by the Utah Arts Council



Red Top Meadows, a residential treatment center for adolescent boys with behavioral and emotional handicaps, includes wilderness experiences as an essential part of its program. Experiences range from a 23-day summer trip to five days of winter camping. Skills developed include group cooperation and communication, conflict resolution and problem solving. Write Box 290, Wilson WY 83014.



Teton Science School is an independent, nonprofit center for learning located in Grand Teton National Park, Jackson Hole, Wyo. For 22 years Teton Science School has been teaching environmental and natural sciences to people of all ages. TSS, Box 68, Kelly, WY 83011 (307/733-4765).



For those planning to visit Yellowstone National Park but who want more than a typical through-the-windshield experience, the **Yellowstone Institute** offers nature study vacations. The institute provides a vast selection of field courses in everything from geology and geysers to waterfowl and wolves. Courses range from three days to several weeks, and participants stay in rustic cabins overlooking the Lamar Valley. Write the Yellowstone Association for Natural Science, History and Education, P.O. Box 117, Yellowstone National Park, WY 82190 (307/344-7381).

PACIFIC WEST



Huxley College, a division of Western Washington University, offers curricula devoted to environmental studies. Undergraduates may earn B.S. or B.A. degrees, majoring in environmental science, environmental policy and assessment, or environmental education. The graduate program leads to the M.S. in environmental science. WWU, Bellingham, WA 98225 (206/676-3520).



The Mountaineers do more than climb mountains. We study nature on naturalist outings. We hike, cross-country ski, snowshoe, backpack, camp and bicycle through the Northwest wilderness, its national and state parks, Canada and foreign countries. The Mountaineers, 300 3rd Ave. W., Seattle, WA 98119 (206/284-6310).

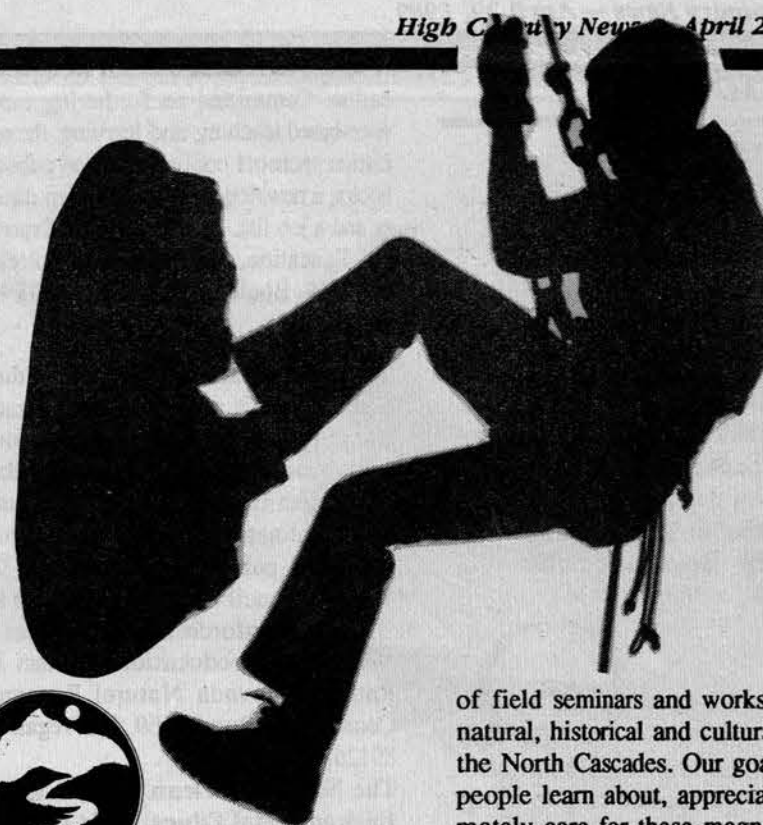


Box 7477, 165 N. Glenwood
Jackson, WY 83001 (307/733-4979)

Kent and Donna Damsen



North Cascades Institute is an innovative, nonprofit environmental field school. We offer a year-round program



of field seminars and workshops in the natural, historical and cultural legacy of the North Cascades. Our goal is to help people learn about, appreciate and ultimately care for these magnificent wild lands. Write NCI, 2105 Highway 20, Sedro Woolley, WA 98284 (206/856-5700).

(Continued on page 14)

TETON SCIENCE SCHOOL JACKSON HOLE, WYOMING



45 ADULT SEMINARS

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(307) 733-4765



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Director of Admissions
Colorado Rocky Mountain School
Box HC, 1493 County Road 106
Carbondale, CO 81623
(303) 963-2562

Directory...**PACIFIC WEST**

Pacific Crest Outward Bound School — Call toll-free for a free catalog on wilderness adventures. Join a team backpacking in the Sierra or the North Cascades, whitewater rafting in Oregon, coastal trekking in Washington or rock climbing in Southern California (800/547-3312 or 503/243-1446).



Quest Northwest is a nonprofit environmental school dedicated to providing high school youth with opportunities to perform scientific data-gathering activities in the outdoors. These activities seek to supplement the efforts of the professional researcher engaged in addressing environmental problems. Quest Northwest, 1140 Sierra Pl., Edmonds, WA 98020.



Sierra Club outings are cooperative ventures in which people with similar interests take part in backpacking, bicycle and burro trips. Outings last from four days to three weeks and take place in wilderness areas in Arizona, Colorado, Montana, Wyoming, California, Washington and elsewhere. Service trips are available for those who want to enjoy the backcountry while working for the environment. The club also sponsors an outing program for inner city groups. For a catalog, write the Outing Department, Sierra Club, 730 Polk St., San Francisco, CA 94109 (415/776-2211).

Wildlands Studies at San Francisco State: Participants join wilderness research teams to search for answers to environmental problems in the mountain West, Canada and Alaska. On-site studies in the conservation of endangered wildlife and threatened wildlands. Students can earn 3-14 university units. Wildlands Studies, 3 Mosswood Circle, Cazadero, CA 95421 (707/632-5665).

NETWORKS

The **American Nature Study Society** promotes environmental education by conducting meetings and field excursions and by producing and distributing publications. It also assists in training nature leaders. American Nature Study Society, 5881 Cold Brook Rd., Homer, NY 13077 (202/749-3655).

The **American Society for Environmental Education** is an association of professional environmental educators. The association is committed to ensuring environmental literacy for all citizens and works actively with the business community. The society is also involved in the preservation of land and buildings for environmental, educational and historical purposes. American Society for Environmental Education, Wheeler Professional Park, P.O. Box 800, Hanover, NH 03755 (603/643-3536).

The **Association for Experiential Education** is a group of 1,200 individuals and institutions with affiliations to groups involved in education, recreation for the disabled, programs, corrections, youth ser-

vices and environmental and outdoor education. Committed to furthering experience-based teaching and learning, the association sponsors conferences and publishes books, a newsletter, a membership directory and a job list. Association for Experiential Education, University of Colorado, Box 249, Boulder, CO 80309 (303/492-1547).

The **Nevada Natural Resources Education Council** is a statewide organization whose goal is to develop and promote natural resource education in Nevada. It works with resource agencies, sponsors and coordinates teacher training workshops and publishes a newsletter. This year the council will lobby the state legislature to enforce state mandates on environmental education. Contact Jim Rathbun, Nevada Natural Resources Council, P.O. Box 26569, Las Vegas, NV 89126.

The **North American Association for Environmental Education** is a group of professionals who want to improve environmental education in educational institutions. The association sponsors an annual conference. North American Association for Environmental Education, 5995 Horseshoe Bend Rd., P.O. Box 400, Troy, OH 45373 (515/289-2331).

Thirteen Western states send two representatives each to **The Western Regional Environmental Education Council**, which works to advance state and regional educational programs in cooperation with public and private groups. Association for Western Regional Environmental Education Council, 2820 Echo Lane, Sacramento, CA 95821 (916/971-1953).

The **Utah Society for Environmental Education** issues a quarterly newsletter and helps build a network of resource agencies, individuals and organizations involved in environmental education. It also serves teachers as a clearing house for environmental education curricula. Utah Society for Environmental Education, 811 McClelland St., Salt Lake City, UT 84111 (801/363-6037).

EASTERN-BASED

The **Appalachian Mountain Club** sponsors weekly working vacations and

PACK GOAT

Adventures



Let pack goats carry your gear into Wyoming's backcountry! These friendly, smart, agile animals are happy to follow you to places no other pack animals can go, like the Glaciers of the Wind River Range and Wyoming's wondrous Red Desert. Write now for our 1989 schedule. Trips start in April and include educational field studies on Edible/Medicinal Plants and on the Art of Keeping a Field Journal.

MOUNTAIN GOAT VENTURES

Rt 62, Box 250, Lander WY 82520
(307) 455-2161 (307) 332-3123

10-day service projects in Utah, Colorado, Wyoming, Montana and New Mexico. Their volunteer trails program pairs 10-12 volunteers with AMC leaders in backcountry trail building and maintenance. Programs run in cooperation with agencies such as the Park Service and Forest Service and encourage individuals to act as stewards of public lands. Appalachian Mountain Club, P.O. Box 298, Route 16, Gorham, NH 03581 (603/466-2721).



Audubon Camp in the West offers dynamic natural history programs for adults. One- and two-week courses include sessions on geology, birds, plants and human ecology/conservation issues and are held in the Wind River Mountains, Wyo., mid-June through mid-August. Audubon also conducts a **wilderness research backpack** in the Wind River and Absaroka mountains, Wyo. Join Audubon biologists to gather scientific data in cooperation with Forest Service, Wyoming Game and Fish Dept., several universities. A new program in southeast Arizona will be offered in Sept. 1989. Write National Audubon Society, 613 Riversville Rd., Greenwich CT 06831 (203/869-2017).

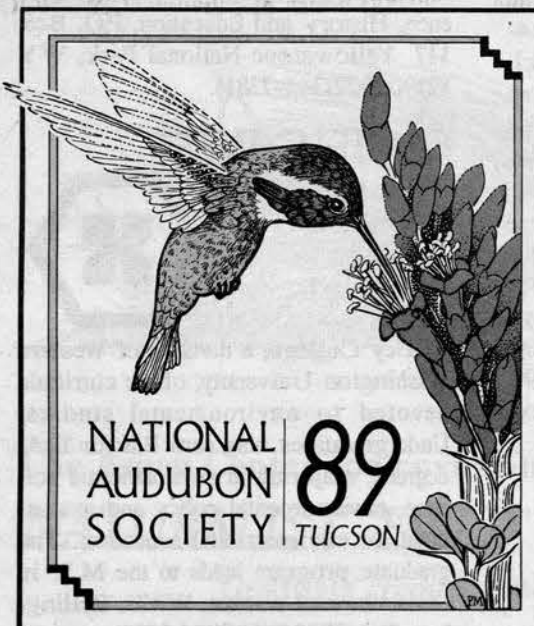
The **Audubon Expedition Institute** offers three-week to four-year high school, undergraduate and graduate programs in experiential, environmental education. Living in consensus communities, you learn of nature through living with and in it. Contact AEI Northeast Audubon Center, Sharon, CT 06069 (203/364-0522).

Earlham College, a Quaker liberal arts college in Richmond, Ind., offers a winter field quarter studying natural and cultural history, natural resource issues and environmental education as students backpack, canoe and rockclimb in the deserts of the American Southwest. Direct experience is accompanied by lectures, readings, assignments and visits to research centers, museums and resource management agencies. Southwest Field Studies, Wilderness Office, Earlham College, Richmond, IN 47374.

Earthwatch is a nonprofit institution that sponsors scholarly field research by finding paying volunteers to help scientists on research projects around the world. Western expeditions include archaeological excavations in Dillon, Mont., and on the Mimbres River in New Mexico, research on alpine meadow ecosystems and wildflowers in Colorado and mountain lion studies in Idaho's Albion Mountains. Earthwatch, 680 Mount Auburn St., P.O. Box 403, Watertown, MA 02272 (617/926-8200).



Student Conservation Association, founded in 1964, is a nonprofit membership organization working in cooperation with federal, state and private resource management agencies to provide volunteer opportunities, primarily in backcountry settings. SCA has programs for people age 16 and over. National headquarters: Box 550, Charlestown, NH 03603 (603/826-5206).



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AUDUBON
SOCIETY
1989
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TUCSON, ARIZONA**

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C.W. Hog works for respect rather than pity

'Then it struck us how absurd it was that between the three of us we only had one foot.'

by Gingy Anderson

Nine years ago while driving to his home in Sun Valley, Idaho, a car hit Tom Whittaker's van head on, shattering both legs and severing his right foot.

Doctors told him he would never walk again; he proved them wrong. Whittaker, 40, is currently on his way to climb Mount Everest. If he succeeds he will be the first handicapped climber to reach the top of the world's tallest mountain.

British-born Whittaker was a skier, mountaineer and kayaker who came to this country in the mid-1970s to climb. After a stint teaching climbing and mountaineering with the British Columbia Outward Bound School, he moved to Pocatello, Idaho, to attend Idaho State University. There he earned a master's degree in counseling and was planning a winter of skiing when the accident happened in November 1979.

As traumatic as the accident was, it did not take many months for Whittaker to become active again, bruising and banging himself up as he learned new ways to attack old activities.

"Kayaking became a way I could free myself of my disability," says Whittaker. "I could go out and forget about my foot and be on the same level as everyone else." When a friend jerry-built an artificial foot for him, he started climbing again, eventually reaching a standard close to what he had attained before, he says.

Whittaker says it was only after the crash that he realized how inaccessible recreation in the wilderness is to the handicapped. Teaching a disabled friend how to kayak, Whittaker recalls how he suddenly saw tears on his friend's face. Blundering his way through an apology, he was interrupted.

"This is the first time I've felt alive in two years," the friend said. "Every morning I lie in bed feeling my dead legs, trying to work up the courage to get up. This makes me want to get out and go kayaking."

This experience and his love of the outdoors was all the impetus Whittaker needed. In 1981, he founded the Cooperative Wilderness Handicapped Outdoor Group. Called by its acronym, C.W. HOG, Whittaker says the program started with whomever he could strong-arm or talk into attending meetings. The program quickly showed its rehabilitative power as participants discovered they could raft treacherous whitewater rivers or climb a sheer rock face. They were also able to transfer self-confidence learned from these activities to other facets of their lives, Whittaker says. More than 500 people now participate in C.W. HOG programs annually.

Participants at C.W. HOG design and plan their own activities. In its six-year existence, the group has sponsored activities ranging from rock climbing and kayaking to dogsledding and skiing.

Much of the equipment has to be modified to accommodate disabled people, but somehow, everyone finds a way to contribute to the success of the trip, says Whittaker. A paddle raft on a white-water outing, for example, may be fitted for paddlers in wheelchairs while someone with no arms sits in the back and barks commands. The group runs several rivers regularly, including the 280-mile stretch of the Colorado River through the Grand Canyon.

Non-handicapped "able-bodied" volunteers assist with programs but are equal players, Whittaker emphasizes. "It's no worse if a boat flips with handicapped passengers than with able-bodied riders, but everyone seems to think it would be a catastrophe." After nearly 90,000 hours of activities, C.W. HOG has yet to have a serious accident.

Whittaker says his experiences with the program have varied from the sublime to the absurd. One weekend last February he went ice-climbing with two disabled friends — Brad Fox, who is missing all of both legs, and Steve Derouches, who is without legs below his knees. Tom and Steve carried Brad in a backpack through a mile of snow, across a river and up a steep ice-gully to the base of the climb.

"Then it struck us how absurd it was that between the three of us we had only one foot," says Whittaker.

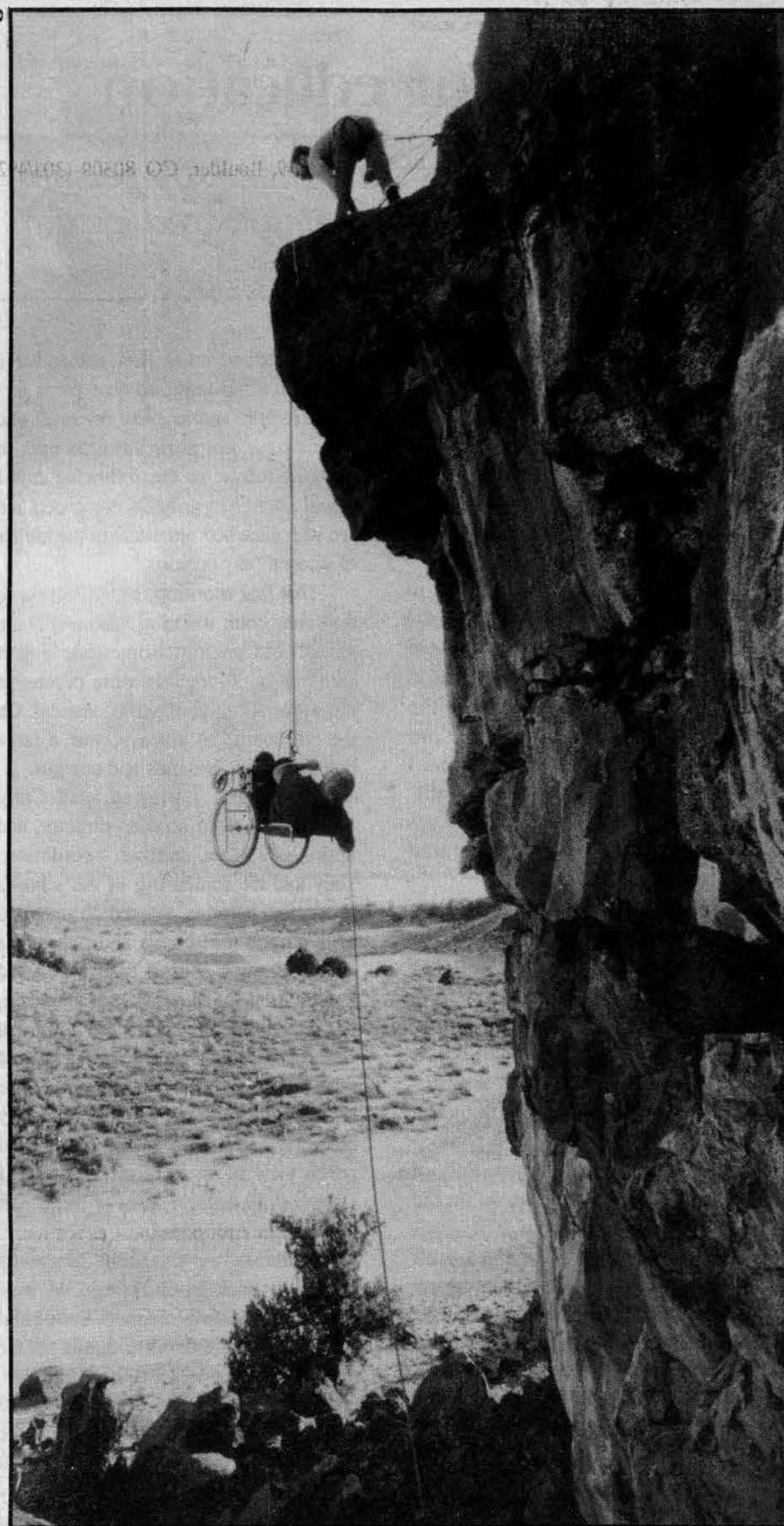
The program is funded by federal grants through 1990, but Whittaker says he wants to see it become financially independent. C.W. HOG has raised \$40,000 towards an \$800,000 goal through activities such as the annual barbecue for the able-bodied community. Though the money will be used to sponsor the program, there is no such thing as a free lunch at C.W. HOG, says its founder. Instead of scholarships the group offers low-interest loans and works to keep costs down.

Part of the program's goal is to create a recreational ethic in people that gets them doing things on their own, and "the reality is that recreation costs money and people have to be responsible for their own costs," he says. "We are helping raise the status of the disabled to one where the community looks at us with respect and admiration rather than with pity."

The address of the group is C.W. HOG, Idaho State University, P.O. Box 8118, Pocatello, ID 83209 (208/236-3912).

□

C.W. Hog



Rappelling down a cliff

NOLS pauses for reassessment

'In late 1986, the school's administration decided to call a halt to growth.'

by Steve Ryder

The growth and success of the National Outdoor Leadership School, based in Lander, Wyo., is at least partly due to its ability to know when to grow and when not to.

In 1969, four years after its founding by Paul Petzoldt, NOLS had about 250 students and only a handful of instructors. In 1970, Michael Wadleigh, a young filmmaker who had filmed the Woodstock music festival a few months earlier, took his cameras into the woods to film a NOLS course. The resulting documentary, "Thirty Days to Survival," appeared on the TV show "The Alcoa Hour," and the next year student numbers skyrocketed from 250 to 1,000.

By the mid-1980s, NOLS had hired

more than 160 instructors who took some 1,600 students into the field, says marketing director John Gans. From 1984 to 1987, student numbers increased by 30 percent to over 2,000, while the number of instructors grew by 18 percent to 195.

In late 1986, the school's administration decided to call a halt to the growth in student numbers. The reason for the growth cap, according to executive director Jim Ratz, was efficiency. The school wanted to find the capacity it could handle comfortably, and then match student numbers with that capacity.

After 1989, Gans says, the school will pursue a more conservative rate of growth while placing emphasis in other areas, such as instructor training, publications and research.

(Continued on page 16)

Stooping for education

'Plant taxonomists start out as shy persons who have simply put their lowered eyes to good advantage.'

—by Helen Beach Cannon

I'm devoted to plants and have given a great deal of my life to them, but I'm not a botanist, I am at the mercy of plants.

— Hildegard Flanner

KELLY, Wyo. — As I sat in a bent willow rocker in the Teton Science School library, I watched my friend, Leila Shultz, impressed to see her in the capacity of teacher and guide for our four-day study of flora in the Teton. I knew already of her expertise and efficiency as curator of Utah State's Inter-mountain Herbarium. Now I felt amazed by her teaching skills.

Twelve of us, each with different reasons for being there, each with separate botanical backgrounds, felt her infectious enthusiasm. We came from Wyoming and Delaware, Idaho and Florida, and five of us were from Cache Valley, Utah. Science teachers and students, a physician and a park ranger, a campus greenhouse manager, a photography major, a Teton Science School board member, a math major, an orchid grower, and myself, a dabbler.

The next morning, equipped with hand lens, field notebook, sunscreen and Richard Shaw's key to flora of the Teton, I stepped out of our log cabin dormitory and walked the path to the main lodge. But the Teton peaks, rising above the valley, looked so unreal that for a moment I fancied they were actually some sort of calendar-art backdrop. Uncomfortable with the vastness, I shifted my gaze to things closer at hand — or rather at foot — wondering, what was the name of that small flower I had

almost stepped on. I then remembered Leila's having quipped that plant taxonomists start out as "shy persons" who have simply put their lowered eyes to good advantage. In the following days I would often step outside our group and see with detached amusement the cluster of stooped "shy persons."

That first morning, Mary Ashworth, the young cook working summers at the school, had put out homemade yogurt and granola. Alongside were peach and pineapple slices and warm oatmeal. On the sideboard, as always, was a large bowl of apples, bananas and oranges.

As we ate, I visited with Craig Kesselheim, field studies director, and with Linda Marr, summer coordinator. They told me something of the school's history and purpose. Started 20 years ago as a science tent-camp and one man's dream, through shared enthusiasm and imagination, hard work and contributions, the school has grown to its current year-round status, housed now in an old dude ranch expanded to accommodate 30 resident students and a constantly changing staff. The ranch has a front porch view of the Teton, and for its classroom 10 million acres of the greater Yellowstone ecosystem.

While we were talking, Mary was putting out sack lunch fixings. We were to handle our own cleanup, then build sandwiches and assemble snacks for the trail. With whole wheat bread, cold cuts, cheeses, lettuce, tomatoes and, best of all, Mary's "hummus," we could make not-too-shabby sandwiches. We all liked the hummus so much that I asked Mary for her recipe. The combination sounds strange, but it makes a fine spread, and if nicely molded and garnished (as this was), it can pass as a party pate:

MARY ASHWORTH'S HUMMUS

Teton Science School, Kelly, Wyoming

2 cups cooked chick peas (garbanzo beans)
3-4 cloves garlic
1/2 cup peanut butter (Tahini sesame butter is better)
1/4 cup orange juice concentrate
Chopped parsley ("fresh is best," she notes, and hers was, coming straight from the kitchen garden. That garden, incidentally, manages to provide fresh herbs and vegetables for the meals of residents and rabbits.)
Cumin
Cayenne
Mash chick peas and mix with orange juice and nut butter.
Add parsley and spices. Chill and serve.

NOLS...

(Continued from page 15)

The famed mountaineer Paul Petzoldt who, in the 1930's, came nearer than anyone at the time to reaching the summit of K2, founded NOLS originally to train outdoor leaders to teach and guide for other schools and outfits, such as Outward Bound, says Ratz.

NOLS pioneered the concept of minimum-impact camping and wilderness travel, and it is still the cornerstone of the school's purpose. The school's mission statement has changed little over

the years, Ratz says: NOLS wants to be "the best source and teacher of wilderness skills, minimum impact and leadership."

The school offers courses ranging from two weeks to three months in length, and operates in nine Western states plus Canada, Mexico, Africa and Argentina. All students learn the NOLS core curriculum of minimum impact camping, wilderness travel techniques, outdoor living skills, safety, environmental awareness and expedition group dynamics. Depending on the course, students may learn other skills such as climbing and mountaineering, fly fishing, sea kayaking, Spanish, Swahili or sailing.

Pam Matthews and John Schubert



Fortified, we hit the trail — so to speak. Plant sleuths can cover ground with the speed and agility of mountain goats. Usually, though, they do well to cover 100 yards by lunch. Leila can find and name more plants in a square foot of ground than there are dirty socks in a dormitory. The naming isn't empty or isolate, though. We met those living things at our feet associatively — in families. We looked closely at their habitat, their characteristics, their uses, their evolution and adaptations, their pollination means, and even at times, the lore and derivation of their names. In thus meeting them, we paid better attention to their world.

I had watched Swede Dahl on campus at Utah State, admiring her skill and sense of aesthetics in arranging campus flower beds. What I hadn't known was how well she knows every flower she plants there, having started them from seed. She said, "Knowing plants intimately helps to grow them better." She also noted what we all realized — that classroom study pales in comparison with field learning.

Standing apart from the group on our excursions, Dexter Chapin looked like an African sage leaning on his staff, taking in the world. He had spent years teaching in Zaire and said those years had been transforming for him. "I flunked out of college twice before I got my Ph.D.," he said, "and those 'failures' were good for me." With advanced degrees in anthropology and cybernetics, he now teaches zoology in a private high school in Delaware. He speaks three languages fluently, explores matters of evolution, worked as an undergraduate with Gregory Bateson on the language of dolphins (not realizing at the time that he was working with a genius), and now had driven 4,000 miles to take this course in flowers of the Teton.

Denise Binderup, a park ranger in Jackson, claimed to have avoided botanical matters till now, because her former fiancé had run off with his botany teaching assistant. Happily married to someone else, she can now approach the subject without bias. Besides, she said, she's always thought "Silky Phacelia" would make such a good stage name or *nom de plume*. That plant, whose Latin name is *Phacelia sericea*, we found in high mountain terrain, on Rendezvous Peak, 10,000 feet up, where the tram had deposited us.

My son, Steven, had a straightforward enough reason for taking the course. "I wanted to know about plants," he said, and I guess that's what it boiled down to for all of us.

Even Leila Shultz. What had led her into this profession? Why did she remain a taxonomist when botany began to veer toward glamorous, high-tech specializations? She told us how as a child she had watched her mother's frustration in trying to find names for plants in those laymen's floral color guides to flowers. When Leila took her first taxonomy class she realized there was a system — that taxonomy was not entirely arbitrary and certainly not stagnant, that the morass of details could be ordered.

And now, having devoted much of her life to this profession, she champions the discipline still, feeling it short-sighted to lose the comprehensive view that taxonomy offers to scholarship, viewing herbaria as treasures of information — links with the past and ties with the future.

□

Helen Beach Cannon is a freelance writer in Cache Valley, Utah.

from agriculture, mining and industry. But NOLS has proved itself in the community, Ratz says, and is "perceived as being more responsible" than in the past. He says that, after 24 years during which the nearby iron mine closed and the bottom fell out of the uranium and oil and gas industries, NOLS stuck.

"We've taken our knocks, too," Ratz says, "and we're now respected for that."

□

Steve Ryder, a former HCN intern, has taught NOLS courses.

Cold fences and warm milk

'Our students become very sensitized to the whole issue of how you live your life in conjunction with a certain type of environment.'

by Hal Langfur

CARBONDALE, Colo. — When Molly Bunnell sat down last fall to write the essay she hoped would gain her admission to Bowdoin College, she began by describing an icy wind at dawn and some buckets, brimming with milk, bumping together at her side. She recalled how her hands had frozen to a metal corral gate, how skin had torn as she freed herself.

"I set the buckets down and plunged my hands into the warm milk and began to stir," Molly wrote. "After mixing five buckets I slid them into place under the feed slots. The calves, silly with hunger, shoved anxiously into one slot. With the coaxing of my milk-drenched hands, I guided them all to their separate slots." Caring for calves, Molly concluded, had taught her a sense of responsibility which would serve her well in college.

Molly is one of 41 seniors who will graduate this spring from the Colorado Rocky Mountain School. A four-year boarding school on the edge of Carbon-dale, 30 miles northwest of Aspen, CRMS occupies a 340-acre ranch at the confluence of the Roaring Fork and Crystal rivers. Founded in 1953 by the late John Holden and his wife, Anne, the school maintains one of the oldest out-

door education and service programs in the country.

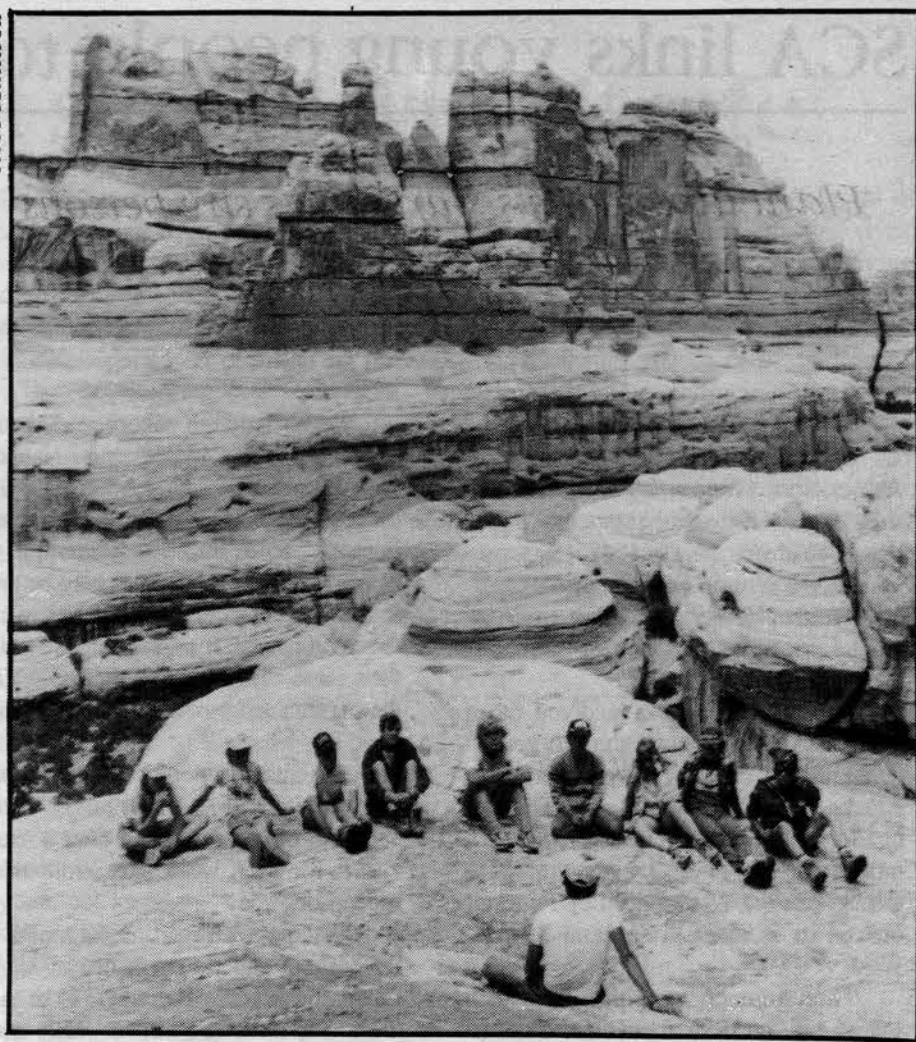
Walking from dorms to class each morning, students cross unplowed fields, jump irrigation ditches and watch the light on the 13,000-foot summit of Mount Sopris at the head of the valley. What they see around them is still the rural West: an injured coyote along the road, pheasants near the pond, a cattle drive passing through campus.

All new students begin their stay at the school with a 10-day backpack into the nearby Snowmass-Maroon Bells Wilderness. The trip ends in an overnight "solo" away from the group, and for many, it is their first experience in the backcountry.

"I have asthma," says junior Sallyn Mueller. "We climbed a peak one day, and I felt like I couldn't make it. But something inside me really wanted to get to the top. It taught me that you have to take your time and make adjustments, but you can get where you want to go. And you don't have to live up to anyone else's standards on how to do it."

The entire school leaves for the wilderness another two times during the academic year, once for a four-day trip in the fall and again for a week-long stay in Utah's southeastern desert. On weekends and afternoons throughout the rest of the year, students go on overnight

Steve Maxwell



Southeastern Utah is the setting for a CRMS class

camping trips, jaunts up mountains, backcountry ski tours, mountain bike tours, and raft and kayak trips.

As part of the school's commitment to community service, students improve trails or work as volunteers for the Forest Service, Bureau of Land Management and other organizations. Last fall they provided \$15,000 worth of labor for the Aspen District of the White River National Forest. Their recent work on two BLM projects near Moab, Utah, won national recognition.

"Our students become very sensi-

tized to the whole issue of how you live your life in conjunction with a certain type of environment," says headmaster Chris Babbs.

"You also see it in the type of person they become," Babbs added. "They have a willingness to serve. We find that when they leave here our students are self-starters, strongly motivated to succeed."

□

Hal Langfur teaches writing at CRMS.

Add fair compensation to the outdoor education vision

'The ridiculous compensation (some would say exploitation) of staff sets an example for society that damages our public image and self-esteem.'

by Frank Borwell

THE time has come for environmental and outdoor education organizations to make staff wages and benefits a priority. Ever since the profession emerged, field staff have had to be content primarily with non-monetary compensation: a pleasant work environment, free "room" and board and watching students' growth. Wages and traditional benefits have been pitiful.

The long-standing justification is that society and individual clients do not value their experience enough to pay fees sufficient to cover fair staff wages. Rather than wither and die as most businesses in such circumstances would have done long ago, staff dedication to program ideals kept endeavors afloat.

It might be argued that as long as there is a sufficient supply of qualified people willing to fill staff positions, then

budget-strapped environmental education organizations will not change the low wage rates. It seems we're victims of a perverse form of the law of supply and demand, and thus face the options of working at the wages offered or moving on.

Those staff that do endure the insulting salaries for several years, thriving on the non-tangible "benefits" of the job, in time inevitably come to a crossroads. No longer "just out of college" where any first job can be rationalized, most become susceptible to the pressures of society to seek wages commensurate with their college education or advanced skills. Currently the choice is to move up to a better-paid office job in the same or related organization, or simply to move on.

Granted, many people marry and some begin to have families and thus usually prefer to find work that allows a home life. Even some who don't follow the traditional route might well decide

it's time for a less nomadic lifestyle. For these a change of jobs is natural. But what about those who are blessed with the talent to touch others' lives through outdoor education and can sustain the energy to do it for more than a few years? Surely they should be rewarded financially and with benefits that make continuing to teach a sane choice.

I am not arguing for improved compensation only for those who weather several years of poor wages. Rather, I believe that if the entire scale could be slid upward, it's likely that greater numbers of staff would choose to stay on longer. That means the overall quality of outdoor teaching would improve.

"It just can't be done," I can hear executive directors saying. Perhaps in the case of newly founded programs, that may be. Sacrifice is often called for as a vision is transformed into an organization.

But once the first few years are weathered, continued neglect of staff compensation seems a matter of consciously misplaced priorities. Time after time, development of new programs takes precedence over improvement of staff conditions. Someone please explain why board fund raising shouldn't go for improving staff compensation before it goes to start a new program.

I've heard it said, of course, that the environmental values we seek to instill in clients are so important (and don't get me wrong, I believe they are very important or I wouldn't have lived the lifestyle I've chosen for the past decade) that those of us who hold those beliefs must make the sacrifices necessary to make our work economically viable.

Hogwash. The ridiculous compensation (some would say exploitation) of

staff sets an example for society that damages our public image and self-esteem.

A few organizations have made some effort in this regard and deserve praise. Outward Bound acquaintances tell me that its senior instructors make \$75 per day and all instructors have health insurance available at a reasonable \$150 per year. Within the field that is enviable; I began with an organization that paid me \$75 for a 96-hour week.

But can you imagine the reaction of even a "lowly paid" public schoolteacher who makes \$125 per day (plus extensive retirement, health, vacation, maternity and other benefits)? And think for a moment which one gets to work 16 hours per day and which one gets to call it quits at 4 p.m. I'll be the first to admit that fresh air and inspiring scenery are real fringe benefits for outdoor educators, but the equation still seems lopsided.

No doubt there are some in outdoor education management who would say, "Well, go ahead and unionize. It's not our job to look out for your needs." That's short-sighted. Outdoor and environmental education rests on a vision of cooperative coexistence among people and between humans and the environment. I say, it's time for executive directors, presidents and boards of directors to make improvement of staff compensation the number one priority. Let program expansion and clients wait for the next round. We've waited long enough.

□

Frank Borwell is a long-time, part-time outdoor/environmental educator in Oregon.

SCA links young people to the land

'Our primary aim is to enhance self-confidence and the desire to be caring members of society.'

by John Schubert

According to Harry Francis, recently retired president of the Student Conservation Association, "We can say unequivocally this organization changes people's lives." From its start in 1955, the group has grown into one of the most diverse and geographically far-ranging environmental education programs in the country.

Last year, programs involved more than 1,500 participants who worked in conservation areas from Puerto Rico to Alaska and Hawaii to Maine. Though headquartered in Charlestown, N.H., more than half of the programs operate throughout the West, guided by regional offices in Boulder, Colo., and Seattle, Wash.

This summer, more than 300 high school volunteers will maintain trails in 15 national parks and forests in the Rocky Mountain West. Year-round, several hundred college volunteers will conduct wildlife research, lead nature walks and patrol wilderness in even more Western parks, forests, wildlife refuges and rangelands. In a newer program, SCA staff will teach traditional wilderness work skills to trails personnel in eight Western national parks and forests.

Also beginning this summer, SCA will spearhead a multi-year volunteer effort to rehabilitate the damage from last summer's wildfires in Yellowstone National Park and surrounding national forests. SCA will field 16 of its own high school work groups and coordinate the efforts of more than 50 other crews volunteering from around the country. The monumental task is to tackle the conflagration's backcountry damage: 1,000 miles of erosion-prone fire line must be eradicated, 900 miles of badly damaged trails need to be reopened, 200 campsites re-established and 100 log bridges rebuilt.

As many as 40 different state and local conservation corps will send special crews to assist with the work. In addition, diverse outdoor organizations such as the Mountaineers, Sierra Club and NOLS will provide help. Anyone wishing to volunteer or work as staff should contact SCA immediately.

SCA's "heart and soul," says Scott Weaver, director of field operations, is its high school work groups. Based in tent camps far in the backcountry, six to 10 students led by supervisors tackle trail maintenance and construction projects. Three to four weeks of work are rewarded with a one-week backpacking trip.

Weaver says teenagers from across the country are immersed in a situation where they can redefine themselves, free of the baggage enforced by peers back home. He says supervisors are the key to encouraging a group to develop environmental awareness, group camping and work skills.

Participants range from Harvard-bound graduates to "at risk" drop-outs. Most have had limited camping experience. "It's inspiring to watch these kids rise to the challenge and accomplish incredible work," he says. "Though many participants develop an interest in conservation careers as a result, our pri-

mary aim is to enhance self-confidence and the desire to be caring members of society."

Weaver led high school work groups for several years in Yosemite National Park before assuming administrative duties, so he's seen the program's impact. "This is an extraordinary rite of passage to adulthood. This may be their first chance to contribute to society and the environment. It adds tremendously to their sense of self-worth as they realize the personal empowerment born of service."

Participants speak of their experiences in equally heartfelt terms. Carrie Whitehill of New Orleans, after a return visit to her SCA work site, wrote to her supervisors:

"We spent a night at the mouth of the Mattole and the next one at Maple Camp. It was really incredible to be back there. The trails are still in really good condition (not too much erosion yet). I'm glad I went back because I realized that it was not the land at all that made the experience so incredible (even though the land is truly awesome), it was the emotional growth of us all that was so incomprehensible and so overwhelming. I'm sure this sounds corny, but I really do mean it."

High school work groups have always been open to any who wish to participate. There is no fee and scholarships are available for those who need help with transportation or equipment. However, SCA recognized in the late 1970s that special outreach programs were still necessary.

SCA now recruits in several metropolitan areas for the inner-city youth traditionally left out of America's summer migration to the wilderness. Other pioneering programs now allow hearing-impaired students to work on trails in Rocky Mountain National Park, while developmentally disabled youth operate Forest Service campgrounds in Washington's Cascades.

Focusing on the needs of young adults, SCA's resource assistant program places more than 800 volunteers each year as professional interns with resource management agencies. Though most are college students, anyone 18 or older is invited to apply for the 12-week positions. In fact, volunteers from as many as 17 different countries have participated in the program.

Resource assistants work as equals with their counterparts in federal agencies. Many positions require only the enthusiasm to help visitors at an information desk. Others demand specific education or experience to carry out projects such as elk ecology research in Yellowstone or whitewater patrol on the Green and Yampa rivers in Dinosaur National Monument.

Available year-round, the internships provide housing, a living allowance and transportation. Many participants use the positions to evaluate their interest in a field or gain the experience and contacts needed to advance an environmental career. Ready to help with the next step, SCA office staff compile a monthly publication of conservation job openings.

Expanding beyond youth programs in 1985, SCA initiated a wilderness work skills program for professional trail man-

agers. The program began as an outgrowth of SCA training sessions for its high school work group supervisors. After offering two public workshops in Yellowstone, a \$20,000 grant from the Laird-Norton Foundation helped expand the program to 13 workshops currently offered throughout the country.

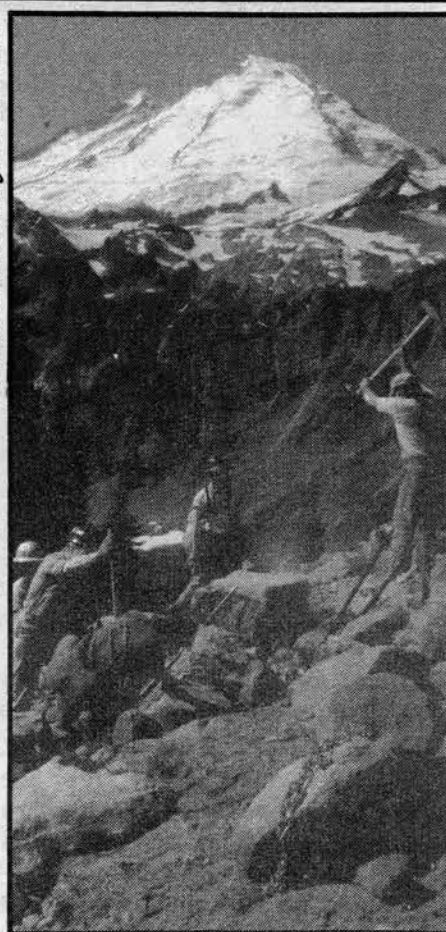
Chief instructor Carroll Vogel says, "We offer the only independent training program, and thus bring together diverse federal wilderness personnel, as well as trail crew leaders from conservation corps and private groups. The workshops allow a tremendous variety of perspectives to interact on the full range of management issues. Most of all it's a great opportunity for networking in a field typically characterized by professional isolation."

Continuing to expand the program, this summer SCA will initiate a wilderness management school in Grand Teton National Park. There are also plans to publish a *Wilderness Work Skills Journal*, to share information and further draw together wilderness managers.

For more information:

• SCA High School Work Group and Resource Assistant Programs, Box 550, Charlestown, NH 03603 (603/826-5206);

Pam Matthews and John Schubert



Volunteers building a trail

• SCA Wilderness Work Skills Program, Box 31989, Seattle, WA 98103 (206/547-7380).

□

Reclaiming Grand Gulch's past

'An outdoor education project that will never end'

by Nancy Cottrell Shanaman

Take a bunch of oddly assorted people — archaeologists, outdoor education leaders, world travelers, artists, insurance agents, photographers, writers.

Place them in one of the Southwest's most magnificent canyons and mix in one of the largest concentrations of Anasazi sites.

Add mysteries such as: Who were the ancient inhabitants of this canyon? When did they disappear? Where did they go?

Mix all these ingredients and let them boil for several years. The result is a modern-day detective story.

It begins with a group of amateur archaeologists from Colorado and Utah who have been hiking the canyons of Grand Gulch in southeast Utah for years. The leader of the group is Fred Blackburn, a former Bureau of Land Management ranger. Blackburn had founded the White Mesa Institute along with Winston Hurst, archaeologist and curator of Edge of the Cedars Museum in Blanding. Now Blackburn was leading educational field trips into Grand Gulch for White Mesa Institute, to teach others to appreciate and preserve the remarkable ruins, and to document the fragile rock art left behind by the Anasazi over 1,000 years ago.

On one expedition in 1987, Julia Johnson, of Boulder, Colo., mentioned her desire to know what happened to all the artifacts that had come out of the canyon. Blackburn replied that he not only knew what had happened to many of them, he had seen some in New York City. But he added that although artifacts

had been dug out of caves and transported to museums, very few had ever been seen on exhibit and no one in the 19th century documented exactly where the artifacts were taken from.

During the late 1880s and 1890s, men such as Richard and John Wetherill, from the Mancos Valley, Colo., family that had claimed the first Anglo discovery of such magnificent ruins as Mesa Verde, Kiet Seel and Betatakin, formed expeditions to explore the canyon country of southeastern Utah. The purpose of these expeditions was to find as many ruins and collect as many artifacts as possible.

Great museums, primarily in the East, competed for artifacts to build their collections. Mummies were particularly desirable, and large, finely woven baskets found nearby were also taken. In other cliff dwellings, intricate and artistic pottery ollas, bowls, cups and ladles were dug up and taken by the thousands. All were sold in masses to distant museums to finance further expeditions.

Some of these artifacts were exhibited at national expositions such as the Chicago Exposition of 1893. Many more disappeared into boxes and became part of the largely unseen holdings of museums such as the Pennsylvania University Museum, the American Museum of Natural History and the Museum of the American Indian - Heye Foundation. Canyons such as Grand Gulch were ripped apart as various explorers came in to search for artifacts.

Some early explorers such as Richard Wetherill felt a responsibility to record site excavations in an orderly form. But none were trained archaeologists, and a controversy continues today:

(Continued on page 20)

GUEST ESSAY

Outdoor educators must stop playing it safe

by Michael Frome

My theories of education begin with the principle that learning derives from life, all of life, as an unending process from birth to death. John Muir, who left the University of Wisconsin to matriculate in what he called the "University of the Wilderness," provides a classic example to prove the point.

That much is simple. It may also be simple to say that modern American education emphasizes the cognitive — that is, a focus on facts, with abilities to analyze, calculate and memorize, and to use language. Yes, it provides a practical means of acquiring information, but the intuitive, ethical and spiritual are largely omitted. Imagination is often repressed, or undervalued, so that only a limited portion of one's capacity is trained. And the task remains of becoming a whole person.

"Our imaginations have been industrially deformed to conceive only what can be molded into an engineered system of social habits that fit the logic of large-scale production," writes Ivan Illich in his marvelous little book, *Tools for Conviviality*.

"People feel joy, as opposed to mere pleasure, to the extent that their activities are creative; while the growth of tools beyond a certain point increases regimentation, dependence, exploitation and impotence ... Convivial tools are those which give each person who uses them the greatest opportunity to enrich the environment with the fruits of his or her vision," Illich wrote.

'We would lead the blind into caves, switch off the light, and let them lead the way out.'

In this vein, I will cite the work of a friend of mine, Michael H. Brown, a psychologist and educator, who conducts wilderness vision quests to help "explore and develop valuable human resources which lie dormant in us all." He concentrates on spiritual dimensions of contact with the natural world. As he puts it, "It is time to deliberately focus on and consciously work toward the constructive discovery, exploration, healing, enrichment and growth of the human spirit."

That idea to me marks another key principle in education, as it relates to the large wild outdoors of the national forests and national parks, but also to small fragments of wilderness close to home. In a technological, super-civilized world, they provide "tools for conviviality."

A growing number of colleges and universities recognize the benefits of conducting programs in river running, backpacking, rock climbing and snow climbing. They encourage individual independence, group cooperation, ecological awareness and an environmentally simpler life. Some include literature, history, anthropology and ecology with the wilderness experience. That's all to the good.

I recall during a recent summer arriving at the Yellowstone Institute, located in an old national park facility, the historic Buffalo Ranch, near the east entrance to Yellowstone National Park. There I met Wayne Phillips, normally a range ecologist for the U.S. Forest Service, preparing to teach a two-day course in wildflowers and their environment. During this brief period he would lead pleasant walks and an evening seminar, providing practical guidelines to wildflower identification and plant ecology. Most students stayed in simple cabins and did their own cooking in a community kitchen, all of which enriched the experience and kept the cost low. Such institutes continue to emerge in national parks — and that's to the good, too.

People learn in different ways, at different ages and stages; I would hardly claim one approach to be most correct, but plainly it doesn't take a lot of lecturing when lessons are manifest in sky, earth, water, weather.

For example, another friend, Sam West, worked as a guide and field manager for OARS, a large outfitting firm, on Colorado River trips through the Grand Canyon. OARS detailed Sam for a time to Nepal to establish a guide program in the Himalayas. He climbed mountains with Tibetans and Nepalese and studied Eastern philosophy. Then he returned to the Grand Canyon to work several years as a river ranger for the National Park Service.

"I've seen people who have spent a week or two on the Colorado River and changed their lives," Sam once said to me. "They would go home and quit their jobs. That place has the power to do it. It has a precious kind of energy that can be tapped — just by going there and relating to it in a respectful way."

The experience and his Buddhism changed Sam's life, too. He left the security of federal employment to work on a program introducing city people to the outdoors, and then with prisoners and others of society's dispossessed. Nobody told him or taught him to do so; it was a progression in his own growth derived largely from learning in the wild outdoors.

We all come in somewhere, not knowing where the trail will lead. Mark Dubois, as a kid in Sacramento, prowled the caves and limestone canyon bluffs above the Stanislaus River in the Mother Lode country. In time he became a river guide, working on raft trips on the undammed nine-mile section of river through the Stanislaus Canyon. After two years of commercial river running, Mark and friends started doing free river trips with kids, mostly inner-city kids, delinquents. As Mark told me:

"We didn't get paid, it just felt good doing it and we needed just enough for gas and minimal expenses. We taught stars, edible plants and how to identify the critters. We would lead the blind into caves, switch off the light, and let them lead the way out. It's amazing how much you can learn from the blind."

"We recognized that out on the rivers there isn't such a thing as a delinquent. Not in these wild places. The only reason there's delinquency is when you don't have anything to do and you break a window... Out in the wild places, all of a sudden 'delinquents' and 'normal' kids, you can't tell the difference anymore, because there are so many things to occupy their attention that they're all the same."

When he began, Mark knew nothing about dams, but he knew more about the Stanislaus than anybody, and likely loved it more, too — certainly enough to lead the heroic fight against the New Melones Dam. In 1979 he demonstrated his commitment by chaining himself to a boulder at a remote spot along the river and threatening to stay until the waters covered him or until he received assurance that the Stanislaus would not be buried under 200 feet of reservoir water. Mark's willingness to sacrifice himself worked, but only for a time. Ultimately the project was completed. Some time after, I canoed with Mark and Sharon, his wife, on flat water that once flowed free. While camping on a rocky bluff, we talked long and late. Mark said:

"The word 'need' to me is really a funny word. Everybody uses it, but I more and more question what you really need. Ghandi has a quote that says, 'There's enough in this world for every man's need, but not for every man's greed.' I somehow feel that greed is too harsh a word. It's not just greed: There's an ignorance of thinking these things are going to give us happiness. Wild places teach people, 'You don't need all those things.'"

Such dialogue reminds me of where I came in, of the experience that changed my own life. It was more than 30 years ago on a trip sponsored by the American Forestry Association, "Trail Riders of the Wilderness," to the Bridger Wilderness in Wyoming.

Looking back, I recall serious deficiencies that I would not now approve: too many riders, too many horses, too much booze and power saws to cut firewood. But I also remember the trail leading through a natural kingdom of tall timbers and a thousand clear lakes, weaving among massive rock formations to compare with those in Yosemite Valley, alongside living glaciers and flowery alpine meadows, into a world of snowy starkness high above timberline. We camped upon the very scenes painted by Alfred Jacob Miller in 1837, the Wind River places that he had found "as fresh and beautiful as if just from the hands of the Creator."

A psychologist might explain the appeal of that sweeping scene in the sheer absence of critical or harmful human actions, or, perhaps by saying that through solitude in the primeval one feels liberated of strain and stress. In any case, the individual acquires a sense of scale, feeling that he or she belongs at the bosom of a much greater and peaceful whole, larger and longer lasting than anything known before.

Here at last the individual has at hand an environmental model from which to measure the restorative impetus needed to cope with alienation from nature. Or as Shakespeare summed it up in Act II of *As You Like It*, "And this our life, exempt from public haunt, finds tongues in trees, books in the running brooks, sermons in stones and good in everything."

'The trouble is that most outdoor educators are careful to avoid critical issues.'

From that beginning, I learned other lessons. I studied wilderness: its history, values, administration and uses — including use as a learning resource. The University of the Wilderness, of which Muir wrote, could hardly be more real or vital to our times. However, I determined that with opportunity goes responsibility: I must be more than a user but a guardian as well.

It isn't enough to view national parks, or wilderness, as Enos Mills did, as "the school of nature." It isn't enough to accept Freeman Tilden's uplifting idea, as expressed in *Interpreting Our Heritage*:

"Thousands of naturalists, historians, archaeologists and other specialists are engaged in the work of revealing, to such visitors as desire the service, something of the beauty and wonder, the inspiration and spiritual meaning that lie behind what the visitor can with his sense perceive." That to my mind is the introductory part of it.

The challenge is to contribute consciously and conscientiously to making the out-of-doors into genuine demonstration models of ecological harmony, while imparting an understanding of actions necessary to protect the natural system from the abundant threats against it. I can't say that I see many outdoor educators doing this.

Moreover, nature reserves cannot be uncoupled from the world around them. They cannot endure as valid ecological sources of inspiration and spiritual meaning in surroundings of worsening environmental decay. What we need today is a revolution of thought to challenge and revamp old institutions: medicine, religion, economics, education, science, politics, communications and natural resource administration. Today's conditions demand a critical examination of old national goals and traditional personal goals measured in terms of comfort and security, alongside new social standards based on sharing, caring and risk-taking.

Nuclear weapons will never force nations to join in recognizing the limitations of a fragile earth. But environmental educators could lead in pledging allegiance to a green and peaceful planet, based on the concept of husbanding and sharing resources, instead of allowing them to be cornered and squandered.

The trouble is that most outdoor educators are careful to avoid critical issues. This is especially the case in national parks, where employees want to get ahead or be sure of re-hire the following summer. As evidence I cite an exception to prove the rule, my friend Alfred Runte, historian and educator (author of a well respected history, *National Parks: The American Experience*). While working as a seasonal interpreter in Yosemite National Park during the summer of 1980, Runte talked to visitors about national park ethics and ideology. He would begin by asking his audience to recognize that national parks are in jeopardy, then adding: "What would you be willing to do to see that national parks remain part of the fabric of

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Outdoor...

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American society for generations to come? Would you be willing to give up some power so that geothermal development would not destroy Old Faithful? Would you be willing to give up some lighting so that strip mines and coal-fired power plants would not be needed in the Southwest?"

For his troubles Runte was directed to a week of "rehabilitation training," during which the chief park interpreter and assistant superintendent listened to the tape of a talk he had given to park visitors, reviewed the transcript and made corrections. Then, dressed like tourists, they accompanied him while he led groups of visitors and made further changes. Runte was undismayed; following "rehabilitation," he delivered his message as he chose. Later, he told me: "I think that a program, any program, any lecture, whether in a university or a public setting, without a theme, a message, is pointless. Dispensing information for information's sake is not what the Park Service ought to be doing."

The same holds true for any educational institution. I appreciate the role of the many nature centers functioning across the country, yet I lament the studied avoidance of critical issues across the fence. Or, as the director of the Palm Springs Desert Museum — a classy oasis filled with natural science exhibits, yet surrounded by a deteriorating environment — told me in 1978: "Our board doesn't want us to be involved."

But what is the rightful role of education, educators and the educated? I think again of the social criticism of Ivan Illich:

"The present world is divided into those who do not have enough and those who have more than enough, those who are pushed off the road by cars and the rich anxious to get more..."

Paul Sears, the pioneer ecologist, once defined conservation as a point of view involved with the concept of freedom, human dignity and the American spirit. Gifford Pinchot expressed much the same idea, declaring that the rightful use and purpose of natural resources in a free society is to make all the people strong and well, able and wise, well-taught, well-fed, full of knowledge and initiative, with equal opportunity for all and special privilege for none.

We need to get on with this mission. "A nation

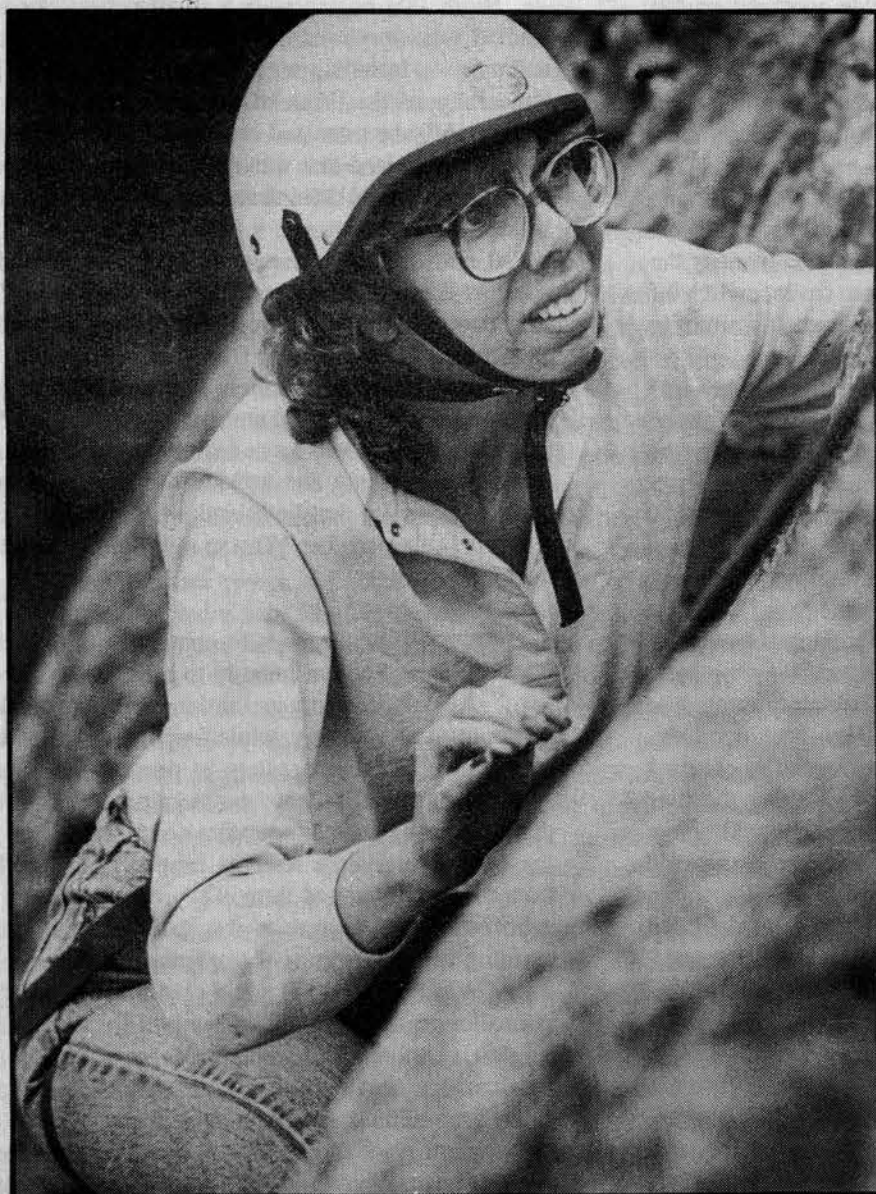
that continues year after year to spend more money on military defense than on programs of social uplift is approaching spiritual death," wrote Martin Luther King Jr., who embodied the challenge to spiritual life. I yearn for the time when green and growing things will become part of what we now call "the ghetto," and when education in the wild outdoors will serve the impoverished and dispossessed. We know already that getting drug victims away from environments where they have failed into settings where they find their own ways in solitude helps give them a new outlook on life. Mental patients who haven't been out of hospital walls in years have shaken off habits of defeat, dependence, helplessness and passive compliance by achieving some personal success through wilderness learning and adventure.

Thus I feel that outdoor environmental education is only at the beginning. Those wild places will prove invaluable in the learning that derives from life, all of life, if only society is smart enough to save them.

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Michael Frome is a writer of books and articles about the environment, and he also teaches at Western Washington University in Bellingham, Washington.

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Reclaiming...

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Were they looters or responsible collectors? What was the role of the museums in this desecration?

As the years passed, artifacts were often switched from one museum to another. Records and field notes were lost. Photographs, signatures and journals disappeared. By the 1980s no one knew and fewer cared what artifacts had come out of what sites.

The small group of hikers in Grand Gulch that spring did care. And they decided to continue the role of the amateur archaeologist who had had so much impact in the canyon. This time, however, it would be reverse archaeology: They would trace museum artifacts back to the original sites and correlate these remains with rock art on the canyon walls. The project sounded challenging but attainable. As the Wetherill-Grand Gulch group got under way, however, the scope of the project kept enlarging. No one had done this before.

Museums were suspicious and even hostile at first. It took almost two years to get permission to photograph Basket-maker artifacts taken from Grand Gulch at the American Museum of Natural History. It took more than a year to gain entry to the early accession records of the LDS church museum in Salt Lake City.

From an interested group of many people, a smaller, more dedicated core emerged: Fred Blackburn, Julia Johnson, Ann Phillips and Ann Hayes. Bob Powell did extensive preliminary work photographing sites in Grand Gulch. Bruce Hucko photographed over 300 artifacts in New York this fall. Winston Hurst

spent two weeks with the group identifying objects from various cave sites. Journals have been searched for and some have been found. Photographic collections have been discovered and important documents, such as the Nusbaum papers, have been donated to the Smithsonian as a result of the project. Additional professionals have volunteered their expertise, like Don Burge of the Prehistoric Museum in Price and Joel Janetski, director of the Museum of Peoples and Cultures at Brigham Young University.

As a result of their investigation, a chronology of historic explorations of the Grand Gulch has been assembled. It still has holes but it is far more complete than it would have been only three years ago. Thanks to ongoing White Mesa Institute field trips, historic signatures are being documented in the canyon by participants. Individual artifacts have been traced back to the very caves they were dug from over 90 years ago.

As the group continued its work, it added a broader educational mission — to make its information available to both scholars and the public. A national symposium is scheduled for spring 1990 at Edge of the Cedars Museum in Blanding, Utah, and an extensive museum exhibit is being prepared to circulate among museums in the Four Corners area. A pamphlet is also being drawn up for hikers in Grand Gulch. It is, perhaps, an "outdoor education" project that will never end.

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Nancy Cottrell Shanaman directs the White Mesa Institute, headquartered in Blanding, Utah.



A 19th century dig in an Anasazi kiva, Grand Gulch, Utah