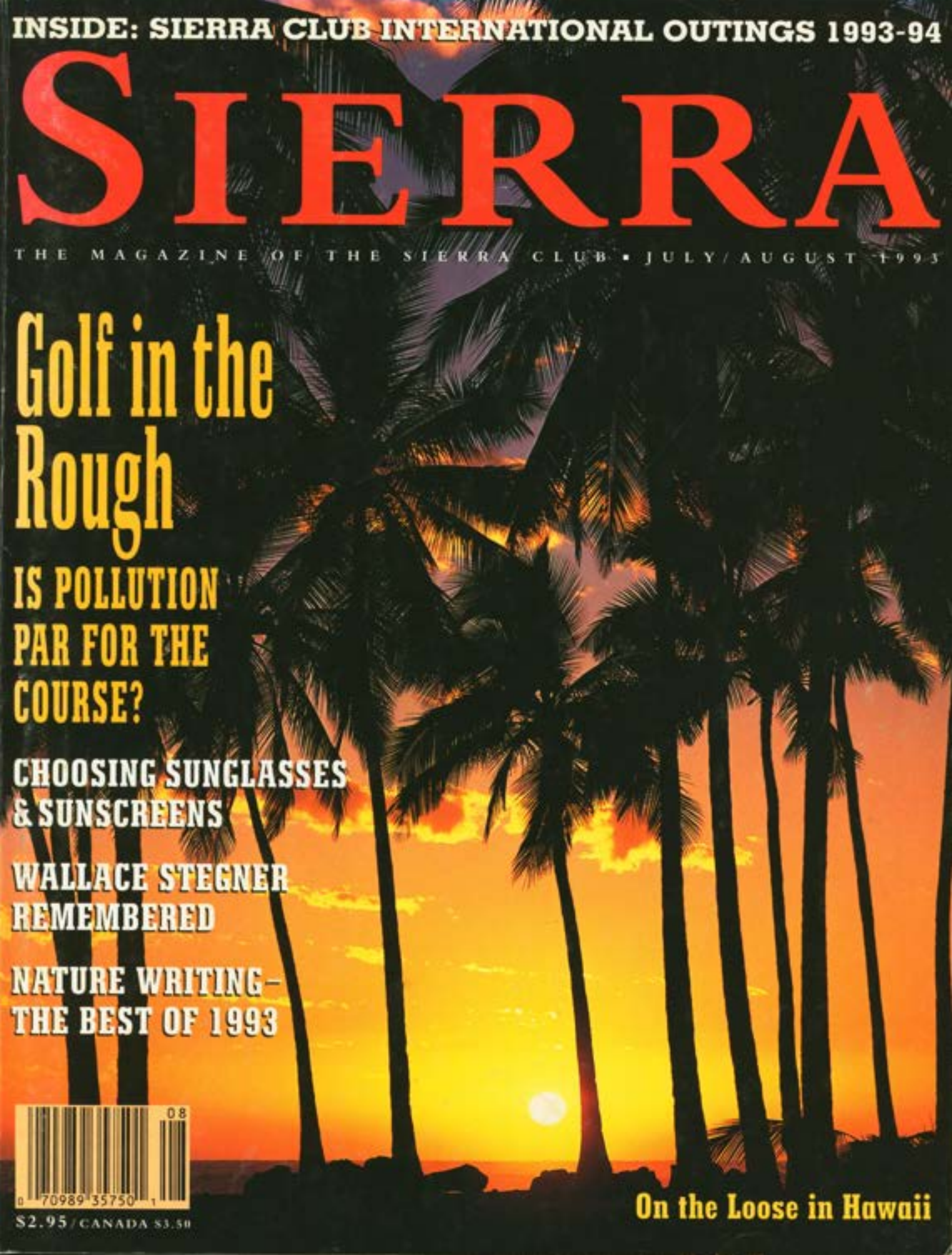
INSIDE: SIERRA CLUB INTERNATIONAL OUTINGS 1993-94

SIERRA

THE MAGAZINE OF THE SIERRA CLUB • JULY/AUGUST 1993



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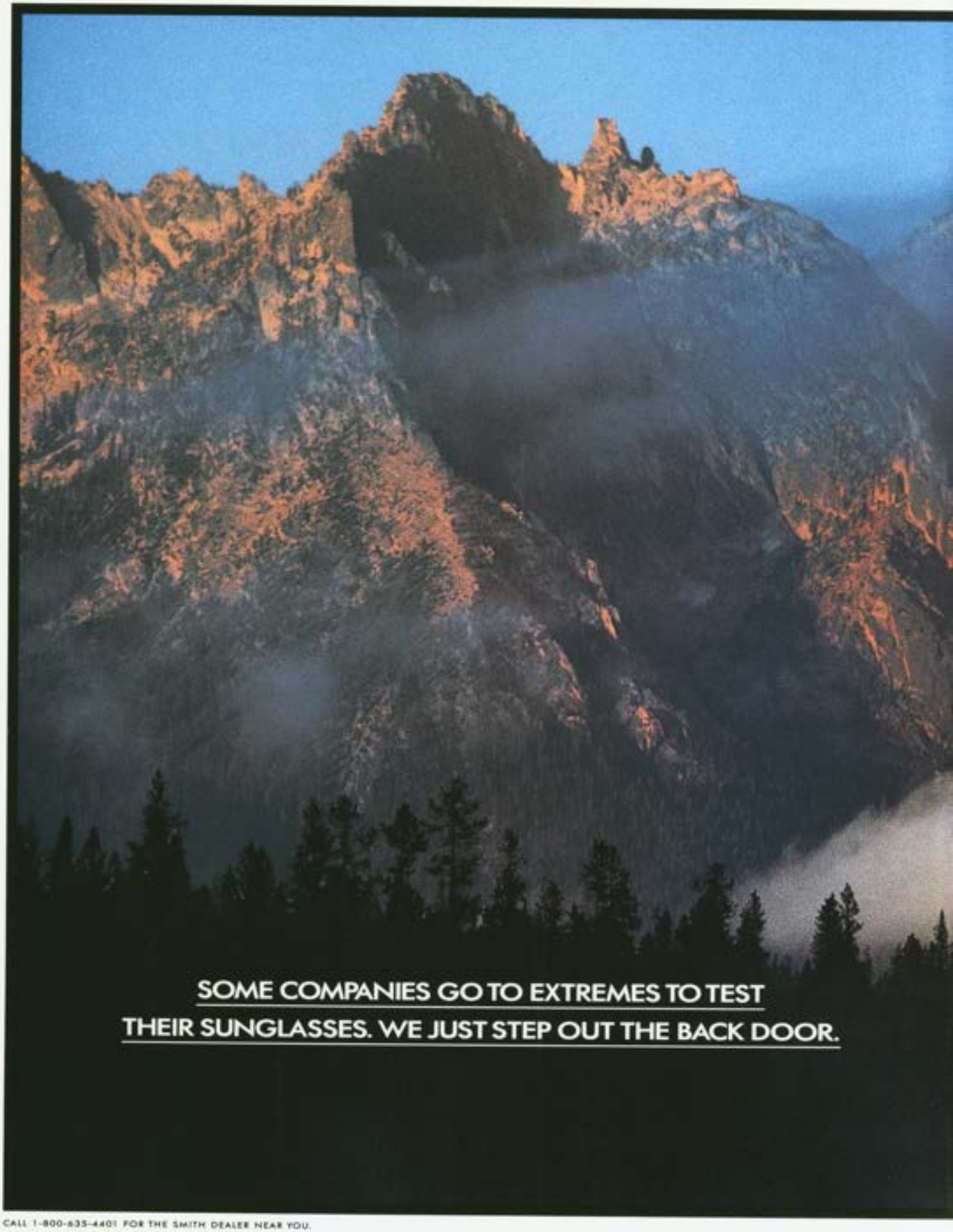

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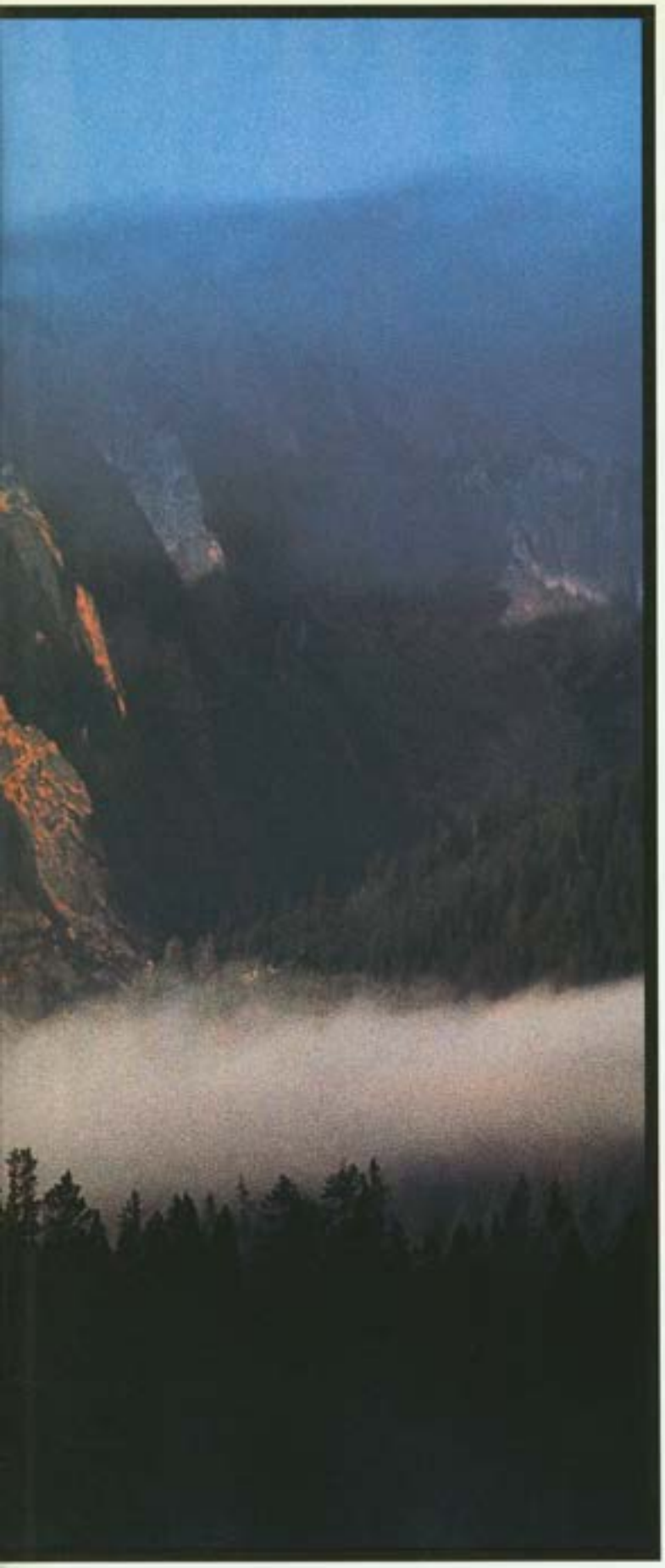

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MOUNTAINS. THAT HELPS US DESIGN SUNGLASSES TO PERFORM IN ANY SPORT AND AT ALTITUDES IN EXCESS OF 10,000 FEET. WHICH MAY SEEM EXTREME TO OUR COMPETITION, BUT TO US,

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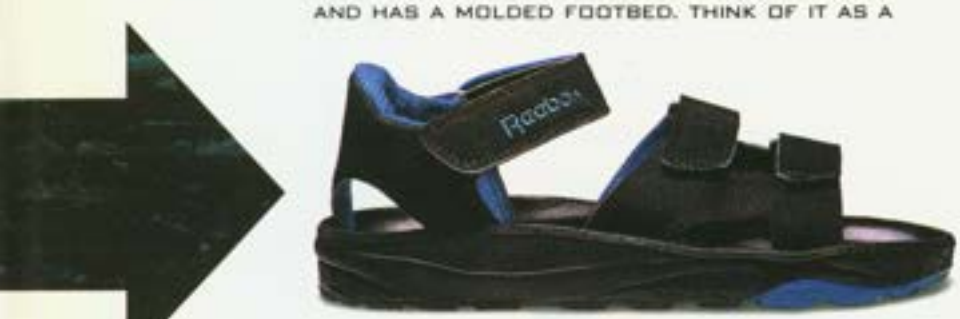
IF YOU'RE LOOKING FOR A PLACE WHERE THE ONLY THING CLEARER THAN THE SKY IS YOUR HEAD, YOU SEEK PLANET REEBOK. AND WE'VE GOT THREE WAYS TO GET YOU THERE. TRY THE TELOS (ON TOP). IT'S A LIGHT HIKING BOOT GOOD FOR TRAILS AND A WEEKEND TRIP TO THE LAKE. THE AMAZONE (JUST BELOW) IS FOR AQUA STUFF AND HAS A MOLDED FOOTBED. THINK OF IT AS A

HOW DO YOU GET TO
PLANET REEBOK?
GO OUT YOUR DOOR,
TAKE A RIGHT,
THEN JUST KEEP GOING.



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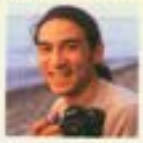
Reebok

A strange sporting event took place the other day. A man in a fetal position under a hurdle caught a runner in midair.

Is this fun, or what?



Antonis Achilleos, pro busboy, amateur shooter, dove under a hurdle to catch a flying woman with his Nikon N6006. Please don't try this at home.

To Antonis Achilleos, part-time busboy, full-time amateur photographer, it is. In fact, to Antonis, making great photographs is more fun than making touchdowns, jump shots or holes in one.

Homestretch
—by—
Antonis Achilleos, busboy

One afternoon, while driving to get a Slurpee, he spotted a vision of beauty in sweat socks flying through the air.

Something clicked.

He grabbed his Nikon N6006, leaped out of his car, then flung his body under a hurdle and waited. Was it worth it?

What do you think?

Antonis used an N6006 to experiment with and expand creativity.

It autofocuses quickly and precisely in light as dim as a single candle. There's Spot Metering, Center-Weighted Metering, and Matrix Metering, for rapidly changing light conditions or fast-moving action.

"Hey, Mister, duck!"

There's a powerful pop-up flash with 28mm coverage. Here Antonis brightened the foreground by increasing the flash one stop. And he underexposed one stop to maintain the ominous sky and provide contrast to the brightly lit foreground.

To create a sense of motion (as if she needed it), he used Rear Curtain Sync, which fires the flash just before the shutter closes, and he shot at 1/15th. Even though the flash isn't designed to cover the entire frame, Antonis chose a 24mm AF Nikkor to exaggerate the angle. He could have picked any one of nearly eighty legendary lenses. The same lenses most pros use behind the dugout or in the end zone.

This is it. The Nikon N6006. Autofocusing, a built-in flash, interchangeable Nikkor lenses. It's how amateurs get their stuff in magazines. Just ask Antonis. For a free booklet call 1-800-NIKON-35.

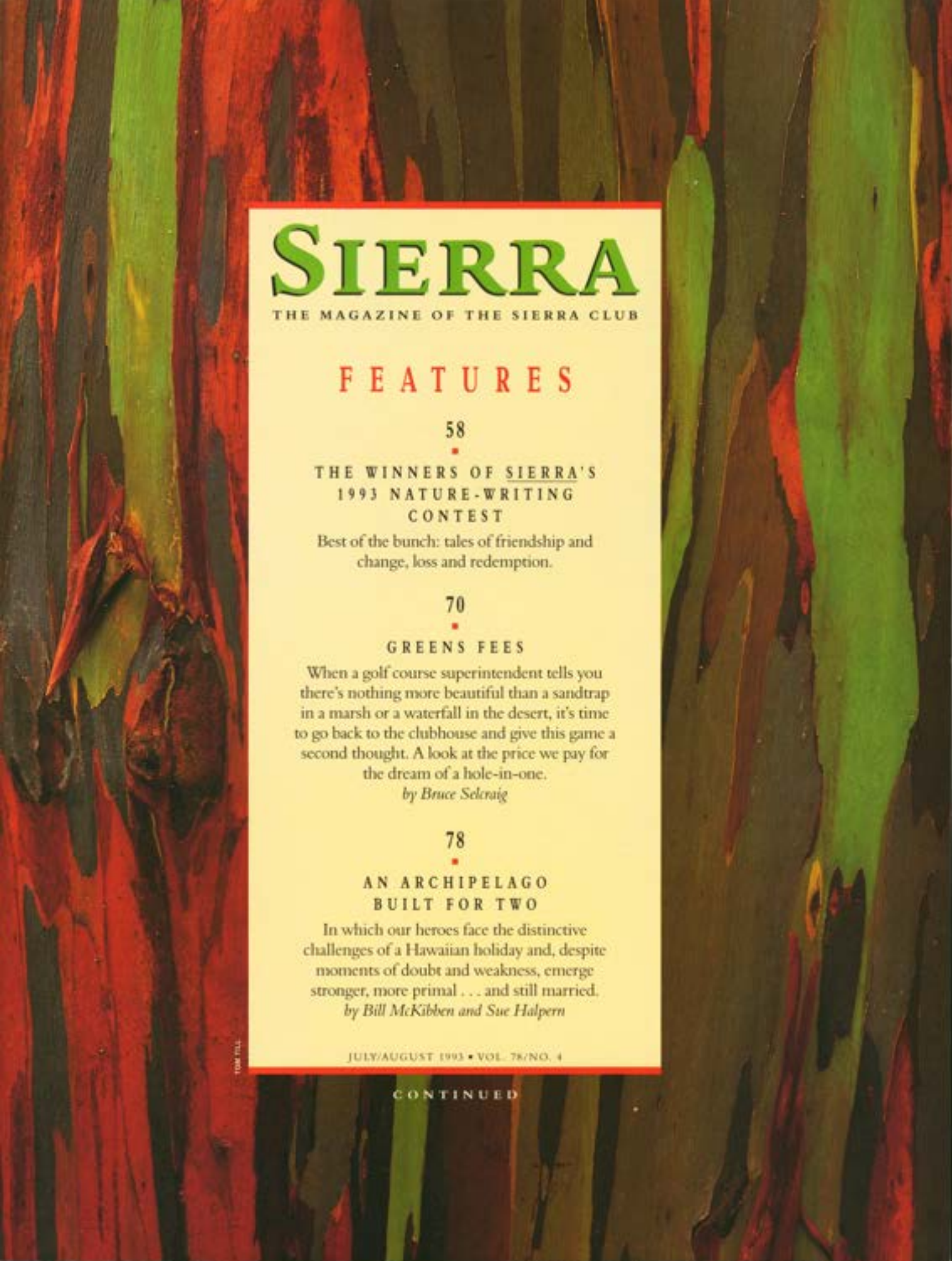
The N6006,® however, is the Nikon for people who don't have press credentials. Or sideline passes.

You see, this is the Nikon that amateurs show their stuff with. This is the Nikon for people with a passion for photography who just happen to be dentists, plumbers, or busboys.

This is the Nikon photo buffs make part of their everyday wardrobe.

Because who knows what you'll see flying in the air on your way to 7-Eleven?

See the N6006 at authorized dealers where you see this symbol. For more on the exclusive Nikon MasterCard, call 1-800-NIKON-35.



SIERRA

THE MAGAZINE OF THE SIERRA CLUB

FEATURES

JULY/AUGUST 1993 • VOL. 78/NO. 4

TOM FELL

CONTINUED

SIERRA

CARR CLIFTON

The Tongass, page 55

AFIELD

DEPARTMENTS

COVER

Puuhonua O Honaunau
National Historical Park, Hawaii
Photo by Steve M. Alden

Urban forest, page 41

Sierra (USPS 495-920) (ISSN 0161-7362), published bimonthly, is the official magazine of the Sierra Club, 730 Polk St., San Francisco, CA 94109. Annual dues are $35. Members of the Sierra Club subscribe to *Sierra* ($7.50) through their dues. Nonmember subscriptions: one year $15; two years $26; foreign $20; single copy $4.00 (includes postage). Second-class postage paid at San Francisco, CA and additional mailing offices.

POSTMASTER: Send address changes to *Sierra*, c/o Sierra Club Member Services, 730 Polk St., Dept. A, San Francisco, CA 94109. READERS: Send old and new addresses and a *Sierra* address label. Telephone (415) 776-2211 (voice); (415) 398-5384 (TDD). Printed in U.S.A.

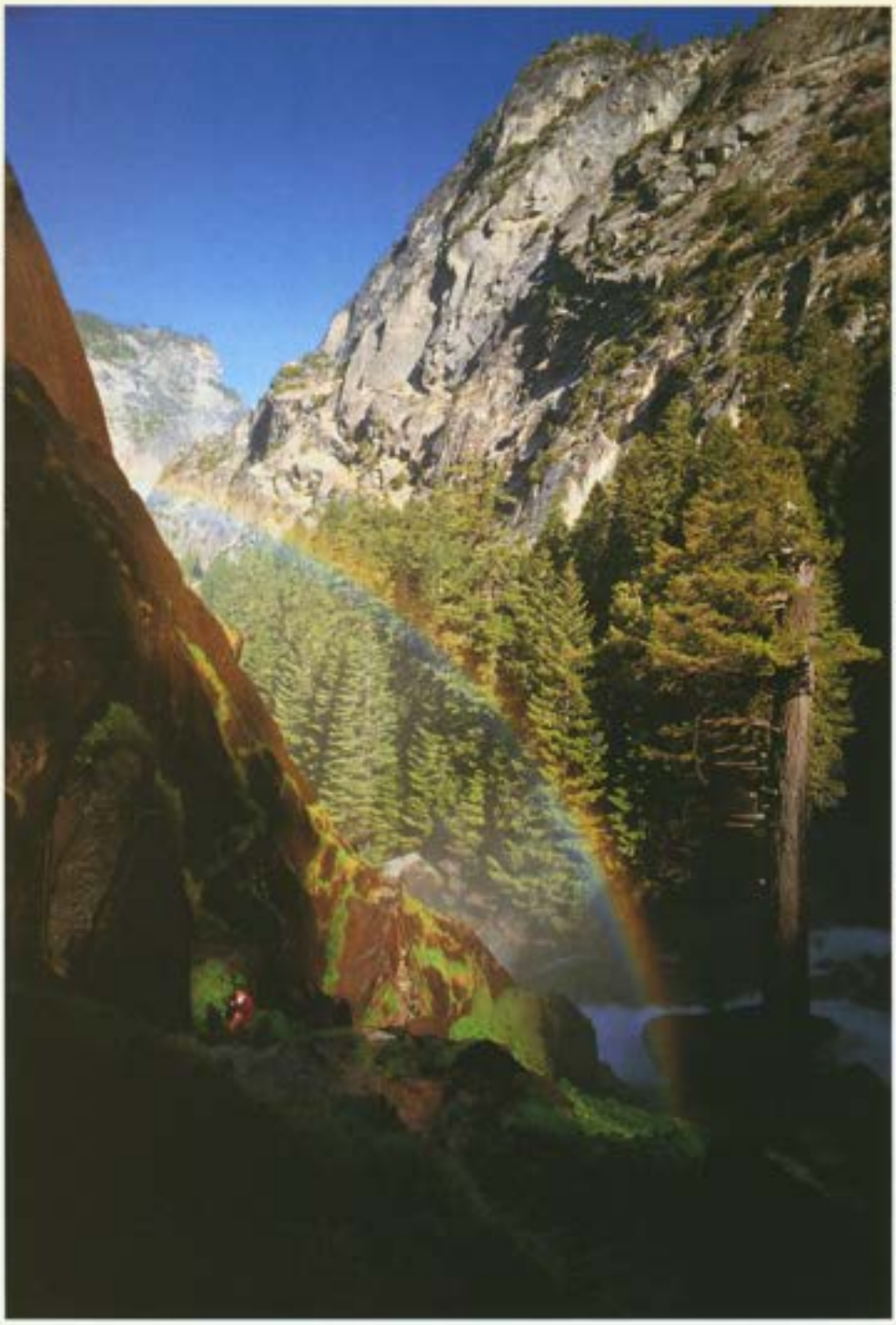


Photo: Galen Rowell, Rainbow on Mist Trail, Yosemite. Fine art photographs and posters of Galen Rowell's images are available from Mountain Light, Albany CA, 510-524-9343

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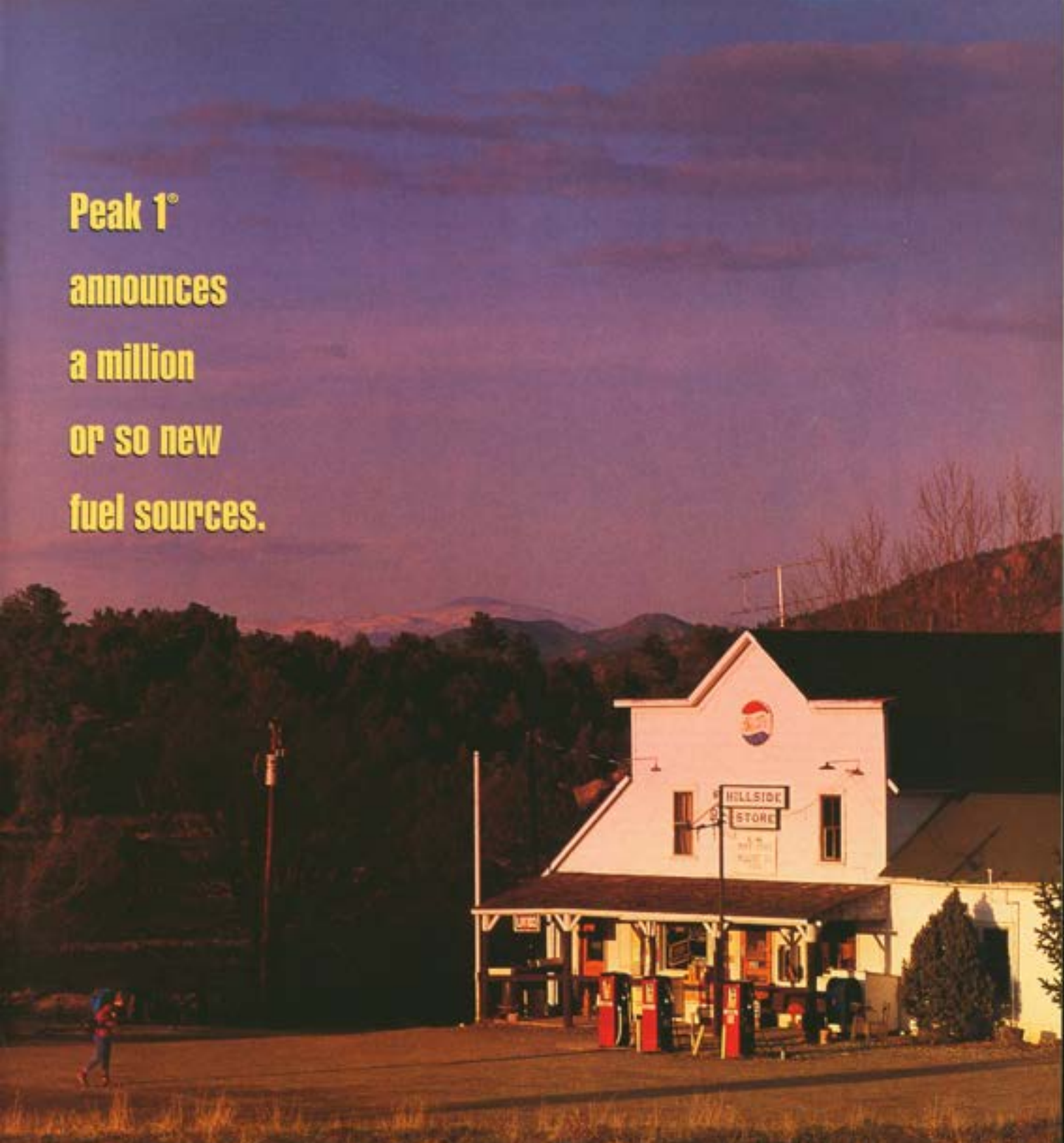

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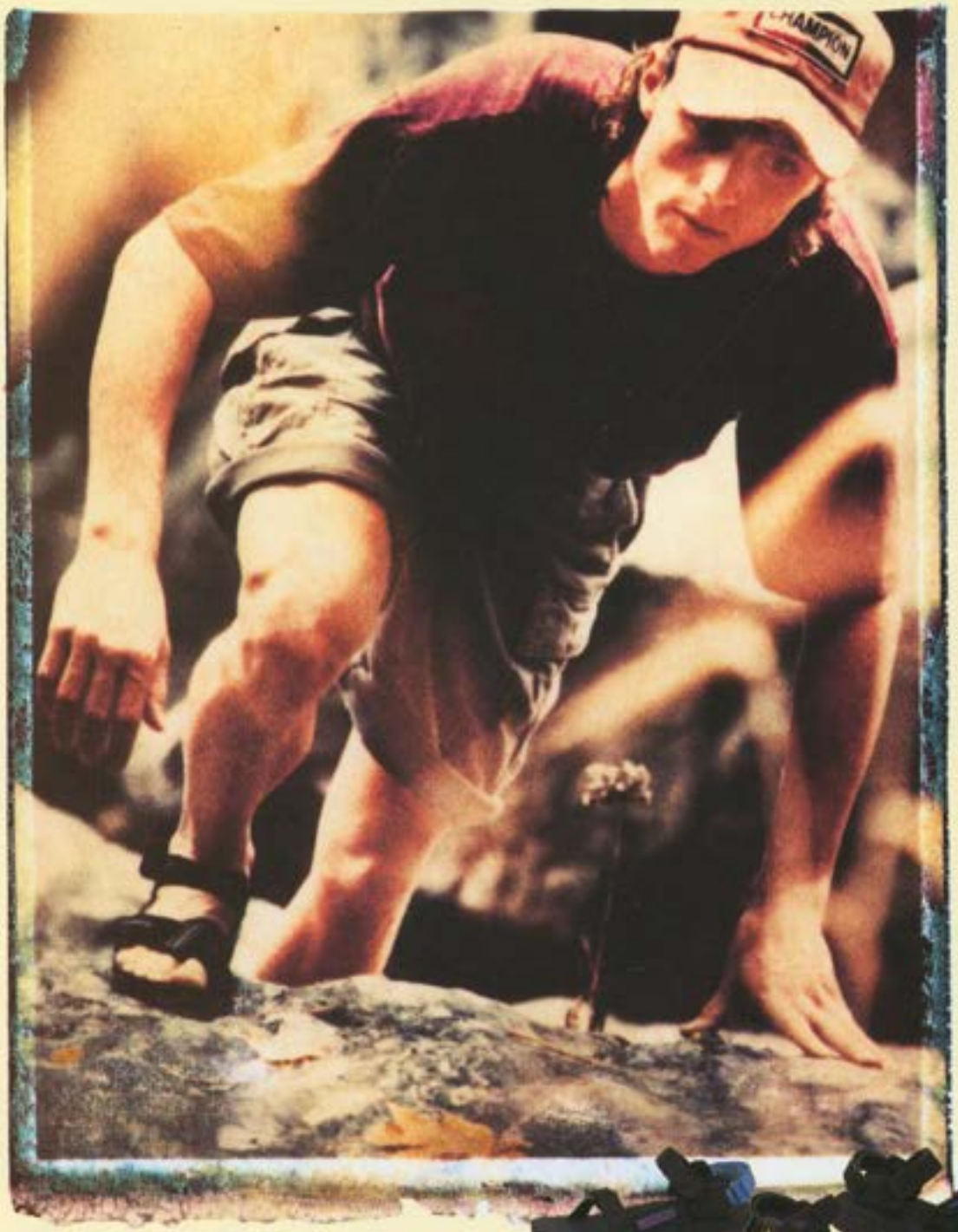
Unsolicited submissions must include a self-addressed, stamped envelope. Photo submissions should be insured or registered. *Sierra* is not responsible for material lost or damaged in the mail.

"The gorge, definitely. You've got to be a little twisted to begin with to want to hang there. I mean, it's tough to get to. You've got to scramble through all this rock and water. But I know this shortcut, past this old broken down barn, it's pretty cool and the view is epic. Anyway the gorge has all of these waterfalls that have carved up the rock, and the water is really, really cold. I've only jumped from the highest point once...You hit hard — thank God I had these sandals on."

Merrell Sandals

Featured Sandal: [Merrell Belize] Poured PU Footframe. CrossOver Closure and Molded Support Struts for maximum control and support. Patented Air Cushion Midsole for shock absorption and Merrell's Control Sole with Inboard Siping for traction on wet surfaces.



Huntington Gorge, Vermont

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It wasn't until the 1870's that they began harvesting trees to produce paper pulp. But today that's the norm. According to the EPA, even a "recycled" sheet with 50% reclaimed fiber could contain as much as 90% virgin wood pulp. Which doesn't bode well for our forests.

Fortunately there's Tree Free EcoPaper. It's the only commercial paper on the market made with no wood fiber whatsoever.

Instead, we fashion our paper from 50% hemp and 50% cereal straw using an ancient, sustainable technology. To whiten the sheet we use hydrogen peroxide which breaks down naturally and produces no dioxins. And Tree Free EcoPaper is naturally acid-free, so it has a shelf life 20 times greater than wood fiber paper.

Our paper making process is not only environmentally sound, it's efficient. The straw we use is a by-product of grain production, and hemp is the most prolific plant on earth. In fact, the USDA reports hemp can produce 4.1 times more paper per acre than trees.

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SIERRA CLUB OUTINGS 1993-1994

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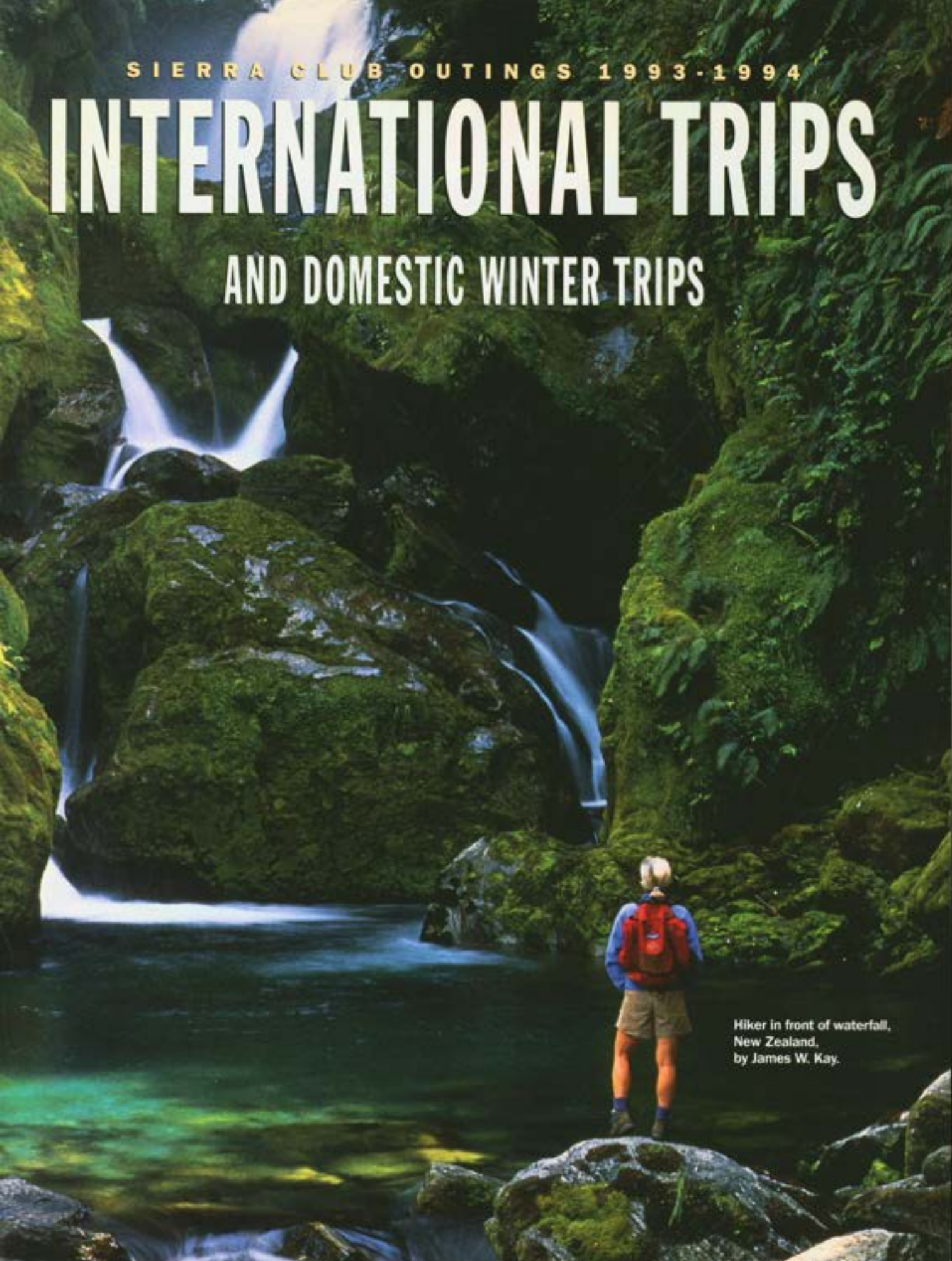
AND DOMESTIC WINTER TRIPS



Hiker in front of waterfall, New Zealand, by James W. Kay.

SIERRA CLUB OUTINGS 1993-1994

INTERNATIONAL TRIPS

PAUL McKOWN

Enjoy wilderness adventure travel in some of the world's most beautiful places. On our international trips, participants meet local people, enjoy their cuisine, and appreciate their culture, customs and traditions. ✷ Trips range from quite leisurely to physically demanding. On some trips you camp in remote areas; on others you stay in guesthouses, alpine huts, homes of friendly hosts, or comfortable and quality-conscious hotels. ✷ Our experienced leaders will introduce you to the conservation issues of the host country; you may even meet with local environmentalists. This environmental component sets Sierra Club trips apart from those run by other tour organizers. ✷ Please note that international trips are tier-priced; for an explanation of tier-pricing, see page 27. Trip prices do not include airfare. ✷ Before applying for a trip, please read the trip description and brochure to determine which outing is for you. Use the coupon on page 26 to order a brochure. To apply for a trip, use the form on page 24. Please read through the Reservation and Cancellation Policy on pages 26 and 27 before sending a deposit. Unless you are waitlisted at time of cancellation, you will be liable for cancellation fees. Note also that leader approval is required for all trips. ✷ Our 1994 Domestic Winter Outings are listed on pages 24 and 25. ✷ Questions? Call (415) 923-5630.

AFRICA

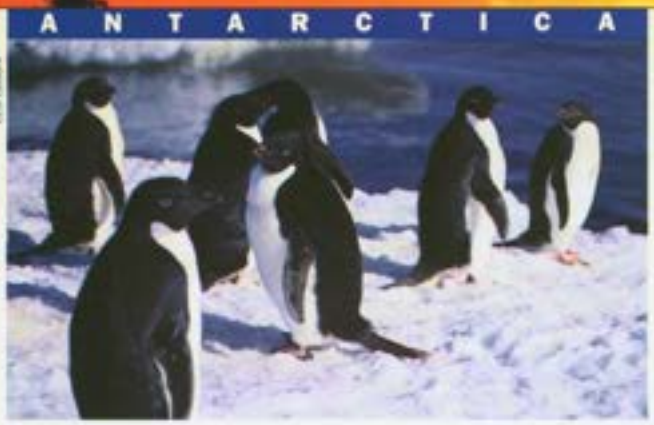
Exploring Kenya by Track and Trail—June 18–July 3, 1994. Join us for a special African adventure—wildlife viewing, cultural exchange, and alpine trekking on the Equator accompanied by a naturalist. From the savannas of the Masai Mara to the highlands of the Aberdares, we explore six national preserves, visit with the Masai in their homeland, and see a wide variety of wildlife. We will stay in exclusive and comfortable campsites as well as in some of Kenya's finest game lodges. See below for information on the option to climb Mt. Kenya at the conclusion of this trip. *Leader: Paul McKown. Price: $3,685 (12-15)/$3,965 (11 or fewer); Dep: $200.* **[94595]**

Mt. Kenya Climb—July 4–11, 1994. Extend your Africa experience and enjoy the beautiful and unique landscape of snow-capped Mt. Kenya. This one-week, porter-assisted climb must be taken in conjunction with either trip #94595 above or #94620 below. *Leader: Paul McKown. Price: $1,885 (12-15)/$2,025 (11 or fewer); Dep: $200.* **[94617]**

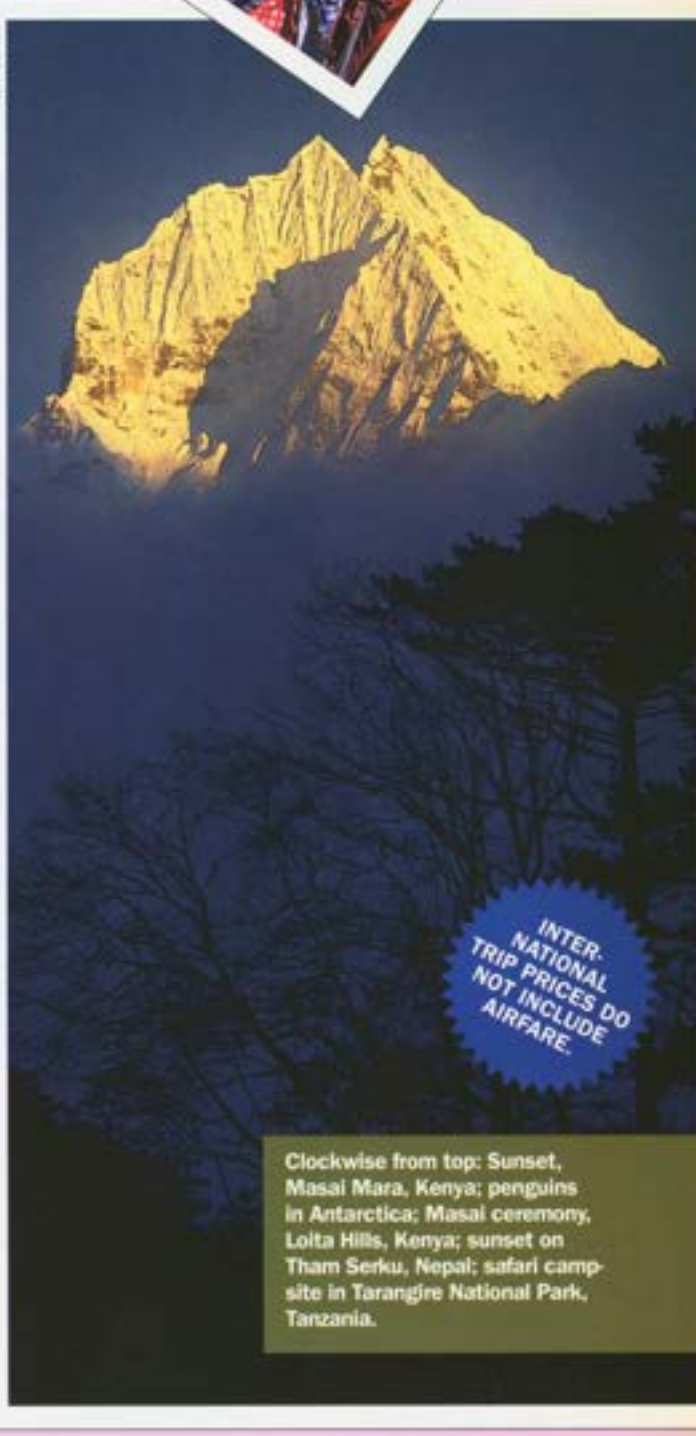
NANCY HOYT BELCHER

Ngorongoro Crater to Zanzibar, Tanzania—July 12–26, 1994. The Serengeti, Tarangire, Manyara, and the unique Ngorongoro Crater offer some of the best wildlife-viewing in East Africa. Expect to see plains animals, elephants, lions, splendid birds, gazelles, perhaps a dik-dik, and many more. From these inland areas we fly to the Indian Ocean and the centuries-old city of Zanzibar, with its fascinating marketplace, narrow streets, spice-growing plantations, and broad beaches. Travel is mostly by Land Rover, with several one-day hiking options. Accommodations will be in comfortable lodges and tented camps. In-country air charter not included in trip price. See above for information on option to climb Mt. Kenya prior to this trip. *Leader: Kern Hildebrand. Price: $3,340 (12-15)/$3,615 (11 or fewer); Dep: $200.* **[94620]**

Botswana Wildlife Safari—August 14–27, 1994. Botswana is one of the few remaining havens of African wilderness. It is a naturalist's and ornithologist's paradise, where great herds of elephant, wildebeest, and buffalo still roam free. Join us on this



Adventure Cruise, Antarctica—February 8-20, 1994. For the first time ever, the Sierra Club is offering members an opportunity to explore the seventh continent. Visit the Antarctic Peninsula as passengers aboard a polar research vessel. The itinerary includes visits to Deception Island, Hope Bay, Lemaire Channel, Paradise Bay, Anvers Island, and more. This will be a voyage of adventure and exploration, with strong emphasis on wildlife and conservation. Zodiacs will be used for landings and visits to scientific bases. *Leader: Leo LeBon. Price: $4,995 (16-20)/$5,245 (15 or fewer); Dep: $200.* **[94525]**



INTERNATIONAL TRIP PRICES DO NOT INCLUDE AIRFARE.

Clockwise from top: Sunset, Masai Mara, Kenya; penguins in Antarctica; Masai ceremony, Loita Hills, Kenya; sunset on Tham Serku, Nepal; safari campsite in Tarangire National Park, Tanzania.

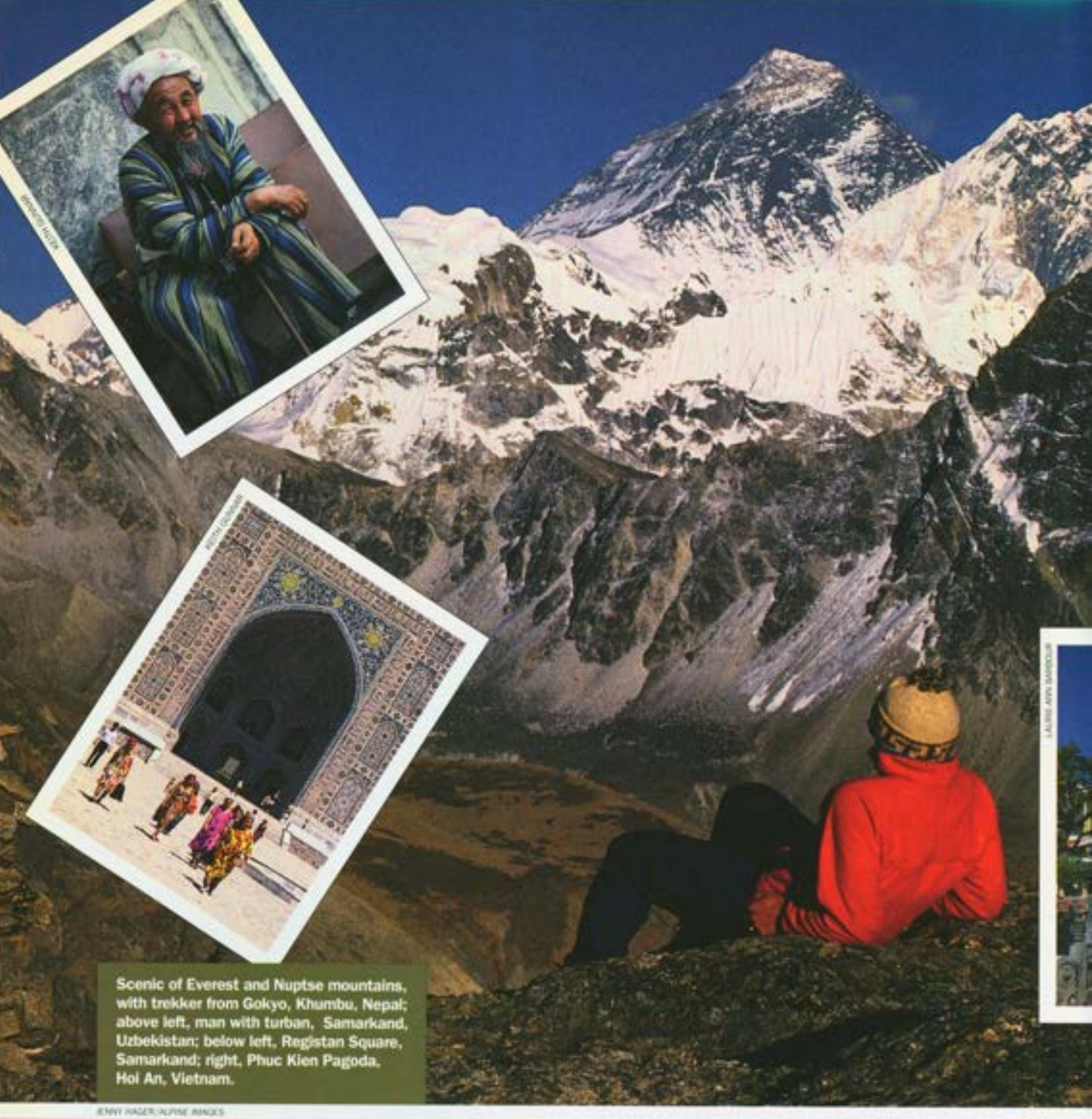
camping/lodge safari as we explore the inland waterways of the Okavango Delta in dugout canoes and by foot; walk with Bushmen in the Tsodilo Hills; and watch for big game and exotic birds at Moremei and Chobe. The trip will conclude at Victoria Falls. *Leader: Ruth Dyche. Price: $4,370 (12-15)/$4,650 (11 or fewer); Dep: $200.* **[94635]**

ASIA

Throne Room of the Thunder Dragon, Bhutan—October 3–26, 1993. On this one-of-a-kind outing, we will trek near the Lunana area, the highest and wildest in Bhutan. Following the routes of an early explorer, Augusto Gansser, we'll enjoy high mountain views without traversing the logistically difficult Lunana Valley. During 17 exhilarating trekking days we will also visit the sacred Chomolhari region. Our trip samples Bhutanese culture, and our hiking days vary from about 8 to 15 miles at altitudes of 8,000 to 16,000 feet. With its abundant flora and fauna, Bhutan's unspoiled landscape is unparalleled among Himalayan countries. *Leader: Jane Edginton. Price: $4,445 (12-15)/$4,720 (11 or fewer); Dep: $200.* **[93830]**

Rolwaling Himal, Nepal—November 8–30, 1993. Join our 20-day trek into the remote Rolwaling Himal west of Mt. Everest and a few miles south of the Tibetan border. Known as the "Great Furrow" in the Sherpa language, the Rolwaling has always held a mysterious fascination. Tales of the yeti, the elusive abominable snowman, have poured from the handful of Sherpas who live there. The lower Rolwaling is dominated by Gauri Shankar peak, while our highest camp at almost 15,000 feet is at the base of the great ice-wall of Chobotse. *Leader: John DeCock. Price: $2,110 (12-15)/$2,335 (11 or fewer); Dep: $200.* **[93845]**

Gorkha-Trisuli Holiday Trek, Nepal—December 18–31, 1993. Leave the holiday madness behind and enjoy Himalayan wilderness solitude on this little-known route in the shadows of Manaslu and Ganesh massifs. This moderate trek (maximum elevation 12,500 feet) starts in Gorkha, then continues along ridges and river valleys, until reaching our destination at Trisuli Bazaar. Contact with villagers, the warmth of our Sherpa and Tamang staff, and the watchful presence of the great Hima-



Scenic of Everest and Nuptse mountains, with trekker from Gokyo, Khumbu, Nepal; above left, man with turban, Samarkand, Uzbekistan; below left, Registan Square, Samarkand; right, Phuc Kien Pagoda, Hoi An, Vietnam.

JENNY HAGER/ALPINE IMAGES

layan peaks make for a rewarding pilgrimage to the "Roof of the World." *Leader: David Horsley. Price: $1,680 (12-15)/$1,880 (11 or fewer); Dep: $200.* **[93860]**

Rajasthan Desert Kingdoms, India—March 22–April 9, 1994. Join us for an exploration of the politically stable Indian state of Rajasthan. It is a mosaic of beautiful landscapes, from desert dunes and citadels to lake-studded cities with gardens. The vibrant people reflect this colorful land in their religion, music, art, dance, and history. We will visit all five ancient desert cities, and enjoy a five-day camel safari across the dunes of the Thar Desert. A visit to the Taj Mahal in Agra will be another highlight. *Leader: Bob Madsen. Price: $2,390 (12-15)/$2,665 (11 or fewer); Dep: $200.* **[94545]**

Japanese Cherry Blossom Season—April 12–22, 1994. The annual blooming of cherry trees in Japan is nothing short of heavenly. We will be "snowed upon" by falling blossoms as we travel from Tokyo to Nikko National Park, around Mt. Fuji and north to the Japan Alps and the Sea of Japan. Our final destination will be Kyoto with its beautiful temples and gardens. Travel will be by bullet train and local buses, and accommodations will be in inns, a hot springs resort, and a 650-year-old temple. *Leader: Carolyn Castleman. Price: $3,890 (10-12)/$4,145 (9 or fewer); Dep: $200.* **[94555]**

The Hidden Kingdom on the Roof of the World, Kathmandu-Lhasa Overland, Nepal and Tibet—April 17–30, 1994. Few places have captured the human imagination like the isolated, windblown mountain fastness of Tibet. Protected for centuries by natural barriers, this high, semiarid plateau with its ancient cities and Buddhist monasteries is now partially open to foreign travel. On this high-elevation trip, we explore and enjoy this mysterious land by bus and by foot. We'll visit cultural and historic sites, including Sakya Monastery in Shigatse, Tashilhunpo, and the Potala in fabled Lhasa. *Leader: Patrick Colgan. Price: $2,530 (12-15)/$2,805 (11 or fewer); Dep: $200.* **[94510]**

Southern Dolpo: Pokhara to Jumla, Nepal—May 9–June 10, 1994. At the edge of the Tibetan Plateau in the Himalayan rainshadow lies Dolpo—the legendary "Hidden Land" closed for years to trekkers. Heading west from Pokhara, we journey into a beautiful, wild, and crystalline landscape which few foreigners have seen. Crossing the great Dhaulagiri range at Jang La (14,800 feet) we enter a world of rugged people and remote monasteries, including Ringmo Gompa on the shores of Phoksumdo Lake. Maximum elevation is 16,800 feet at Kagmarala. *Leader: Cheryl Parkins. Price: $2,890 (10-12)/$3,145 (9 or fewer); Dep: $200.* **[94565]**

Following the Silk Road through China and Beyond—May 18–June 8, 1994. Get swept up in a wave of history and adventure! Starting at Xian, the ancient capital city and legendary starting point, we follow the route of the great trade caravans to Dunhuang's Caves of a Thousand Buddhas. We'll visit the oasis town of Turpan and hike at the aptly-named Heavenly Lake. After enjoying Kashgar's colorful Sunday bazaar we'll cross the Khunjerab Pass into spectacular northern Pakistan and the fabled land of Hunza. The trip ends in Islamabad. *Leader: Ruth Dyche. Price: $4,000 (12-15)/$4,275 (11 or fewer); Dep: $200.* **[94575]**

Hiking and Bus Tour through Central Asia, China and Russia—May 22–June 10, 1994. Come sample the ancient history of remote central Asia, with its dramatic intermontane scenery, mosaic of cultures, and monuments to the medieval past. Enjoying the mobility of bus travel, we journey from Samarkand in Uzbekistan to Kashi in China, then north to the Fergana Valley in Kirghizstan and Alma Ata in Kazakhstan. Along the way, collect memories of dayhikes, tent-camping, traditional inns, colorful markets, and Issyk-Kul, an inland sea between high mountain passes. *Leader: Bud Bollock. Price: $2,845 (12-15)/$3,125 (11 or fewer); Dep: $200.* **[94580]**

Resource Guide for International Travelers

SIERRA CLUB BOOKS

Sierra Club Books, the Club's award-winning book publishing program, is an educational resource devoted to improving public awareness about the environment. Many Sierra Club books focus on worldwide adventure traveling.

Sierra Club Adventure Travel Guides uncover opportunities for exploring the great outdoors in many areas and regions. Titles in this popular series include *Adventuring in New Zealand* ($15.00), *Adventuring in the Andes* ($10.95), *Adventuring in the Pacific* ($12.95), *Trekking in Nepal, West Tibet, and Bhutan* ($14.95), *Adventuring in East Africa* ($15.00), and *Adventuring in the Alps* ($10.95), plus many more.

Sierra Club's celebrated pictorial books also capture the spirit of faraway places and peoples by blending dramatic color photographs with evocative texts. These books include Eric Hansen's *The Traveler: An American Odyssey in the Himalayas* ($25.00), Peter Matthiessen's *Baikal: Sacred Sea of Siberia* ($25.00), and Bruce Chatwin and Paul Theroux's *Nowhere is a Place: Travels in Patagonia* ($25.00).

To order any of the above books, or to request a FREE Mail-Order Service Guide that lists over 200 Sierra Club books and logo merchandise items, please call (415) 923-5500, or write to the Sierra Club Bookstore, 730 Polk Street, San Francisco, CA 94109. Please add $3 shipping for the first book ordered and $2 for each additional book.

SIERRA CLUB INTERNATIONAL PROGRAM

For more than twenty years, Sierra Club International Program activists have been working to improve the balance of the world. They've testified on global issues at countless congressional hearings, conducted an exhaustive world wilderness inventory, and promoted the Club's causes at international conferences, including both Earth Summits. They've exposed illegal actions by U.S. oil companies in Huaorani Indian territory in Ecuador, and opposed World Bank support of logging in the Pygmies' forest home in Cameroon.

At present the program—a network that includes a national committee of volunteer Sierra Club leaders, regional and local subcommittees within Club chapters and groups, and a professional staff in Washington, D.C.—is focusing on multilateral development lending, rainforest protection, trade agreements, and population stabilization.

To become involved, contact:
Sierra Club International Program,
408 C Street, N.E., Washington, DC 20002,
or call **(202) 547-1141.**

Manaslu Circle Trek, Nepal—October 17–November 16, 1994. This circumnavigation of one of the world's 26,000-foot massifs will take us through a wide range of the climate, scenery, and people of Nepal. Our route moves from the town of Gorkha through the gorges of the Marsyangdi and Buri Gandaki rivers, over the dramatic glacial beauty of 17,100-foot Larkya-La Pass, and on to Phewa Tal Lake at Pokhara. We will experience unspoiled Nepalese culture in the friendly villages along our way, as well as explore the sights and sounds of Kathmandu. *Leader: Cahit Kitaplioglu. Price: $2,855 (12-15)/$3,130 (11 or fewer); Dep: $200.* **[94655]**

Kang Chu Himal, Nepal—November 10–December 7, 1994. The isolated Kang Chu Valley near the Tibetan border has only recently been opened to trekking. This maze of steep, forested canyons and scattered hamlets lies in the shadow of 23,000-foot Gauri Shankar. Our porter-supported, moderately paced but occasionally strenuous trip offers photography, leisurely side-hikes to *gompas* and villages, optional non-technical climbs, and rich cultural experiences. Our highest camp will be approximately 14,000 feet. *Leader: Patrick Colgan. Price: $2,740 (12-15)/$3,015 (11 or fewer); Dep: $200.* **[94670]**

Trekking and Touring in North Vietnam—November 28–December 11, 1994. Visit a distant land whose history became so entwined with our own. Once ravaged by war, Vietnam can be appreciated today as one of Southeast Asia's environmental and cultural gems. We begin in Hanoi, touring cultural attractions and enjoying French colonial architecture. We then visit Cuc Phuong, a tropical forest teeming with wildlife. On the trekking portion of the trip we'll experience the hill-tribe culture, learn about environmental issues, and enjoy the music, architecture, and cuisine of this complex and beautiful country. *Leader: John DeCock. Price: $3,220 (14-18)/$3,415 (13 or fewer); Dep: $200.* **[94675]**

EUROPE

England's Coast-to-Coast Walk: From the Irish Sea to the North Sea—May 1–14, 1994. Join us on a walk across the breadth of England through three of the country's most scenic national parks—the Lake District, the Yorkshire Dales, and the North York Moors. Our moderate daily hikes will take us to the towns of Grasmere, Keld, and Robin Hood's Bay. Our luggage will be transported each day by minibus to our overnight accommodations in comfortable lodges and bed-and-breakfasts, where we'll meet fellow hikers from around the world. *Leader: Lou Wilkinson. Price: $2,630 (11-14)/$2,935 (10 or fewer); Dep: $200.* **[94560]**

Cyprus: Eastern Mediterranean Crossroads—May 14–29, 1994. The island of Cyprus is a microcosm of Mediterranean landscapes, archaeology, history, and cultural diversity. We explore this extraordinary little world by foot and by van, spending our nights in forest lodges, monasteries, and village homes. We'll encounter the breadth of Cypriot history, from the Neolithic settlement of Khirokitia to Byzantine Painted Churches. Bring a snorkel for the warm sea, and boots for hiking the uninhabited coast of the Akamas Peninsula and the trails of the Troodos Mountains. *Leader: David H. Stewart. Price: $2,755 (12-15)/$3,030 (11 or fewer); Dep: $200.* **[94570]**

Cumbria Service Trip, Lake District Park, England—June 1–15, 1994. This trip provides an opportunity for hands-on participation in a conservation project for England's largest national park. Learn "dry-stone walling" from skilled craftspeople and rebuild upland footpaths. Discover Lakeland's rich historical past while exploring the area's mountains and culture. Leisure activities include walks, talks, lake cruises, pub singing and visits to literary and historical attractions. Bed-and-breakfasts provide the traditional English experience. Make conservation a global issue and have a jolly good

Walkers at Stidding Edge, Lake District, England; above, Greek Cypriot Orthodox priest, Cyprus; right, walkers along rapeseed field, Lake District, England.

time too! *Leader: Gary Swanson. Price: $2,205 (10-13)/ $2,455 (9 or fewer); Dep: $200.* **[94585]**

Tyrolean Summer Dream, Hiking and Biking in Austria—June 18–July 2, 1994. We will explore the legacy of kings, composers, and artists in the Salzkammergut, where sapphire lakes abound and alpine peaks tower overhead. Hikes and leisurely bike tours lead us from elegant Salzburg, Mozart's birthplace, to the healing spas and subterranean salt mines of Bad Ischl and Oberau's blooming alpine meadows. Evenings find us feasting, dancing, and enjoying local cultural events at quaint hotels and family inns dating to the 12th century. *Leader: Dan Noble. Price: $2,575 (12-15)/ $2,850 (11 or fewer); Dep: $200.* **[94590]**

Insider's View of the Loire Valley, France—June 20–28, 1994. Join this early summer adventure organized under the auspices of Centre Permanent d'Initiation à l'Environnement, a premier French conservation organization. We'll stay in a 13th-century abbey hotel, take daily excursions, and enjoy delicious local food. Our itinerary includes moderate walks; visits to wineries, abbeys, and chateaux; a pleasant boat ride; and other off-the-beaten-path destinations. Come see how the French have preserved this beautiful area over the centuries! *Leader: Lynne Simpson. Price: $2,180 (12-15)/ $2,455 (11 or fewer); Dep: $200.* **[94600]**

Norway's Lofotens and Midnight Sun—June 21–July 2, 1994. Spend eight days under the Midnight Sun and above the Arctic Circle on Norway's Lofoten Islands. We'll experience the islands through day-hikes, cultural tours, and photography (your leader is a nature photography instructor). We stay four nights in Kabelvag, dayhiking in the steep, glacier-carved mountains rising out of the ocean, then spend our last three nights at *rorbuer* (fishing cottages) in Reine. The trip ends with two days in a hotel at Trondheim, touring

fjords, museums, and cathedrals. *Leader: Mark A. Larson. Price: $2,825 (12-15)/$3,105 (11 or fewer); Dep: $200.* **[94605]**

Haute Dauphine, French Alps—July 3–13, 1994. Hikers of all ages are welcome on this venture into the old Haute Dauphine region of alpine France. We will visit two parks southeast of Grenoble—Parc Des Ecrins, sometimes called the Yosemite of France, and nearby Parc du Queyras. Traveling by van, we'll hike by day and spend our nights in alpine inns. The more adventuresome may opt for an overnight jaunt to a mountain hut. The walled city of Briançon, a haven for artisans, will be a highlight. *Leader: Jerry South. Price: $2,340 (12-15)/$2,615 (11 or fewer); Dep: $200.* **[94615]**

Mountains of Contrast: The Diverse Dolomites, Italy—August 29–September 11, 1994. The Dolomites offer a multitude of contrasts—geological, cultural, and scenic—from towering peaks to peaceful meadows and photogenic hamlets. Our walks of about seven miles each will include vigorous mountain hikes as well as casual village rambles. Accommodations in family-run hotels and *refugios* and quiet moments to sketch a favorite view or sip a cappuccino complete this special mountain journey. *Leader: Wayne Martin. Price: $2,705 (12-15)/$2,980 (11 or fewer); Dep: $200.* **[94640]**

Hiking the High Tatras, Slovakia—September 5–17, 1994. Rising from the Danube plain to heights of 8,700 feet, the High Tatras are natural gems, located in the central mountains of the new Slovakia Republic. Our hikes will be moderate, on well-traveled trails; overnights are in mostly modern mountain chalets. A local park guide will accompany us. Slovakia, the eastern half of the former Czechoslovakia, has made a peaceful transition to independence and is eager for visitors. It's an exciting time to be there. *Leader: Wayne R. Woodruff. Price: $1,945 (12-15)/$2,205 (11 or fewer); Dep: $200.* **[94645]**

Sailing and Hiking in Greece—October 21–November 3, 1994. Few things in life are as idyllic as sailing on the azure blue Mediterranean. Although no sailing skills are necessary, participants must be willing to lend a hand for crewing tasks as we hunt for hidden coves and deserted beaches. For the final five days we will hike and explore the ancient island of Crete, where we will stay near the old Venetian harbor of Haniá. *Leader: Carolyn Castleman. Price: $3,245 (12-15)/ $3,525 (11 or fewer); Dep: $200.* **[94660]**

LATIN AMERICA

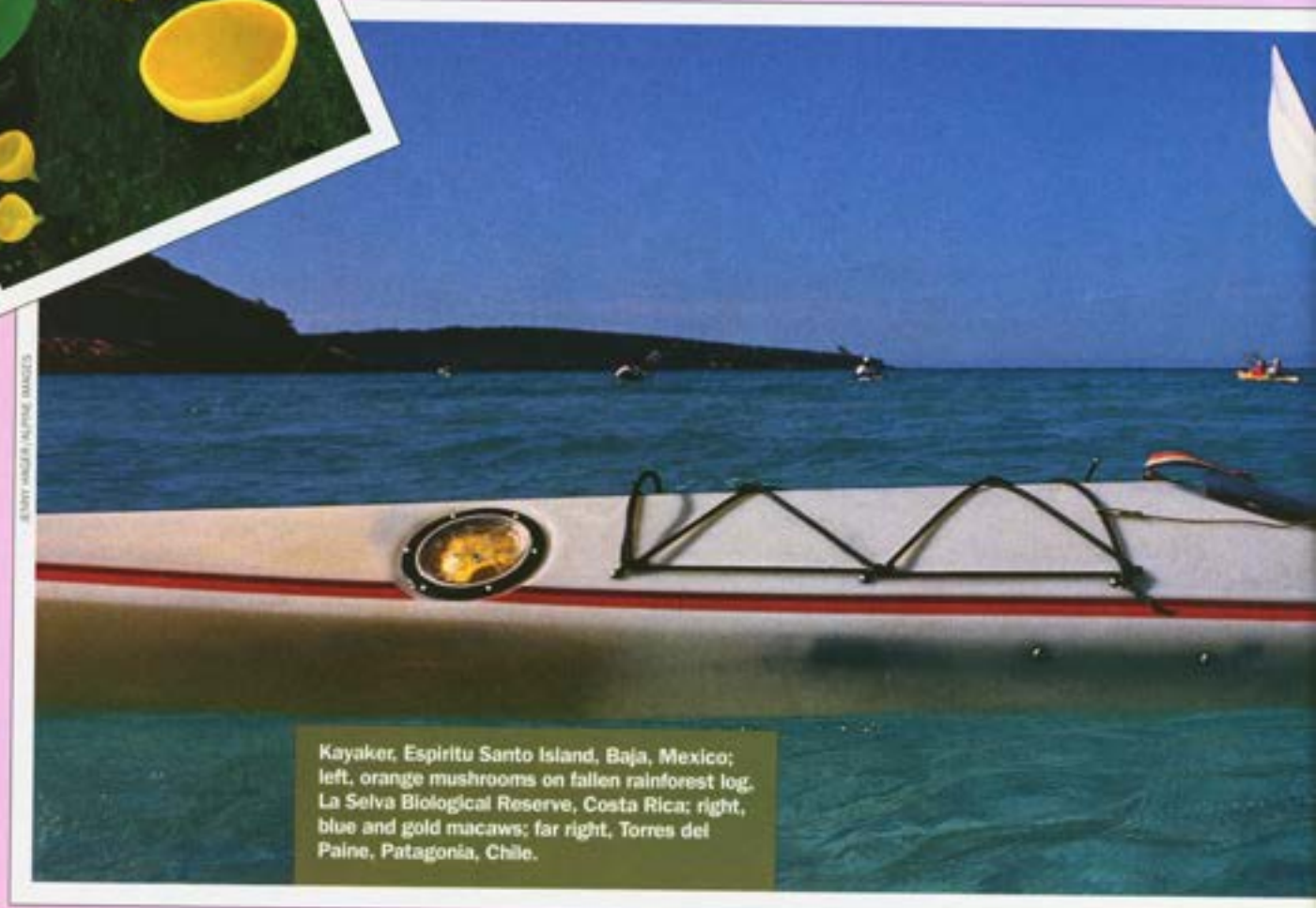
River Rafting and Rainforest Adventure, Costa Rica—October 19–28, 1993. A natural-history paradise, Costa Rica possesses unmatched biological diversity. We'll view an active volcano at Poas National Park, then explore Corcovado National Park for three days—an unprecedented opportunity to view its unique wildlife. We'll also visit an archaeological site in the premontane forest of the Guayabo River Canyon. But the highlight of our trip will be three days of rafting on two of the most beautiful rivers in the tropics—the Pacuare and Reventazon, where we'll relish waterfalls, rapids, and inviting pools. *Leader: Blaine LeChemi-nant. Price: $2,150 (12-15)/ $2,415 (11 or fewer); Dep: $200.* **[93835]**

Picturing Costa Rica—November 7–16, 1993. A conservationist's joy, Costa Rica embraces rich biological diversity and environmental awareness. Coupled with a fascinating and vibrant culture, the country is a photographer's dream. A broad range of experiences awaits us: a lowland tropical forest in Corcovado National Park; Poas National Park with its active volcano; the archaeological sites of Guayabo National Monument; and Braulio Carillo National Park with over 500 species of birds. Accompanied by experienced guides, we'll work to improve our photographic skills and expression. Non-photographers are also welcome. *Leader: Dolph Amster. Price: $2,140 (12-15)/$2,405 (11 or fewer); Dep: $200.* **[93840]**

Holidays in Belize—December 20–28, 1993. Using a rustic lodge as our base, we'll explore Belize's lush interior, touring limestone caves and Mayan ruins, and rafting a gentle jungle river. A short plane flight to Flores, Guatemala, enables us to spend a full day at the magnificent Mayan ruins of Tikal. Then we'll move to the Caribbean coast and a palm-fringed island adjacent to a barrier reef. We'll stay at a simple guesthouse on the beach, snorkel in crystal-clear water, and feast on fresh seafood. *Leader: Sallee Lotz. Price: $2,055 (12-15)/$2,320 (11 or fewer); Dep: $200.* **[93850]**

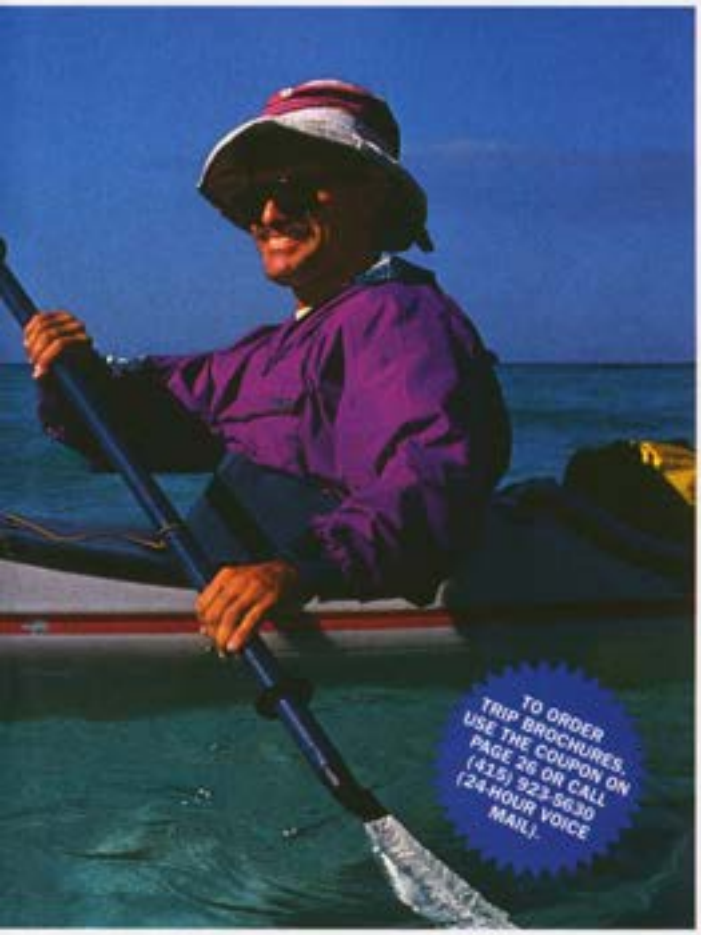
River Rafting and Rainforest Adventure, Costa Rica—December 20–29, 1993. See description for trip #93835 above. *Leader: Harry A. Neal III. Price: $2,150 (12-15)/ $2,415 (11 or fewer); Dep: $200.* **[93855]**

Ecuador: Galápagos Islands and Quito Region—December 22–31, 1993. We begin by enjoying the beautiful and historic city of Quito. We'll then explore Darwin's "Showcase of Evolution" for six days, cruising the Galápagos Islands in our private vessel. The exotic wildlife will dazzle you; swimming with penguins and sea lions will delight and amaze. Finally, we travel down the "Avenue of the Volcanoes" and visit Cotopaxi National Park, home to unique flora and fauna, expansive views of the Andes, and the world's highest active volcano. *Leader: Mary O'Connor. Price: $2,390 (7-9)/$2,770 (6 or fewer); Dep: $200.* **[93500]**



Kayaker, Espiritu Santo Island, Baja, Mexico; left, orange mushrooms on fallen rainforest log, La Selva Biological Reserve, Costa Rica; right, blue and gold macaws; far right, Torres del Paine, Patagonia, Chile.

Belize: Reef and Ruins—February 15–26, 1994. We begin our adventure by exploring Belize's lush interior while staying at an ecology- and conservation-oriented lodge. At the island city of Flores in neighboring Guatemala we'll have two full days to experience the magnificent Mayan ruins at Tikal. The remainder of our Central American adventure will be on a palm-fringed island next to a barrier reef. Here we snorkel in the crystal-clear waters of the Caribbean, learn about marine ecology and conservation, and dine on the bounty of the sea. *Leader: Lola A. Nelson-Mills. Price: $2,265 (10-12)/$2,520 (9 or fewer); Dep: $200.* **[94530]**



Magdalena Bay Sea-Kayaking and Whale-Watching, Baja California, Mexico—February 19-25, 1994. Few methods of travel allow a more intimate bond with nature than kayaking. Journey with us on the narrow waterways of tranquil Magdalena Bay, winter home for hundreds of California gray whales that come to these protected waters each year to mate or bear young. We'll also see a wide variety of migrating shore- and seabirds as we paddle through mangrove-lined channels. Miles of uninhabited shoreline are a paradise for beachcombers. Instruction will be given, and a support boat will carry duffel, food, and water. Inexperienced to expert kayakers welcome. *Leader: J. Victor Monke. Price: $1,395 (10-13)/$1,440 (9 or fewer); Dep: $200.* **[94535]**

Patagonia Trek, Chile—February 19–March 5, 1994. Experience the magnificence of Patagonia on this easy-to-moderate trek in Torres del Paine National Park. Condors will glide effortlessly above us as we hike at elevations between 3,000 and 4,000 feet and see the dramatic silhouette of the Torres (towers) and Cuernos (horns) del Paine against the open sky. The area is home to over 100 species of birds, 25 mammals, and more than 200 different plants. Cultural exchange will be a highlight in Puerto Natales, where we'll stay in private homes. *Leader: John Garcia. Price: $2,585 (12-15)/$2,865 (11 or fewer); Dep: $200.* **[94515]**

Belize, Naturally: Reef and Beach Camping—March 4–12, 1994. Picture yourself camping on a palm-studded beach of smoothest sand, exploring an attractive fishing village nearby, hiking in the Cockscomb Jaguar Preserve, visiting with the Garifuna people, and boating up the aptly-named Monkey River. From there you move to a tropical island on the longest reef in the Americas, where you can snorkel among giant corals and colorful fish, enjoy bird-watching, help the cook catch and prepare seafood feasts, or just swing in your hammock. Two charter flights within Belize are included in the trip price. *Leader: Mary O'Connor. Price: $1,390 (14-18)/$1,600 (13 or fewer); Dep: $200.* **[94540]**

Cultural Exchange and Rafting Adventure, April 3–9, 1994. Get a glimpse of Costa Rica's unmatched biodiversity. We will spend four days rafting the Pacuare and Reventazon, beautiful and exciting rainforest rivers with fern-laced waterfalls and enchanting side streams. One night we will camp along the Pacuare, while other nights we'll be guests in private homes or at a rustic mountain hotel with splendid views of the countryside. The last day we will tour the Carara Biological Reserve with its abundant bird and wildlife. *Leader: R. Kurt Menning. Price: $1,650 (12-15)/$1,895 (11 or fewer); Dep: $200.* **[94550]**

Sea of Cortez Kayaking, Baja California, Mexico—October 22–28, 1994. Search out hidden inlets, beaches, and rookeries as only possible in a kayak. Paddle, swim, or snorkel in the emerald-green waters of one of the world's most abundant marine environments. The harsh Baja habitat has created unique and imposing flora. The elephant tree, giant cacti, and wild fig clinging to the dark volcanic cliffs forge a stark elegance. A support boat will carry duffel, food, and water. Novice and experienced kayakers welcome. *Leader: Blaine LeCheminant. Price: $1,395 (10-13)/ $1,440 (9 or fewer); Dep: $200.* **[94665]**

seals at Devil's Crown, exploring unique bird colonies, or hiking through surreal lava flows, the Galápagos Islands remain Eden on the Equator. Join us! *Leader: Dan Noble. Price: $2,565 (7-9)/$2,945 (6 or fewer); Dep: $200.* **[94685]**

Cultural Exchange and Rafting Adventure, Costa Rica—December 24–30, 1994. See description for trip #94550 above. *Leader: Sallee Lotz. Price: $1,650 (12-15)/$1,895 (11 or fewer); Dep: $200.* **[94690]**

Exploring the Land of Eternal Spring, Northeastern Costa Rica—October 15–23, 1994. The trip leader invites you to her homeland, "the land of eternal spring." Enjoy cultural exchange and Costa Rican hospitality when you stay in private homes. You will visit three active volcanoes, and hike through both a cloud forest and a dry forest. Side trips will provide glimpses of unique and diverse flora and fauna ecosystems. Parrots will fly overhead and monkeys observe from treetops as you raft through tropical jungle on the exhilarating Pacuare River. *Leader: Ligia Fernandez Molina. Price: $2,200 (10-12)/$2,475 (9 or fewer); Dep: $200.* **[94650]**

Holidays in Belize—December 18–26, 1994. See description for trip #93850 above. *Leader: Tim Wernette. Price: $2,140 (12-15)/$2,415 (11 or fewer); Dep: $200.* **[94680]**

Enchanted Isles, The Galápagos, Ecuador—December 22–29, 1994. No freeways. No frantic schedules. Winter in the Galapagos means warm breezes and white sand beaches teeming with the wildlife that inspired Darwin in developing his evolutionary theories. Azure waters and golden sunsets accompany us as we travel from island to island, using anchorages once favored by whalers and pirates. Whether snorkeling with fur

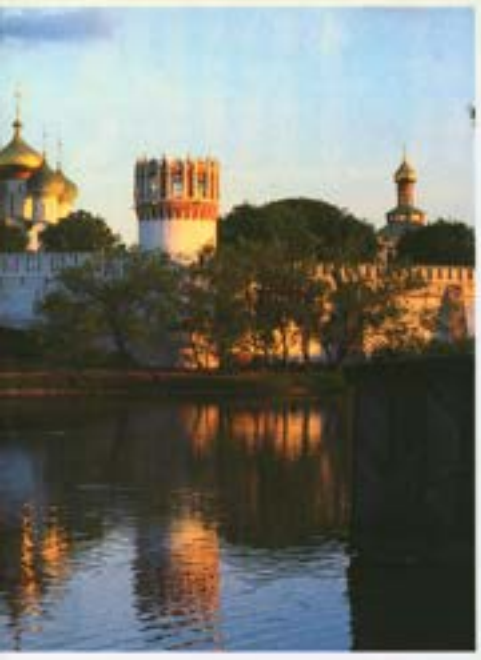
PACIFIC BASIN

Exploring New Zealand—February 6–26, 1994. New Zealand offers the visitor many outdoor activities. Beginning in Auckland, we will explore the country's attractions by dayhiking and sightseeing our way to Christchurch. We will see steaming volcanoes, erupting geysers, bubbling-hot mudpools, a Maori village, glowworm grottoes, the Kauri forest, alpine valleys, Milford Sound, snowcapped mountains, and glistening glaciers that extend down into subtropical rainforest. *Leader: Ray Simpson. Price: $3,015 (9-11)/$3,300 (8 or fewer); Dep: $200.* **[94520]**

RUSSIA

Lake Baikal Service Trip, Southern Siberia, Russia—June 28–July 17, 1994. Experience the magic spell of Lake Baikal, the "Sacred Sea of Siberia," by joining Russian environmentalists and national park personnel in trail and campsite restoration work. The world's deepest and most biologically significant body of fresh water, the lake is threatened by pollution. Exploration of the lake by boat will be supplemented by shoreline visits to Buryat villages and museums, and by dayhikes on forested mountain trails. Collect memories of homestays, campouts, shamans, and legends. *Leader: Cheryl Draves. Price: $1,895 (12-15)/$2,075 (11 or fewer); Dep: $200.* **[94610]**

Kamchatka, Russia—July 25–August 6, 1994. This two-part, 15-day getaway is to exotic Kronotsky Park on the Kamchatkan peninsula. The park's 2.5 million acres include 200 geysers and 22 volcanoes, and



Hiker standing before Lake Wanaka, New Zealand; far left, fishermen returning from catch, Placencia, Belize; middle, hiker resting atop Mackinnon Pass, along Milford Track, New Zealand; near left, Novodevichy Church, Moscow, Russia.

its forests are home to sable, bear, wolf, and lynx. We will first take excursions by helicopter to remote areas, then travel by foot and boat through the preserve, enjoying hot springs, fishing, climbing volcanoes, viewing wildlife. Accommodations are in bunkhouses and tents. Our hosts will be professional naturalists and, by trip's end, warm friends. *Leader: Jerry Clegg. Price: $2,230 (12-15)/$2,505 (11 or fewer); Dep: $200.* **[94625]**

Russia through the Back Door —August 8–22, 1994. We'll experience the dramatically different regions of Siberian and European Russia with a Russian geographer. We meet in Vladivostok and explore the region, visiting a marine reserve and a village farm. The fabled Trans-Siberian Railway transports us to Irkutsk and to Lake Baikal, famed for its remarkable environment. Finally, in Moscow, we will see it all, from the Kremlin to the lively Arbat bazaars. Accommodations include hotels, wilderness camping, and nights aboard a ship. *Leader: Dolph Amster. Price: $2,930 (12-15)/$3,205 (11 or fewer); Dep: $200.* **[94630]**

Note: For another Russia trip, see Asia #94580.

TO APPLY FOR A TRIP, USE THE APPLICATION FORM ON PAGE 24

SIERRA CLUB OUTINGS 1993-1994

DOMESTIC WINTER TRIPS

C. RAY MOORE

BACKPACK

Backpack trips vary in length and difficulty. We have divided them into five categories: Light (L) trips cover up to 35 miles in four to five travel days, the remaining days being layovers. Moderate (M) trips may cover longer distances of up to 55 miles and involve more cross-country route-finding. Strenuous (S) trips cover as many as 60 to 70 miles with greater ups and downs and continuous high-elevation travel. Light-Moderate (L-M) and Moderate-Strenuous (M-S) are intermediate ratings. Individual trip brochures explain the ratings in more detail.

Just Around the Bend, Big Bend, Texas—February 6–14, 1994. Warm days, frosty nights, alpine forests, and agave-studded desert terrain are among the many remarkable contrasts found in Big Bend National Park. We begin our 50-mile adventure high in the Chisos Mountains, then descend timeless canyons to the desert floor and the heart of America's most isolated and diverse park. Food caches will lighten our packs. (Rated M-S) *Leader: Scott Kingham. Price: $450; Dep: $50.* **[94421]**

BASE CAMP

America's Tropical Paradise, Virgin Islands Park, U.S. Virgin Islands—January 23–29, 1994. We'll stay in rustic beachfront cottages in Virgin Islands National Park, which occupies most of the island of St. John. We'll spend mornings hiking and exploring forests and historic ruins. Afternoons will find us on marvelous white sand beaches, swimming and snorkeling among coral reefs, colorful fish, and sea turtles. Meals not included in trip price. *Leader: Dick Williams. Price: $755; Dep: $100.* **[94422]**

IMPORTANT INFORMATION ON SIERRA CLUB OUTINGS

1. All reservations are subject to the reservation/cancellation policy of the Outing Committee; leader approval is required for all outings. Cancellation fees apply unless you are waitlisted at time of cancellation.
2. A signed liability release is required for all international trip participants.
3. All participants age 12 and over must be Sierra Club members to attend an outing.
4. Your address may be released to other trip participants for ride-sharing or other trip-related purposes.
5. Not all trips can accommodate special dietary needs or preferences. Contact the leader for this information before applying.
6. Applications for trip space will be accepted in the order they are received at the following address:
   Sierra Club Outing Dept., Dept. #05618, San Francisco, CA 94139
7. Please do not send express mail to this address. Doing so will delay your application.

OUTING RESERVATION FORM

MEMBERSHIP NUMBER | TRIP NUMBER | TRIP NAME | DEPARTURE DATE

YOUR NAME | HAVE YOU RECEIVED THE DETAILED TRIP BROCHURE? ☐ YES ☐ NO

STREET ADDRESS | YOUR HOME PHONE ( )

CITY | STATE | ZIP | YOUR WORK PHONE ( )

PLEASE PRINT YOUR NAME AND THE NAMES OF OTHER PEOPLE IN YOUR PARTY	MEMBERSHIP NUMBER	AGE	RELATIONSHIP	NUMBER OF OUTINGS YOU'VE BEEN ON: CHAPTER	NUMBER OF OUTINGS YOU'VE BEEN ON: NATIONAL	YEAR OF LAST NATIONAL OUTING
1.			SELF			
2.						
3.						
4.						

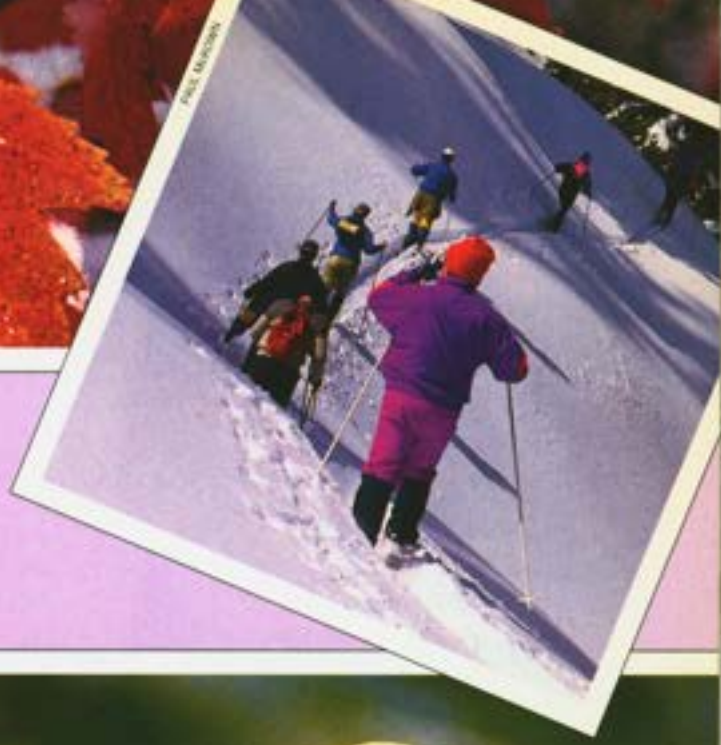
PER PERSON COST OF OUTING | TOTAL COST OF THIS APPLICATION | DEPOSIT ENCLOSED | FOR OFFICE USE ONLY

Please make check payable to Sierra Club and mail to: **Sierra Club Outing Department,** Dept. #05618, San Francisco, CA 94139

SPECIAL ANNOUNCEMENT

HAVASUPAI RESERVATION TRIPS

Space is still available on trip #93064, a base camp trip to beautiful Havasupai Indian Reservation on the western end of the Grand Canyon. Originally scheduled for April of this year, the trip proved so popular we added two additional sections. However, severe winter rains and the resulting flooding and damage forced us to reschedule the trip for the fall. Section A dates are September 26–October 2; the leader is John Malarkey. The Section B dates are October 3–9, with John Esterl leading. The price is $660; a $100 deposit is required.



FAMILY

Everglades Park, Florida—December 28, 1993–January 2, 1994. Come enjoy the "River of Grass." We will hike on jungle trails, over raised boardwalks, and along the coastline, and canoe through dense mangroves, canals, and muddy lakes. Whether hiking, canoeing, or relaxing, there will be plenty of wildlife to observe in this unique ecosystem, still recovering from the damage of Hurricane Andrew. This trip is suitable for kids six and older. The price of rental canoes is not included in the trip price. *Leader: Marty Joyce. Price: adult $310, child $205; Dep: $50.* **[94423]**

SKI

High Sierra Skiing I—January 30–February 4, 1994. Enjoy Nordic ski lessons and tours while staying at the Sierra Club's own rustic Clair Tappaan Lodge near Donner Summit. Develop and improve skiing skills—diagonal stride, Telemarking, ski-skating, and other techniques—in an area of heavy snowfall. You'll also enjoy warm accommodations, camaraderie with Club members, good food, a hot tub, and other amenities. Your leader is a certified ski instructor. *Leader: Herb Holden. Price: $390; Dep: $50.* **[94424]**

Sugarcamp Ski, Northwestern Minnesota—January 31–February 4, 1994. Cross-country skiing and other winter pleasures await skiers of all ages and abilities at this old maple sugaring site. Wander through the woods on short to moderate loops of groomed trail, or try snowshoeing, ice-skating, and ice-fishing. Then retire to the rustic comforts of the main lodge—outdoor hot tub, saunas, bottomless cookie jars. Suitable for beginners and families. *Leader: Sarah Reinke. Price: $600; Dep: $100.* **[94425]**

Superior Ski Trails, Boundary Waters Canoe Area Wilderness, Minnesota—February 7–11, 1994. Escape to the quiet of the North Woods snow country on groomed and tracked trails that wander through pine and birch forests, between frozen lakes, then back to cozy cabins and home cooking. Ski in the gentle glow of lanterns, listen for distant wolf music, track a wild moose, and relax in the sauna. Snowshoeing, ice-skating, and broomball too! *Leader: Faye Sitzman. Price: $590; Dep: $100.* **[94426]**

High Sierra Skiing II—February 27–March 4, 1994. See description for trip #94424 above. *Leader: Herb Holden. Price: $390; Dep: $50.* **[94427]**

Spring Skiing in the Sierra—April 17–22, 1994. Cross-country skiing at its best! This popular trip offers corn snow, Telemarking, Nordic downhill, and backcountry. It's all here at the Sierra Club's Clair Tappaan Lodge near Donner Pass, where the average snowfall is the highest in the Sierra Nevada. There will be daily lessons, and tours to Castle Peak, Crow's Nest, and German Ridge led by a certified ski instructor. Enjoy great food, warm accommodations, and a hot tub! *Leader: Herb Holden. Price: $390; Dep: $50.* **[94428]**

Brown pelican, Everglades National Park, Florida; top, snow on autumn leaves; top right, cross country skiers, Sierra.

Reservation and Cancellation Policy

Eligibility: Our trips are open to Sierra Club members, applicants for membership, and members of organizations granting reciprocal privileges. You may include your membership application and fee with your reservation request.

Children must have their own memberships unless they are under 12 years of age.

Unless otherwise specified, a person under 18 years of age may join an outing only if accompanied by a parent or responsible adult or with the consent of the leader.

Applications: One reservation form should be filled out for each trip by each person; spouses and families (parents and children under 21) may use a single form. Mail your reservation, together with the required deposit, to Sierra Club Outing Department, Dept. #05618, San Francisco, CA 94139. No reservations will be accepted by telephone.

Reservations are confirmed on a first-come, first-served basis. However, since acceptance by the leader is required (based on applicant's experience, physical condition, etc.), the reservation is confirmed subject to the leader's approval, for which the member must apply promptly.

When a trip is full, later applicants are put on a waitlist.

Give some thought to your real preferences. Some trips are moderate, some strenuous; a few are only for highly qualified participants. Be realistic about your physical condition and the degree of challenge you enjoy.

The Sierra Club reserves the right to conduct a lottery in order to determine priority for acceptance in the event that a trip is substantially oversubscribed shortly after publication.

Reservations are accepted subject to these general rules and to any specific conditions announced in the individual trip brochures.

Deposit: A deposit is required with every trip application. The amount of the deposit varies with the trip price, as follows:

Trip price per person	*Deposit per person*
Up to $499	*$50 per individual*
$500 to $999	*$100 per individual*
$1,000 and above	*$200 per individual*

The deposit is applied to the trip price when the reservation is confirmed. All deposits and payments should be in U.S. dollars.

Payments: Generally, adults and children pay the same price; some exceptions for family outings are noted. You will be billed upon receipt of your application. Full payment of trip fee is due 90 days prior to trip departure. Trips listed in the "International" section require additional payment of $300 per person six months before departure.

Please note that payments are due at the above times, regardless of your leader-approval status. If payment is not received on time, the reservation may be canceled and the deposit forfeited.

No payment (other than the required deposit) is necessary for those waitlisted. The applicant will be billed when placed on the trip.

The trip price does not include travel to and from the roadhead or specialized transportation on some trips (check trip brochure). Hawaii, Alaska, and International trip prices are all exclusive of airfare.

Transportation: Travel to and from the roadhead is your responsibility. To conserve resources, trip members are urged to form carpools on a shared-expense basis or to use public transportation. On North American trips the leader will try to match riders and drivers. On some overseas trips you may be asked to make your travel arrangements through a particular agency.

Infrequently the Sierra Club finds it necessary to cancel trips. The Club's responsibility in such instances is limited in accordance with the Trip Cancellation Policy. Accordingly, the Sierra Club is not responsible for nonrefundable airline or other tickets or payments or any similar penalties that may be incurred as a result of any trip cancellation.

Confirmation: A reservation is held for a trip applicant, if there is space available, when the appropriate deposit has been received by the Outing Department. A written confirmation is sent to the applicant. The reservation is confirmed subject to the leader's approval. If there is no space available when the application is received, the applicant is placed on the waitlist and the deposit is held pending an opening.

When a trip applicant is placed on the waitlist, the applicant should seek immediate leader approval so that in the event of a vacancy the reservation can be confirmed. When a person with a confirmed reservation cancels, the person at the head of the waitlist will automatically be confirmed on the trip, subject to leader approval. The applicant will not be contacted prior to this automatic reservation-confirmation except in the three days before trip departure.

Refunds: You must notify the Outing Department directly during working hours (weekdays 9–5; phone 415-923-5522) of cancellation from either the trip or the waitlist. The amount of the refund is determined by the date that the notice of cancellation by a trip applicant is received at the Outing Department. The refund amount may be applied to an already-confirmed reservation on another trip.

For More Details on Outings

Each outing is described in detail in individual trip brochures. We highly recommend reading a brochure before signing up for a trip. Trips vary in size, cost, and physical stamina and experience required. Don't sign up for the wrong one! Read the brochure, and save yourself the cost and inconvenience of changing or cancelling a reservation. The first three brochures are free. Please enclose 50 cents apiece for extras. Write or phone the trip leader if any further questions remain.

Name_____

Address_____

City_____ State_____ Zip_____

☐ Please send me the following trip brochures. (Order by trip number. The first three are free; extras cost 50 cents each.)

#_____ #_____ #_____

TOTAL ENCLOSED: $_____

Do not mail cash. Make checks payable to Sierra Club.

Clip coupon and mail to: **Sierra Club Outing Department,** 730 Polk St., San Francisco, CA 94109. **#3**

The Cancellation Policy applies to all reservations, regardless of whether or not the leader has notified the applicant of approval.

The Outing Committee regrets that it cannot make exceptions to the Cancellation Policy for any reason, including personal emergencies. Cancellations for medical reasons are often covered by traveler's insurance, and trip applicants will receive a brochure describing this type of coverage. You can also obtain information regarding other plans from your local travel or insurance agent We encourage you to acquire such insurance.

Trip leaders have no authority to grant or promise refunds.

Transfers: For transfers from a confirmed reservation made 14 or more days prior to the trip departure date, a transfer fee of $50 is charged per application. Transfers made 1 to 13 days prior to the trip departure date will be treated as a cancellation, and the Cancellation Policy will apply. No transfer fee is charged if you transfer from a waitlist. A complete transfer of funds from one confirmed reservation to another, already-held, confirmed reservation will be treated as a cancellation, and will be subject to cancellation fees.

Medical precautions: On a few trips a physician's statement of your physical fitness may be needed, and special inoculations may be required for international travel. Check with a physician regarding immunization against tetanus.

Emergency care: In case of accident, illness, or a missing trip member, the Sierra Club, through its leaders, will attempt to provide aid and arrange search and evacuation assistance when the leader determines it is necessary or desirable. Costs of specialized means of evacuation or search (helicopter, etc.) and of medical care beyond first aid are the financial responsibility of the ill or injured person. Since such costs are often great, medical and evacuation insurance is advised, as the Club does not provide this coverage for domestic trips. Participants on international outings are covered by limited medical, accident, and repatriation insurance. Professional medical assistance is not ordinarily available on such trips. Be sure your insurance covers you in the countries involved.

The leader is in charge: At the leader's discretion, a member may be asked to leave the trip if the leader feels the person's further participation may be detrimental to the trip or to the individual.

Please don't bring these: Radios, sound equipment, firearms, and pets are not allowed on trips.

The following obligations are undertaken by trip applicants: to accurately and completely furnish any personal information requested for leader approval; to carefully review all information furnished about the requested trip and to understand as thoroughly as possible the physical and mental demands of the trip and the risks to be encountered on the trip; to properly equip themselves for the trip in accordance with recommendations of the leader and of the Sierra Club; to respect the customs of countries visited, avoid breaking any applicable laws and to refrain from antisocial conduct during the trip; to follow environmental guidelines and regulations while on the trip in accordance with direction from the leader; and, to always respect the rights and privacy of other trip members.

INTERNATIONAL TRIP TIER-PRICING

International outings are tier-priced. This means a trip's price is dependent on the number of participants. Two prices are listed for a trip, showing the signup levels associated with each.

Final billing is based on the signup level at 90 days prior to the trip departure date. If the signup level goes up sufficiently between the billing and departure dates, the lower tier price will apply, and refunds will be issued after the trip is over.

Cancellations from trips where the tier price has changed are subject to our reservation and cancellation policy. All regular cancellation fees will apply.

Time or event of cancellation	Amount forfeited per person	Amount refunded per person
1) Disapproval by leader (once leader approval information has been received by the leader)	None	All amounts paid toward trip price
2) Cancellation from waitlist, or the person has not been confirmed three days prior to trip departure	None	All amounts paid toward trip price
3) Trip canceled by Sierra Club	None	All amounts paid toward trip price
4) Cancellation from confirmed position or confirmed position subject to leader approval		
a) 90 days or more prior to trip departure date	$100 or amount of deposit, whichever is less	All amounts paid toward trip price exceeding forfeited amount
b) 60–89 days prior to trip departure	Amount of deposit	As above
c) 14–59 days prior to trip departure date	20% of trip fee, but no less than the amount of deposit	As above
d) 4–13 days prior to trip departure date if replacement can be obtained from waitlist	30% of trip fee, plus $50 processing fee, but in no event more than 50% of total trip fee	As above
e) 4–13 days prior to trip departure date if replacement cannot be obtained from waitlist (or if there is no waitlist at the time of cancellation processing)	40% of trip fee, plus $50 processing fee, but in no event more than 50% of total trip fee	As above
f) 0–3 days prior to trip departure date	Trip fee	No refund
g) "No-show" at the roadhead, or if participant leaves during trip	Trip fee	No refund

Mail checks and applications (excluding those sent by express mail) to:

Sierra Club Outing Department
Dept. #05618, San Francisco, CA 94139

Mail all other correspondence (including express-mail applications) to:

Sierra Club Outing Department
730 Polk St., San Francisco, CA 94109

Trekker with Nepalese child, Nepal.

"To explore, enjoy, and protect the
wild places of the Earth;
to practice and promote the responsible use of the
Earth's ecosystems and resources;
to educate and enlist humanity to protect and restore the
quality of the natural and human environment;
and to use all lawful means to carry out these objectives."

—Sierra Club statement of purpose

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OUR PLANET, OUR SELVES

One of the most fascinating challenges to the environmental movement today is to understand the dissonance between people's stated environmental beliefs and attitudes, as reflected in various polls, and their behavior. The assumption that changes in values, attitudes, and information will lead to appropriate behaviors simply, and sadly, cannot be demonstrated as fact.

Theodore Roszak's call for an ecological conception of sanity ("Beyond the Reality Principle," March/April) is an important step toward understanding how to reduce that dissonance, and how to create and sustain ecologically sane behaviors on the part of individuals and institutions. We can all hope that the ideas will go beyond the pages of environmental journals such as *Sierra*, to become a matter of discussion, debate, and, over time, acceptance by psychologists and others who study human behavior.

Stephen Viederman
New York, New York

Cosmologists have taught us that there is no separation between the atoms of our bodies and those of the earth. The cycles of nature—carbon, nitrogen, air, water, etc.—circulate through us as well as everything around us. With this understanding, the earth can be seen as our larger body. The key is that we are not separate from nature. Our ignorance and alienation have permitted an unprecedented trashing, poisoning, and exploiting. I would hope that we could care for our earthly habitat just as we need to care for our own bodies.

One problem, which psychology can help with, is humans' lack of understanding of projection. Our actions in the outer realm are a reflection of our inner selves. The trouble is, people are unconscious of the motives for their actions. Thus, the need to control or dominate in order to feel "secure," to buy things to alleviate stress, and to put oneself before others (and certainly before animals, insects, and plants) has disastrous consequences for the earth and its inhabitants. If people were more psychologically conscious of their fears, they could respond to them without brutalizing the earth in the process.

Valerie Harms
Weston, Connecticut

Before we throw out Freud altogether, we may want to consider the difficulty of explaining the behavior of a species (ours) that has created the means for its own sudden extinction (through nuclear annihilation), or its somewhat slower death march toward overpopulation, resource depletion, and toxic contamination of its habitat.

Human greed, irrationality, and denial are facts about which Freud often grieved. As should we, I'm afraid. Finding ways back to our biospheric nature will require confronting the reasons why we buried our spontaneous loyalty to the planet in the first place.

Deborah Du Nann Winter
Department of Psychology
Whitman College
Walla Walla, Washington

By conceiving of the "oceanic feeling" as an instance of infantile regression, Freud failed to take seriously the possibility that a wide sense of identification with nature is a sign of personal maturity and sanity. Much human suffering may be explained by the fact that people are feeling the pain of the living planet now so much at risk. As Joanna Macy has suggested, we need to experience our despair and anxiety about the possible death of the planet, so that we will be free to take the steps needed to help all life flourish.

Michael E. Zimmerman, Chair
Department of Philosophy
Tulane University
New Orleans, Louisiana

Roszak's attitude toward our 30 million or so planetmates and their environmental-maintaining behavior is far healthier than that of so many solipsistic and arrogant "professionals" who practice psychology and psychoanalysis as if the earth were made for man and the environment didn't exist. People are not superior to, conscious of, or in any way separate from the gaian ecosystem of the earth's surface. We people are not "the only intelligent species" or "God's gift to the world"—we are just endlessly talkative. Like all organisms embedded in the atmosphere and surface waters of the world, we are part of the living gaian body, not some special "cognitive" species that has been "given the gift of life." As rapidly growing populations of bipeds, we are on at least as straight-line a course for extinction as any other mammal. Indeed, our environmentally manipulative behavior may augur strongly for an accelerated rate of species demise.

The overwhelming problem Roszak faces, as I see it, is how to compensate for a century of ignorant, environmentally blind practices among members of his "thought collective," those in the "field" of psychology. Let us begin with the most insidious of the academic practices, one for which *Sierra* magnificently attempts to compensate. A budding psychology major never understands the extent to which the only productive organisms are photosynthetic. As a psychology student, she is not compelled to study any paleontology, human evolution, environmental science, or biology. Without the study of microbiology or atmospheric chemistry, how can we ask such a psychology professional, even if brilliant, to understand the extent to which he is part of the body of gaia? We in academia therefore share Roszak's problem, and must open the doors to genuine education about the earth.

Lynn Margulis
Biology Department
University of Massachusetts
Amherst, Massachusetts

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Theodore Roszak replies: *I of course agree with Lynn Margulis—the co-developer, with James E. Lovelock, of the Gaia hypothesis—that aspiring ecopsychologists need a solid grounding in the sciences. Perhaps she would agree that aspiring scientists might do well to read Abraham Maslow's wise little study* The Psychology of Science*—just to keep them humble and humane, and to head off any incipient Frankensteinian tendencies. It is not only psychologists, after all, who have behaved "as if the earth were made for man."*

But surely the ecopsychological curriculum should not stop at the hard sciences. There is a great deal to be learned from history and anthropology, including the astonishing way in which our prescientific ancestors managed to achieve "environment-maintaining behavior" and a deep respect for the Gaian unities without the aid of a single biochemical formula. And I would include the arts and poetry in the training of both ecopsychologists and microbiologists. Speaking for myself as neither psychotherapist nor biologist, I know it was the likes of Wordsworth and Constable, Robinson Jeffers and Georgia O'Keeffe, Ansel Adams and Black Elk who prepared the way for Margulis and Lovelock.

As the hard sciences have discovered, pure objectivity is impossible. This "fact" brings into question our whole dualistic perception of reality. In/out, good/bad, us/them, subject/object dualities begin to blur into systemic nonlinear continuums. (This is reflected in the current mindbody movement.) As questions such as "where do I stop and nature start?" become unanswerable, the invisible distinctions become irrelevant.

It's time to bring in the poets, dancers, painters, and therapists to give shape and expression to what Roszak calls the ecological unconscious. This expression is the heartbeat of Gaia, which is the rhythm at the source and the heart that beats back in the center of the circle.

Lisa M. Lynch
Edmonds, Washington

"Beyond the Reality Principle" is a load of asinine garbage. Preserve us from "global therapy groups," ecofeminists, Deep Ecologists, and people who experience "the soul of the planet Earth"! Roszak and his ilk should join other California astrologers and spiritualists in hymns to Gaia (taking the theory far beyond the scientific hypothesis advanced by Lovelock and Margulis), and leave the real work of preserving the biosphere to people who practice the Reality Principle.

William S. Kamin
Menlo Park, California

Roszak's move appears to be the linkage of a vague deep ecology to the psychiatric and clinical psychology enterprise, or even more narrowly to the vestiges of psychoanalytic thought within the restless world of therapy. But it is too limited a view of what ecopsychology must be to lead to a true healing of our human relationship with nature.

Transformation must be an everyday practice, and it must take place in a con-

tinuing, supportive context, to nurture a participant through the very painful stages of genuine transformation. One doesn't need the wilderness for such transformation—though wilderness is perhaps the most efficient, most complete, and certainly (for many of us) most delightful context for such work. But meditative processes—any that do not reinforce the cultural habit of separating things to the point of disjunction—can begin the healing processes. We breathe, we swallow, blink our eyes, digest our food—all pure "natural acts," processes we can bring back into consciousness in our backyards or living rooms.

Healing, to be any more than a local class privilege, must be planetary. Healing of America's psyche, by incorporating some natural experiences into it, won't work for the planet unless we are "going deep enough" to heal the Western penchant for dominance, penetration, and exploitation. Only then can true communion and balance once again emerge.

Robert Greenway
Port Townsend, Washington

The great thing about most people involved in the pursuit of psychological understanding is that they are open to change and growth. And environmentalism can benefit tremendously from the skills and understanding of the therapeutic community. Those who pursue therapy gain all kinds of skills—from the more mundane, such as running a more efficient meeting or listening and communicating well, to the more subtle achievements, such as learning how we project blame that is really our own, or get lost in our anger and thus never really effect change.

Of course, it is no real surprise that the two need each other; it is only surprising that this dialogue is just beginning now.

Elizabeth Lesser, Cofounder
Omega Institute
Rhinebeck, New York

We suspect that initially the ecology-psychology alliance will be fraught with suspicion and hostility. We are invading each other's turfs and, unfortunately, we live in a society in which professional identity is based on separation and competition, not cooperation and cross-fertilization. But this unecological way of thinking is part of the very problem that ecopsychology seeks to rectify. So let the dialogue begin!

Allen D. Kanner, Assistant Professor
Stanford University Medical School
Stanford, California
Mary E. Gomes, Assistant Professor
Mills College
Oakland, California

RED AND GREEN

Margaret Knox ("Their Mother's Keepers," March/April) needs to spend time in the Black Hills. Stripmining does not and did not occur in the Hills, and clearcutting has not been a practice. Deep hardrock mining was historically used, and very little hydraulic mining or stream dredging was tried because of the geology, hydrology, and geomorphology of the area.

As for the Indian reservation problems and environmental concerns within the boundaries of all reservations: modern-day aboriginal Indians may need to leave the reservation and socially blend with other cultures; returning to their cultural rites and ties at spring breaks, vacations, and holidays. Thus, the reservations could be more protected and managed for the true ancestral cultural ways.

W. Kenneth Lee
Spearfish, South Dakota

Margaret Knox replies: *Sierra Club issue experts in the region believe that what I took to be widespread patch clearcuts on my visit to the Black Hills are more likely relatively small cuts (usually less than five acres) designed to improve wildlife habitat or encourage aspen regeneration. They agree with me, however, that much of the damage visited upon the Hills is caused by logging roads: the Black Hills are crisscrossed with more than three miles of logging road per square mile. To the outrage of the timber industry, the Club's Dacotah Chapter this year proposed a revised U.S. forest plan that would*

Continued on page 99

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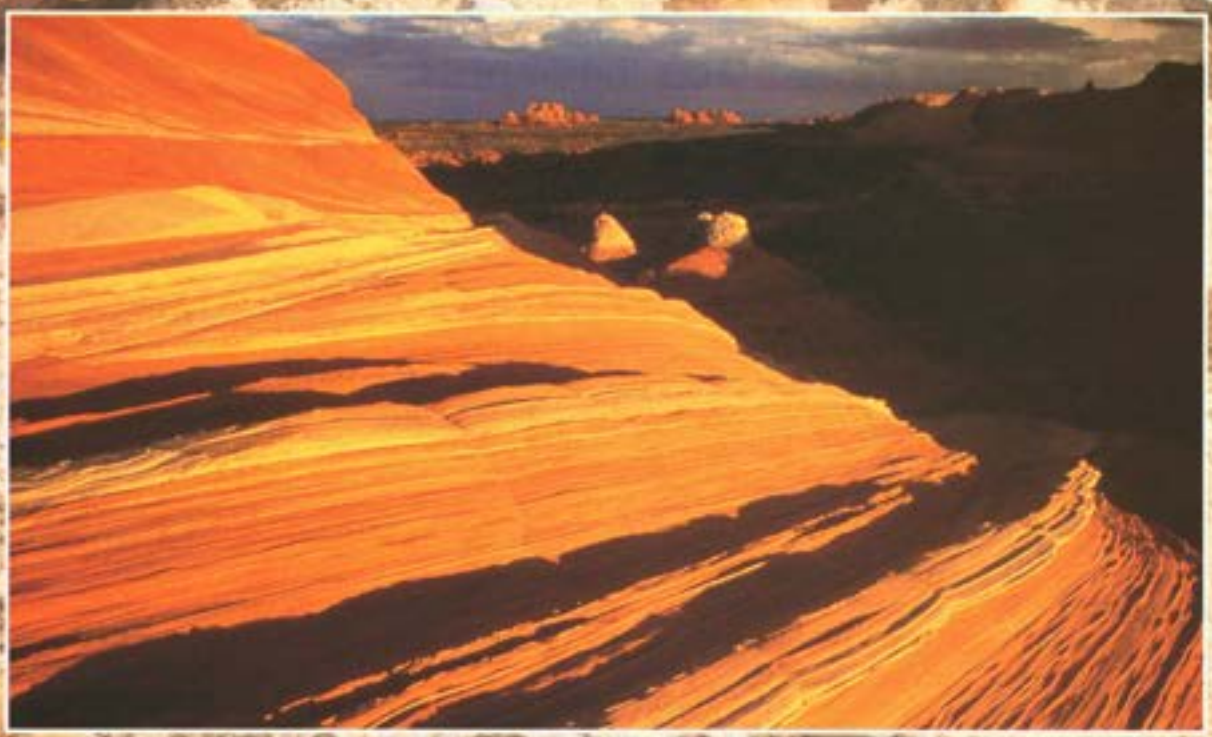

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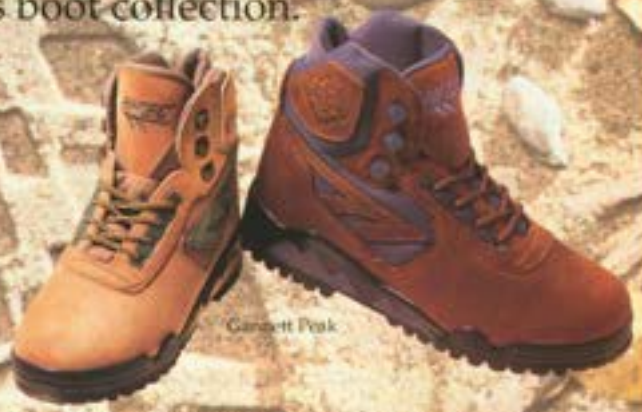

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The Reluctant Activist

"I want to speak for the wilderness idea as something that has helped form our character and that has certainly shaped our history as a people," Wallace Stegner wrote 33 years ago. "Something will have gone out of us as a people if we ever let the remaining wilderness be destroyed."

These words were addressed to David Pesonen of the University of California's Wildlands Research Center, who was helping to conduct a national wilderness inventory for President Eisenhower's Outdoor Recreation Resources Review Commission. Stegner did not think his message particularly remarkable at the time, much less foresee that, despite its distinctly American references, the "wilderness letter" would gain renown among conservationists worldwide, appearing on posters throughout Africa, Australia, and Canada as well as the United States.

As the then-51-year-old novelist explained, his deep respect for wilderness was nurtured on the plains of Saskatchewan, where his family's nearest neighbor was four miles away. "The sky in that country came clear down to the ground on every side," he wrote to Pesoñen, "and it was full of great weathers, and clouds, and winds, and hawks."

Stegner—who died in April at age 84 of injuries sustained in an auto accident—believed it important to advocate wilderness preservation; to this end, he served on the Sierra Club Board of Directors from 1964 to 1966. His association with the organization spanned nearly 40 years, during which time he came to be recognized as one of the brightest lights in the Club's constellation of leaders. Yet he considered his first calling to be not environmental activism per se, but the writing of novels, essays, and histories.

His early, semi-autobiographical novel, *The Big Rock Candy Mountain* (1943), expressed the dim view he held of those who exploit the West in their pursuit of elusive dreams of grandeur. Stegner played the role of gadfly, always prying under the veneer of the West's mythic "self-sufficiency," and aligning himself with those who are the "declared enemies of their society." This, he felt, placed him in good company, since hardly a serious U.S. novelist during the past century "did not repudiate in part or in whole American technological culture for its commercialism, its vulgarity, and the way in which it has dirtied a clean continent and a clean dream."

Such novels as *Angle of Repose* (1971), *The Spectator Bird* (1976), and *Crossing to Safety* (1987) earned Stegner many accolades, including the Pulitzer prize and the National Book Award, and helped establish him as one of the most important writers of the American West. Stegner did not think his fiction made for very good politics, nor did he particularly want it to. He admitted as much in 1982 to the Sierra Club History Committee's Ann Lage, who interviewed him at his home in Los Altos Hills, California, for the Club's Oral History Project (a program carried out by U.C. Berkeley's Regional Oral History Office). "I keep steering away from advocacy," Stegner told Lage. "I try not to make literature into propaganda." He conceded, though, that propaganda is a necessary evil—"somebody has to do it." And so each year, usually after some arm-twisting by the likes of the Sierra Club's then-executive director, David Brower, and much griping to himself, he resolved to write two or three articles for the *Sierra Club Bulletin* (this magazine's predecessor) and other publications, to advance conservation goals, particularly the preservation of wildlands in the West.

Resolute awareness and African daisies—ways to remember Wallace Stegner.

"We need to remind ourselves constantly," he wrote in these pages in 1989, "that like liberty, democracy, all the freedoms guaranteed by the Constitution, like everything we truly value to the point where we might die for it, the heritage of our public lands is not a fact but a responsibility, an obligation, a task. A pleasure."

But while Stegner never felt entirely comfortable as an activist, he much admired photographer and fellow Sierra Club Board member Ansel Adams for his effortless ability to marry art with advocacy: "You can't look at one of his pictures without having conservationist eloquence pour over you. . . . He gives you the moon and Half Dome, and you have to protect it." Adams, in return, perceived that Stegner's profound influence in both literary and conservation circles stemmed from "his resolute awareness of the world around him."

Stegner had taken up conservation causes well before he wrote his famous wilderness letter. As early as 1953, his friend Bernard DeVoto, the editor of *Harper's Magazine*, persuaded him to write an article about threats to the nation's public lands. The next year Stegner published *Beyond the Hundredth Meridian*, a biography of Colorado River explorer John Wesley Powell. The book impressed David Brower, who convinced Stegner to edit a volume about Dinosaur National Monu-

ment, then in danger of being flooded behind proposed dams on the Green River. The resulting work, *This Is Dinosaur,* helped in the long fight to keep the river flowing freely.

Stegner's biggest plunge into conservation work came in 1961. The new Interior Secretary, Stewart Udall, read the Powell biography and liked it so much that he invited the author to Washington to work for him. Stegner agreed to spend three months there, primarily to help Udall research and prepare an outline for a book on the state of the environment. This resulted in *The Quiet Crisis,* published in 1963.

When the job ended in 1962, Udall appointed Stegner to the National Parks Advisory Board, which led to a tour of Alaska as an advisor to the secretary on public-lands issues affecting the state. Then, in 1964, he was elected to a three-year term on the Club's Board of Directors—"a mistake," said Stegner later, because he didn't lead the kind of life that allowed him to attend meetings. Travel, writing, and teaching demanded too much of his time.

Despite his short tenure on the Board, Stegner's influence on the Club was profound. "Wally Stegner captured the possibilities and spirit of the American West," says Sierra Club Vice-President Edgar Wayburn, his long-time friend and associate. "He understood what it could be." Wayburn recalls that Stegner and his wife, Mary, once visited his home in Bolinas, California, bringing with them a bunch of African daisies. Planted, the flowers soon spread out over a wide expanse of the garden. "This reminds me so much of Wally's life," Wayburn says. "He would plant a thought or a piece of writing; it would take root and spread and affect many people in many places, and add to their lives."

Though at times saddened by the signs of environmental decay he witnessed around him, Stegner remained optimistic about the fate of the West. The mere idea of wilderness sustained him, "for it can be a means of reassuring ourselves of our sanity as creatures, a part of the geography of hope."

—Mark Mardon

WAYS & MEANS

Two Routes Diverge

CARL POPE

Of all modern social movements, environmentalism is the most science-driven. It was scientists who detected the thinning of the ozone layer and who discovered that DDT was wiping out songbirds and asbestos killing shipyard workers. Yet the historic symbiosis between science and environmentalism is threatened by a schism within the scientific community. At issue is nature's worth: is it valuable in and of itself, or only in its ability to serve human needs?

Scientists in the latter camp are given voice on the editorial page of *Science*, the weekly journal of the American Academy for the Advancement of Science. From this prestigious pulpit, editor Daniel Koshland and deputy editor Phillip Abelson conduct a periodic revival meeting to save the soul of science. The perceived threat is not, as one might expect, religious fundamentalism or scientific illiteracy. No, the devil denounced most often is irrational environmentalism.

Koshland and Abelson regularly bash environmentalists as panderers to a naive public desire to be protected from risk, and as advocates of "illogical alternatives" driven by "emotionalism and indignation." They are not alone. Hundreds of prominent scientists have endorsed a declaration stating that environmentalism is impeding efforts to advance technology and improve living standards.

The scientists on the nature-for-humans side of the split are convinced of science's ability to control the results of its manipulations. They are scornful of almost anything that can be considered a component of the prescientific world, into which nature is generally cast. They want not just to understand, but to alter and control. In Koshland's words, "It is the nature of scientists to advocate change more than most people do."

When it comes to hubris and humility, the data are clear

The other side of the schism is represented by President Clinton's new science advisor, Jack Gibbons. Formerly head of the Office of Technology Assessment, Gibbons speaks for those scientists who are proud of their role in prompting public concern over environmental issues. He is joined by a wide variety of colleagues, many of them Nobel laureates, who have spoken out on the need to preserve biological diversity, to stabilize human population growth, to promote sustainable development, and to take early action to forestall global warming.

The scientists on this side of the divide argue that nature is too complex and too precious to be regarded as simply an endless source of raw material for technological experimentation. They are skeptical of unlimited scientific meddling, recognizing that well-intentioned work has often had disastrous consequences.

Within this rupture there is a broader, sobering lesson about human pride. Science's history of rational inquiry and careful observation is what has linked it to environmentalism. But what does it mean if the scientific elite can be so badly split over the place of humanity in nature? How reliable can other elites—corporate, political, religious, or academic—be as trustees of our planet? The higher people rise in power, it seems, the more certain they are of their own wisdom—and the less willing to accept the lessons of history and the limitations of the natural world. ■

These Green Streets

MARC LECARD

Imagine a city where the saplings outnumber the citizens, where you can't see the buildings for the trees; a cool, shady metropolis where the cliché "urban jungle" has taken on an entirely new meaning. Typical tree-hugger fantasy? Perhaps. But it might also be wise city planning.

The phrase "urban forest" sounds like an oxymoron. Cities grow asphalt, not trees; they're concrete farms, auto zoos, forests only of skyscrapers and power poles.

But the trees that do manage to grow in cities are more than a reminder of real forests elsewhere. Consider this: one city tree will soak up an estimated 13 tons of carbon dioxide (the main culprit in global warming) a year—169 tons over its average 13-year lifetime. (Because of the stress and strain of their environment, urban trees don't live as long as their rural relations.) Given the number of street trees in U.S. cities—New York City has more than 600,000—it's clear that curbside trees can be as important to the global atmosphere as their country cousins.

And their leaves cool more than overheated urbanites. The bare brick, asphalt, and concrete of many city spaces give rise to something called the "heat-island effect," a temperature increase that occurs in artificial, unshaded areas. Buildings and pavement not only absorb heat, raising daytime temperatures, but hold on to it and continue to warm the air after sundown. According to *Growing Greener Cities* by Gary Moll and Stanley Young (Living Planet Press, Los Angeles, 1992) cities are 5 to 9 degrees warmer than surrounding rural areas. An "adequate canopy" of trees, say Moll and Young, can keep things cooler, making city temperatures closer to those in the surrounding countryside, which means less energy expended on air-conditioning, less fossil fuel used to generate electricity, and, ultimately, reduced emission of greenhouse gases. According to EPA studies, 3 to 8 percent of the electricity cities use in summer goes to compensate for heat-island effect. (And while trees keep buildings cooler and more efficient in the summer, they have the added advantage of moderating the wind-chill factor by blocking the cold gusts of the winter season.)

Something you will never see: a CO_2-eater shadier than a tree

Cooling concrete isn't the only work done by curbside trees. Their root systems help reduce runoff water—which in cities tends to be polluted with motor oil and other toxics. Their leaves absorb particulates floating in the air

and help combat smog by soaking up hydrocarbons.

The psychic benefits of the urban forest may be hard to quantify, but the pleasure derived from masses of leafage softening an otherwise harsh and barren cityscape is an important part of what trees add to quality of life. It's as if trees soaked up fears and anxieties as well as smog and CO_2.

In spite of their many contributions, the number of city trees is declining. Over the past ten years or so, municipalities have been cutting back on "amenities" like tree planting and maintenance; this, combined with the shorter arboreal lifespan in built-up areas, has meant that urban trees have been disappearing faster than they are being replaced. Global Releaf, a project of American Forests, took a national inventory and, according to vice-president for urban forestry Gary Moll, found that "between 1975 and '85 we lost four trees for every one planted."

Given what's at stake, an increasing number of concerned citizens have begun devoting themselves to keeping the urban forest in leaf. There are several national urban forestry organizations that cooperate with federal, state, and local governments, businesses, and nonprofit and volunteer groups to educate people on the importance of city trees and to help plant and maintain urban greenery. "You need people with different skills, activists as well as treeplanters," says Moll. "Cities need to be reminded that trees are part of the urban infrastructure."

If you'd like to install your own curbside foliage system, contact your local urban forest group; they can tell you which trees are best for your area and give planting advice. If there is no such group in your neck of the woods, get in touch with one of the national organizations—they'll advise you on how to set up a hometown branch. ■

► *For more information, see "Resources," p. 104.*

HAND & EYE

Now and Then

■

HANNAH HINCHMAN

This is the place where Paul, the head naturalist, stopped our third-grade class. "Listen," I remember him saying 30 years ago. "Do you hear that sound?" At first I didn't, but then I tuned in to a muffled plunking. "That's water you can't see," said Paul, "moving under the snow and ice."

This upland forest trail is where, at age 11, I craned my neck to look up into the crowns of tulip poplar and beech trees, scrabbling through my first Peterson's field guide, searching out the warblers that spiraled off every twig like atomic particles.

This remnant prairie is where, at age 17, I opened my first journal to note the names and try to draw the yarrow, the bouncing bet, the yellow prairie coneflower. And also on that page: "Remember the goldfinch's nest. Remember the masses of chicory. Remember the flicker who died in your hand." And here is the creek where I walked with my first real sweetheart, after sunset, toward the enormous sycamore beneath which we kissed.

In this swale, on what I had hoped would be an all-night moonlit prowl, I met "the opossum who wouldn't give ground." The animal appeared to challenge me (now I think it was probably just baffled), and I backed down. A few minutes later something caught a rabbit nearby. The doomed prey's scream seemed to sum up the terror of night for a solitary creature. I listened, and in my adolescent mind heard all the small-animal deaths ever died in Earth's entire history.

For a kid living in a bleak new subdivision, my first meetings with Aullwood Audubon Center had the character of an origin myth. The shapes and names of the birds at Aullwood injected themselves whole and immediate into my memory circuits, underused until then. It was here I first felt an almost physical joy in learning. Fox tracks? Owl pellets? I knew about foxes and owls from our books at home, but even in third grade felt them to be from some time and place that no longer existed. Yet in this world, they still moved. Elk and puma lived here not that long ago, despite their omission from the Ohio history we were fed in elementary school. I began to question the accepted stories, and then to question everything.

The trail enters the "wet woods," sodden with small springs everywhere. Part of the ritual is to break off a twig of spice bush, strip its bark, and chew on it—a lemony taste that embodies the way the gray sky gleams on the sheets of invisibly moving water. Here is where I first drew a skunk cabbage, in 1971. The herb is still everywhere, emerging from the pools, buckling the leaf litter. This year their blunt, fleshy spathes look impressively sexy. I'm also pleased by their folded shapes, strange carrion-colored flames. While I draw them, an air current enters the woods bearing a wet, cold-field smell, reminding me that in about three hours woodcocks will be arriving on their mating-dance grounds.

A return to Aullwood is less an oc-

■

A journey back, and a remembrance of things that last

casion for nostalgia than a nod to all that has taken root and blossomed in the intervening years. My feelings verge on reverential, because now I see so many small events that happened here as "life-history divides" determining all future paths. The pen needed in the hand then, to try to keep up with an avalanche of new knowledge, translates into the pen in the hand now, still equally needed. The woodcock I heard as a child kept that child intact, and she returns to the fields tonight.

Aullwood itself has matured from the recently abandoned farm it was when I first saw it. Fields are full of young trees, skeletons of dead elms have fallen and dissolved. But nothing like that affects its significance; a spiritual map is superimposed on it, marked with the sites and times of some kind of awakening. When I re-experience what took place here, it's a conscious act of renewal that has the muscular force of a skunk cabbage displacing decaying leaves.

Paul is still here, now a limber man in his middle fifties. We walk together today; I don't think he is aware that for me every step is an aspect of pilgrimage, every familiar bend in the trail a shrine. We are looking for spotted salamander spermatophores in a vernal pool. It's too early for salamanders, but Paul stands up and scans the aconite-covered woodland around the pool. His voice is still as enthusiastically unmodulated as a teenager's when he says, "Think of them, wriggling down all these slopes at night to reach this particular pool, from who knows how far away." ■

BODY POLITICS

Seeping Problems

MICHAEL CASTLEMAN

Long before the invention of cigarettes, a 16th-century Swiss physician made note of a strange and fatal respiratory illness among miners in Eastern Europe, a condition he called pulmonary consumption. Over the ensuing generations "miner's disease" or "mountain sickness" became widely documented. Today we know it as lung cancer.

Until relatively recently, lung cancer was rarely caused by smoking. It typically developed after long-term exposure to radon, a colorless, odorless, radioactive gas that percolates out of the earth and collects in mines, cellars, and other subterranean places. Today, of the nation's 150,000 lung-cancer deaths each year, public-health authorities estimate that almost 10 percent are caused by exposure to radon.

Radon, a natural decay product of uranium, emits radioactive particles. When inhaled, these particles damage the DNA of lung tissue, sometimes causing cancer. Uranium is ubiquitous in Earth's crust; therefore, so is radon. But local concentrations of radon vary enormously, with "hot spots" occurring in such places as the Midwest and Northern Plains, among many others. The EPA estimates that approximately 6 percent of U.S. homes have radon measurements above the agency's suggested maximum. In at least 17 states, the number rises to 20 percent or more.

Prophylaxis for the subterranean sick-home blues

Scientists say that 75 percent of the radon that escapes from the earth comes from the top three to seven feet of soil. When it finds its way into outdoor air, it dissipates and the hazard is negligible. When it dissolves in groundwater, only a small proportion is released, and the risk is small (unless the radon concentration is extremely high). But when radon seeps into homes, it may collect in below-ground or ground-floor areas, usually in the basement. Breathing air in a house with a high concentration of radon increases the risk of lung cancer, especially for smokers.

The concentration of radon in a building depends on the size and depth of the basement (although basementless homes in some areas can still have high levels); wall construction (cinder-block walls are more porous than concrete, allowing more seepage); floor integrity (a cracked floor slab invites radon in); and ventilation (more air-

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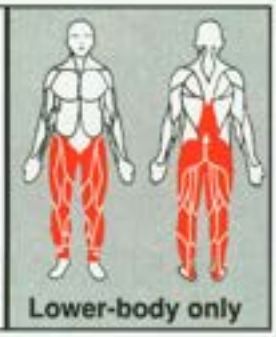

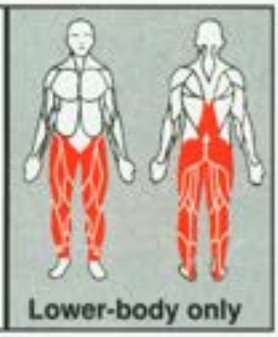

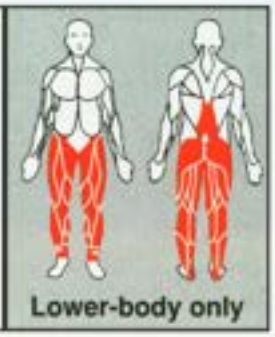

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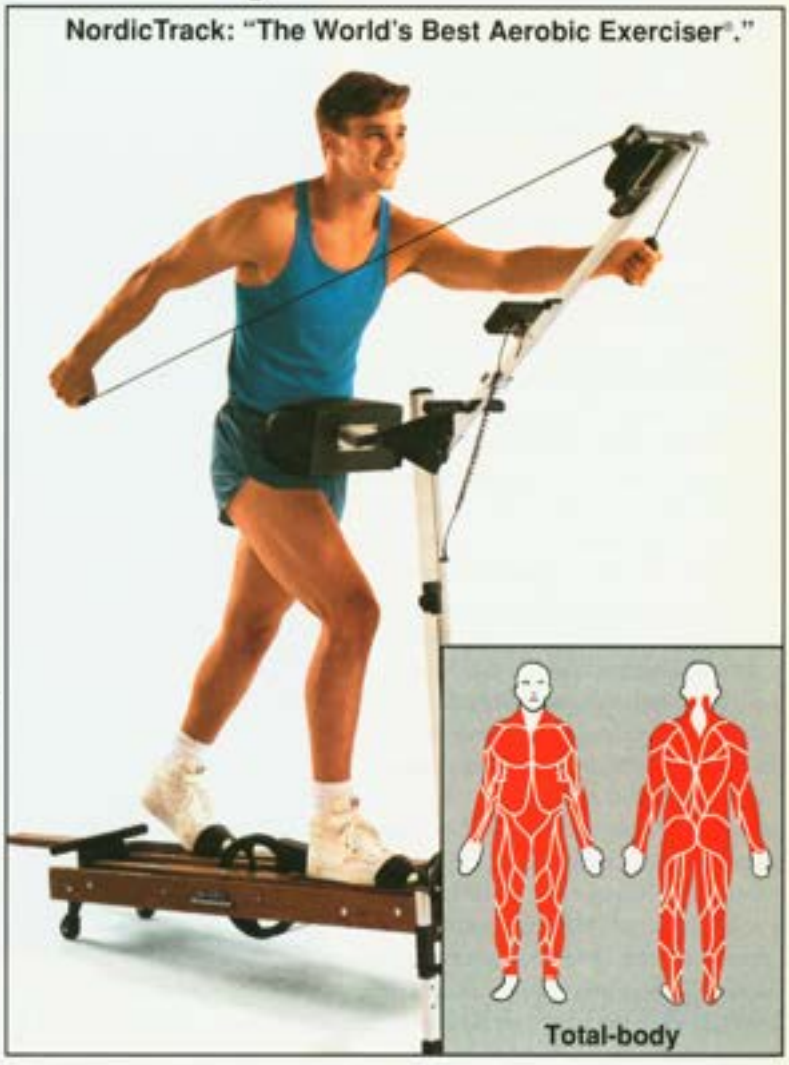

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flow in basements and crawl spaces means less accumulation).

The only way to determine your risk is to test your home and workplace. Home radon tests are available at hardware stores and home-improvement centers, or you can obtain one with the help of your state department of environmental protection. Two tests are available—short-term and long-term—and they each cost about $25, which includes lab analysis, a report, and recommendations for dealing with any problem. Start with the short-term test, which takes a few weeks. Place the test canister in the lowest part of your home or worksite: the basement, garage, or ground floor. If you get a high reading, place a long-term test device in the rooms where you and your family spend the most time. This test takes several months.

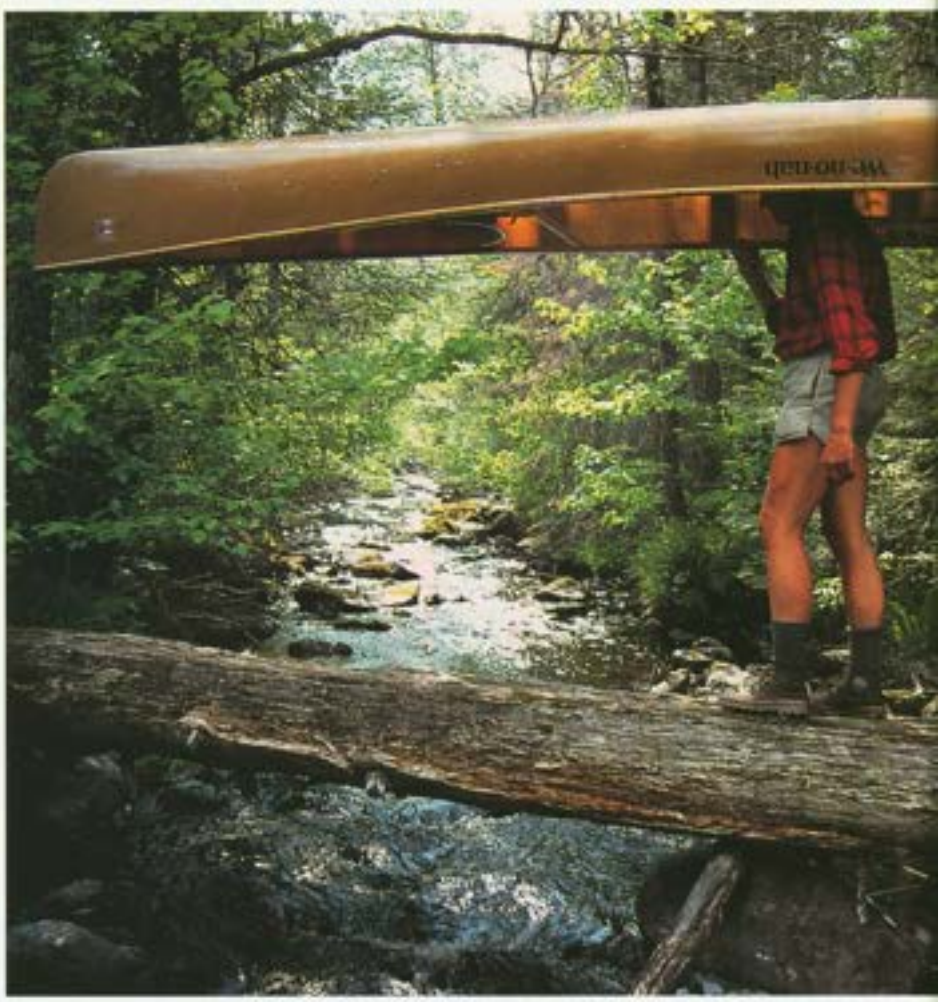
Some areas now require radon testing before a home can be sold. But beware—in 1992, a congressional committee was told that up to 40 percent of all such tests are fudged. Investigators have caught home sellers and their agents covering test devices with cellophane and placing them in locations near open windows, or even outdoors. If you buy a home in an area with a radon problem, retest after you move in.

If you find a significant radon hazard, the problem can often be corrected by sealing basement walls and floors and by improving subterranean and ground-floor ventilation with fans or other devices. Radon-mitigation work rarely costs more than $1,000 per home.

Unfortunately, few homeowners are taking these potentially lifesaving steps; EPA surveys show that only 8 or 9 percent of us have even tested our homes. To do so costs less than dinner and a movie—no matter where you live, put it on your shopping list. ■

► *For more information, see "Resources," p. 104.*

GOOD GOING



The Portage

GREG BREINING

When I learned to paddle canoe country as a Boy Scout, I was taught two important rules. First, when landing, step out of the canoe before you reach shore so that the hull never touches rock. Second, when it comes time to carry the boat (as happens when the water doesn't flow where you want to go), make the portage in a single trip.

Today the first rule is moot. We land alongside a dense mat of floating bog that quivers as the canoe touches it. Jason and I hop out, trying to step on the scattered logs and small rocks that previous canoeists have tossed onto the landing to form a crude corduroy. Despite our efforts, muck oozes up around our ankles.

No trouble with the second rule either. Jason lifts the bigger pack from the canoe, swings it onto his shoulders, and lurches from log to rock to log across the bog to wait for me on higher

ground. I toss the smaller pack onto my back, fasten our two paddles and the spare into the stern, and flip the canoe onto my shoulders. (We learned long ago that it was easier for me to carry the canoe alone.) With more than 100 pounds balanced on my back, I trace Jason's drunken steps, the mud sucking at my feet.

Soon we reach solid ground, a narrow but well-worn trail winding through birch and spruce, over gnarly roots and rocky outcrops. At first the pack and canoe yank at my shoulders, moving to different beats, but soon I hit my rhythm and the load rests easier. Now we make time.

We're traveling through the Boundary Waters Canoe Area Wilderness, a federally protected region extending along Minnesota's northeastern border. The BWCA, which has more visitors than any other wilderness area in the nation, encompasses a million acres; its 1,500 lakes range from potholes to miles-wide basins filled with islands. The water is stitched together by a network of hundreds of portages, creating some 1,200 miles of canoe routes.

For all its wild and lonely beauty, the Boundary Waters has a long history of human use. Ojibwa Indians occupied this country for hundreds of years, traversing these same lakes by birchbark canoe, wearing down these same portage trails. Two hundred years ago, French-Canadian voyageurs traveled these waters in 25-foot *canots du nord*, starting their trip from Lake Superior with the Grand Portage, a nine-mile trail that climbs 800 feet into the heart of canoe country. Each man carried at least two bales of trade goods weighing nearly 100 pounds apiece. Not surprisingly, a common injury and occasional cause of death was strangulated hernia.

Getting to know the North Country, step by step

Jason and I will be spared such a fate. Since parking the car six hours ago we've traveled about 15 miles by water and run a dozen portages. The shortest was a mere 90 yards, bypassing a steep creek that runs through a jumble of rocks between two lakes. The longest stretched nearly a mile, and climbed the edge of a rocky knob before dropping into a muddy hollow and emerging on the shore of Wagosh Lake. This last portage will put us at our destination on Crooked Lake, right along the Canadian border, with plenty of time to set up camp and spend the evening fishing.

Jason is laconic and amiable—easy company on these week-long treks. We trade stories as we fish or sit around camp, but we don't say much on the trail. We each settle into our own pace, with our own thoughts. Partly this is our style, but under these circumstances conversation isn't easy anyway. The inverted canoe covers my head; the only sounds I hear are my own heavy breathing, the thud of my boots on the hard trail, and the scratch of branches as low-hanging trees scrape the hull. To be heard, Jason and I would need to shout at one another, which is not only out of character for us, but a lot of work.

The views from the trail aren't much—not nearly as good as those from an upright canoe surrounded by a sapphire lake. But I'm in no position to appreciate broad vistas, even if this dense forest offered them. I walk in perpetual Kevlar shadow, my scenery consisting of old spider webs around the front seat of the canoe, and the mud from our feet, stuck to the bottom of the hull. If I lift the bow a bit, I can see the heels of Jason's boots on the trail. But mainly I look down, dodging a root, walking lightly around a mud hole in the middle of the trail. Sweat trickles down my neck, and mosquitoes drill my face as if they know my hands are preoccupied grasping the gunwales of the canoe.

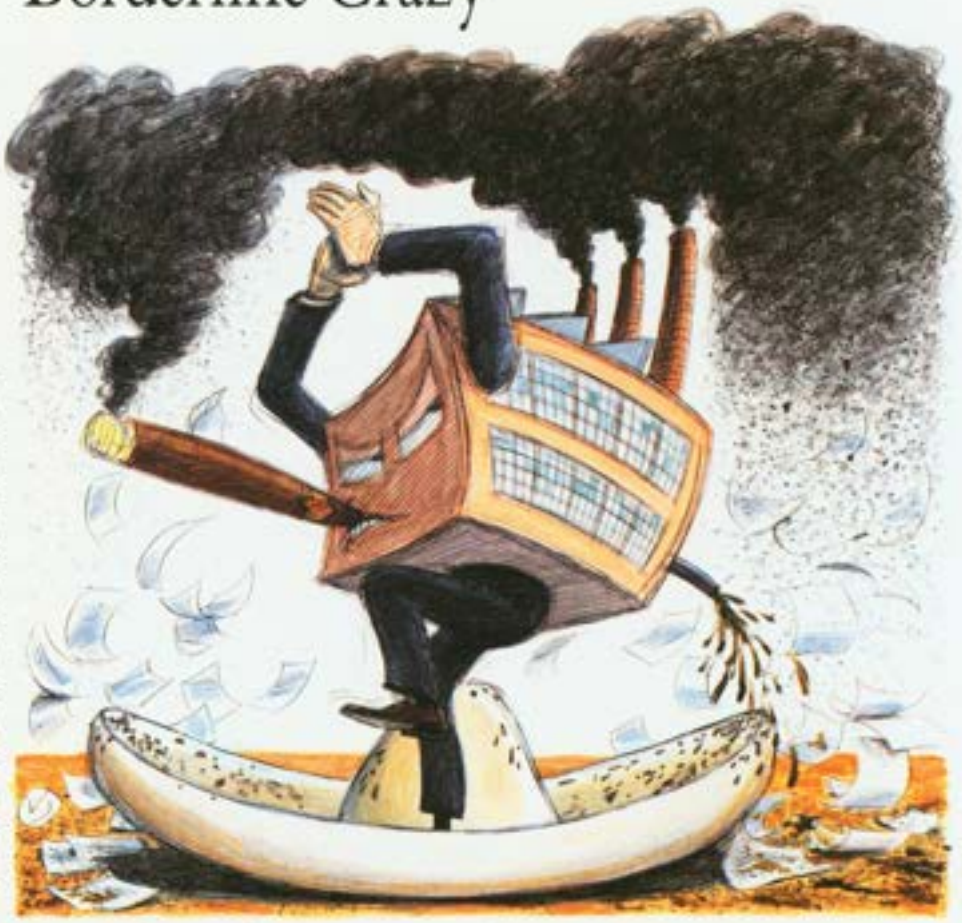
You'd think we'd avoid these portages, but when we lay out a map of the Boundary Waters to plan our trips, we seek out the red lines that squirm between the blue patches. We compose our route to give us an interplay of paddling and portaging, for truth to tell I like the act of portaging, the deliberate routine, the feeling of the pack and canoe merging with my gait. It's as right and harmonious as a solid hit on the sweet spot of the bat. And I like these portages because no one else does. To find less-traveled country is the reason I come to the wilderness.

As the trail winds downward, I lift the bow of the canoe and see the end of pain: the bright patch of blue shining between the black silhouettes of trees. Jason stands on shore as I step ankle-deep into the lake, swing the canoe carefully to avoid trees and rocks, and set it lightly down. We load the packs, climb aboard, and put the paddles quickly to the water. Just a half-mile away, a campsite sits on a rocky point overlooking a big bay of Crooked Lake. Every time so far, it's been empty and waiting for us. ■

► *For more information, see "Resources," p. 104.*

Edited by Reed McManus

Borderline Crazy



Teetering above the toxic sludge pits and open sewers of the U.S./Mexican border, Bill Clinton faces the trickiest balancing act of his high-wire presidency. Believing it will help the economy, Clinton fervently supports free trade with Mexico, an enthusiasm shared by U.S. corporations. The attraction for them is the opportunity to relocate factories south of the border where the minimum wage is 58 cents an hour and enforcement of environmental regulations is largely theoretical. American labor and environmentalists are understandably suspicious—and without their benediction, or at least acquiescence, Clinton has little hope of getting the North American Free Trade Agreement (NAFTA) past an ambivalent Congress.

Although the treaty negotiations are officially over, Clinton (like George Bush before him) has promised that NAFTA will be "greened up" before it goes to Congress, probably later this summer. Now it's the business community's turn to be suspicious. After all, if U.S. companies operating in Mexico actually had to *obey* Mexican environmental law (a U.S. General Accounting Office survey of 12 such firms found that none did), they might as well stay in Dayton. Mexico and Canada, having already signed on to NAFTA, are adamantly opposed to renegotiation. Mexico regards any talk of adding teeth to its paper-tiger regulations as a threat to its sovereignty—in this case, its sovereign right not to enforce its own laws. (The more obvious violations of Mexican sovereignty, by Yankee corporations that poison and exploit its people, go without official notice.)

The ostensibly salutary aim of NAFTA is to remove all tariffs, taxes, and other barriers that block the free flow of goods between Canada, the United States, and Mexico, bringing all three into the happy embrace of a fully integrated continental economy. Boosters predict booming opportunities for all three countries, with increased trade creating more than enough new jobs in the United States to make up for those that fly south in search of lower wages and looser environmental regulations. A growing economy will

Free-trade dilemma: How do you "green up" a license to pollute?

■ ■ ■

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actually make Mexico greener, true believers argue, as an expanding Mexican middle class demands a cleaner environment.

As proof of this attractive claim, free traders point to a 1991 Princeton University study that showed a decline in certain air pollutants in countries where average income rose above $5,000 a year. "Attention to environmental issues is a luxury poor countries cannot afford," concludes Gene Grossman, one of the study's authors.

But a devastating critique by the Economic Policy Institute points out that the Princeton study examined only air pollutants associated with low levels of industrialization (sulfur dioxide, smoke, and suspended particulates) and ignored those associated with, say, cars and dry-cleaning, whose level would be expected to *rise* with greater average incomes. Most people in the United States earn considerably more than $5,000 a year, but its pollution problems are far from solved.

Those who argue that free trade is environmentally beneficial also have to close their eyes to the mess along the 2000-mile-long U.S./Mexican border. In the 14-mile-deep strip where free trade has already been in effect for 25 years, the result is a poisoned wasteland where rivers run with raw sewage, toxics poison water tables, and smoke clogs the air. Estimates for the cost of cleaning up the border range from $5 billion to $15 billion. So far, Mexico has pledged all of $460 million to this effort—and hints that if NAFTA doesn't go through, that will be it.

In fact, far from encouraging environmental protection, NAFTA might well result in a Pan-American competition to woo wandering industry by gutting pollution laws. As Sierra Club trade specialist John Audley puts it, "There is nothing structural in NAFTA that prevents a 'race to the bottom.'"

In addition to weakening their own laws, member nations would be encouraged to challenge environmental regulations of other countries as "barriers to trade." Mexico, in fact, has already taken advantage of nearly identical language in GATT, the General Agreement on Tariffs and Trade (see "Trading Away the Environment," January/February 1992), to contest U.S. dolphin-protection laws; both the United States and Canada have challenged each other's environmental laws under the cover of free trade. The free-trade agreement could serve to weaken hard-won U.S. legislation on whaling, fuel-efficiency standards, driftnet control, or the importation of tropical birds, all of which could be construed as "trade barriers."

While NAFTA contains the usual unenforceable pieties about sustainable development and high environmental standards, its operative details are blatantly anti-environmental. In its monomaniacal fixation on petrochemicals, for example, the agreement supports government subsidies for oil-and-gas exploration—a reflection of the eagerness of U.S. oil companies to get a piece of Mexico's petroleum pie. It would forbid local environmental laws stronger than national ones, effectively destroying the ability of states like California to serve as incubators for progressive policies like Proposition 65, the toxics "right-to-know" initiative that is now being copied throughout the country. And it would subject all regulations to risk-assessment roulette, declaring safe any substance that kills only one person in a million. Farewell then to the U.S. law banning DDT residues on produce, and goodbye Delaney Clause, which bars any trace of cancer-causing chemicals from processed food.

Thanks to George Bush, who successfully excluded environmental matters from the original NAFTA agenda, these and other original sins lie embedded in the text of the agreement, extractable only by renegotiation. Rather than return to the table to correct these errors, however, the Clinton administration is asking environmentalists to trust that any problems can be patched up during this summer's supplemental talks. Unfortunately, these talks are focusing almost exclusively on the formation of a toothless

tri-national commission to referee environmental disputes, with enforcement powers carefully limited to "sunshine and moral suasion."

Shining a light on the border hasn't embarrassed anyone so far, however, so why should it do so in the future? If NAFTA can offer no clearer environmental protections, it will be opposed by the Sierra Club, many other environmental groups, and many leading members of Clinton's own party. "I will not support NAFTA on a leap of faith," said House Majority Leader Richard Gephardt this spring, fresh from a visit to Tijuana's fetid free-trade wasteland. Max Baucus, chair of the Senate Environment Committee, puts it bluntly: "No enforcement, no NAFTA."

From the progress of negotiations at presstime, there was nothing to indicate that this stark message has been heard. Clinton seems to believe that a thin green veneer on George Bush's treaty will be enough to disguise its faults. This spring, a White House official told environmentalists that, while their concerns were legitimate, "the train is leaving the station" without them. If Clinton leaves his political support behind, however, the train will never get past Capitol Hill.

—Paul Rauber

►*For more information, see "Resources," p. 104.*

A Bolder BLM

Ending the orgy on the public domain.

Jim Baca, who has made a career of fixing up dysfunctional government agencies, now enjoys what he calls "a plum"—not a secure, comfortable job, but rather a post swirling in confusion, controversy, and—as he sees it—possibilities. He's the new director of the Bureau of Land Management, a federal agency with enough problems to satisfy the most ambitious crusader.

Entrusted with protecting some 270 million acres of public land in Alaska and the West, the BLM has historically acted as if its job were protecting exploitive businesses instead. During the Reagan and Bush regimes, the agency looked the other way as its wildlands were scarred by ranchers, miners, and loggers. The BLM's ecological lassitude has demoralized conservationists and some agency insiders alike, and earned it the derisive nickname, "Bureau of Livestock and Mining."

Enter Jim Baca. "I understand the way things work in politics," he says. "But I also understand that you have to stick your neck out to get things done. I'm not afraid to do that."

In six years as land commissioner in New Mexico in the 1980s and early '90s, Baca proved a master at figuring out ways for the state to protect *and* profit from the 9 million acres it owns. These lands were assets, Baca said, that deserved prudent fiscal management and long-term protection. Wearing these principles on his sleeve, he declared a moratorium on hardrock mining on state lands and gave the boot to federal trappers. In his travels around

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New Mexico he drove a natural-gas-powered van, exhorting fellow citizens to help cut pollution and oil imports. Arguing that environmentalism was simply good business, he unabashedly linked arms with advocacy groups. He brandished a Sierra Club endorsement each time he ran for election, and in his second term sat on The Wilderness Society's governing board.

Baca's attitudes were shaped in the 1970s, when as a television reporter he learned what the Four Corners coal-fired power plant was doing to foul southwestern skies. After nearly two years as press secretary for New Mexico Governor Bruce King, Baca took on his first bureaucratic basket case in 1979, cleaning up New Mexico's scandal-ridden Alcoholic Beverage Control Department. Although the task seemed hopeless to most observers, Baca swiftly led the way to major reform of the state's liquor laws and restored morale within the agency.

Later, after being elected land commissioner in 1982, he was advised to lower New Mexico's mineral royalty to make state lands more competitive with royalty-free federal lands. Baca acknowledged the problem, but stood the proposed solution on its head. If New Mexico's minerals couldn't bring a decent return, he would take them off the market altogether. He'd lift the moratorium, he said in May 1991, if the state passed a reclamation law to protect long-term productivity and if the federal government added a royalty provision to the 1872 Mining Law. One of his conditions has subsequently been met—the New Mexico legislature passed a reclamation bill early this year. But the notorious 1872 law stands—and so does Baca's moratorium.

Baca was no less decisive in dealing with Animal Damage Control. When requested by ranchers, these emissaries of the U.S. Department of Agriculture rid rangelands of coyotes, prairie dogs, and other alleged livestock pests. Last fall, when ADC agents refused to play by state rules that required them to check their traps every 48 hours to ensure humane treatment of their prey, Baca barred them from state property. "[The people at] ADC tried to play a macho game," says Geoff Webb, a BLM staffer who worked at the New Mexico lands office at the time. "They said 72-hour checks, or nothing. But Jim Baca is not one to be bullied." So they got nothing.

Baca has not always been rewarded for his tough stands. He lost bids for the mayoralty of Albuquerque in 1985 and for an open seat in Congress in 1988. But he was nonetheless re-elected land commissioner in 1990 (with more than 60 percent of the vote in this only slightly Democratic-leaning state) because "he appeals across the political spectrum," according to Deputy Land Commissioner Bob Langsenkamp. "I've had Republicans come up to me and say, 'He's the only Democrat I've ever voted for.'"

Baca's television experience helps explain his broad-based appeal. He knows how and when to use the media to convey his views, which are finely tuned to the times and to the new folks in the White House. What's more, his goals make sense to taxpayers. He's not opposed to miners or ranchers on public lands, he says; he just wants them to clean up after themselves and pay for what they take.

Ranchers and miners consider him a radical, but the general public does not. "Jim recognized that no matter what industry thought, the public was light years ahead of it," says environmentalist Brant Calkin, who was Baca's assistant at the land commissioner's office in the 1980s. "He doesn't act unilaterally. His antennae are always out. He just recognizes when the public is ahead of the conventional wisdom."

With 11,000 employees and a billion-dollar budget, Baca faces challenges that seem as vast and varied as the 270 million acres in his care. "I want to help the BLM work better with other agencies," he says of his highest goals. "I want to restore its credibility." With more than half of the bureau's top managers set to retire in the next two years, he sees a good chance to rebuild from within. Grazing reform

is also high on his list, including a grazing-fee hike (which would have to come from his boss, Interior Secretary Bruce Babbitt) and an incentive program for ranchers who keep their lands in good condition (which Baca could implement on his own). More broadly, he wants the agency "to move away from the consumptive era."

Most of Baca's likely opponents are biding their time. "I don't have a lot of heartburn at this point," said Sandy Eastlake, executive vice-president of the Arizona Cattlemen's Association. "We need to see what's going to happen." But quicker to judge was Ron Arnold, a leader of the so-called Wise Use movement and head of Center for the Defense of Free Enterprise, who called Baca "an extreme partisan with an eco-socialist political agenda."

Baca has heard it all before. "We're just borrowing this land from our kids," he says calmly. "We shouldn't be rushing to cut the last tree and graze the last blade of grass."

—Joan Hamilton

Pact With the Developers?

An agreement to protect habitat made on a wing and a prayer.

During last year's election season, George Bush warned in his trademark tortured syntax that if Bill Clinton won the presidency, we'd be "up to our ears in spotted owls and out of work for every American." But even before this year's forest summit brought birds and jobs to national attention, the Clinton administration had set out to prove Bush wrong. The model the administration chose for its new spirit of compromise is the Natural Communities Conservation Planning program (NCCP), a process that is being touted as a way to save the threatened California gnatcatcher, protect its dwindling habitat, and make developers happy at the same time. Environmentalists warn, though, that the program may then turn out to be simply a model of nothing more than how compromising compromise can be.

The planning process was launched in September 1991 by California's pro-development governor, Pete Wilson, in an attempt to head off the listing of the gnatcatcher under the Endangered Species Act. The tiny, blue-gray songbird has the misfortune of being partial to coastal sage scrub, a chaparral-like habitat that is also easily convertible to a nesting ground for luxury housing. Sprawling subdivisions with ocean views and bucolic, Spanish-sounding names have already eaten up 90 percent of the coastal sage scrub, leaving only 300,000 undeveloped acres. These parcels are home to the last 2,500 nesting pairs of gnatcatchers, as well as to 50 to 100 other rare species of plants and animals, many of which are also on the verge of extinction.

Gnatcatcher advocates advance the

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argument heard in the ancient-forest debate: when 90 percent of something is already gone, splitting the remaining 10 percent is not a reasonable compromise. But this division of the surviving lands is exactly the idea behind NCCP. A panel of scientists has been dispatched to survey the area and decide which parcels of the remaining sage scrub are crucial for the survival of indicator species like the gnatcatcher, the coastal cactus wren, and the orange-throated whiptailed lizard. Prime plots will be made into permanent preserves, while developers get to pave the rest.

In theory, both developers and environmentalists accept some trade-offs and reap some benefits from this arrangement. Builders won't be allowed to develop everything they want to. But the land they *can* build on will be exempt from environmental lawsuits. Environmentalists will have to sacrifice some plants and animals, but in exchange they get a more rational and holistic approach to preserving what remains.

Conservationists were willing to sign on to the unproven process because their one existing tool for protecting species, the Endangered Species Act, is invoked piecemeal and only when a species is on the brink of extinction. "The ESA provides emergency-room care," explains John Hopkins, chair of the Sierra Club's Biodiversity Task Force. "But in California we don't have preventive medicine or even regular hospital care, so we keep creating more emergencies."

Of course, preventive medicine works best when the patient isn't already in intensive care, and ecosystem planning is really more appropriate when there's a little bit more ecosystem to work with. As it is, the NCCP's slow pace has meant that the gnatcatcher nearly bled to death on the operating table. While participants hammered out the program's ground rules and scientists roamed Southern California counting birds and lizards, developers were conducting business as

usual, submitting plans for bloated subdivisions like 23,000-acre Otay Ranch, the largest new town in California. The only attempt at interim protection was the state's request that cities and counties participating in the NCCP program closely scrutinize any developments that might affect coastal sage scrub. This arrangement is unlikely to impede development. "Local governments don't protect habitat; that's why we're in this mess," scoffs Dan Silver, coordinator of the Endangered Habitats League, a coalition of 56 environmental groups that have participated in NCCP. Silver estimates that some 3,700 acres of coastal sage scrub have been developed since NCCP began.

A glaring assault on the coast occurred in February, when the U.S. Fish and Wildlife Service okayed the San Joaquin Hills Toll Road. This 17.5-mile, sprawl-generating highway will run through Laguna Canyon, the largest parcel of coastal sage scrub in Orange County. Construction will obliterate an estimated 30 pairs of gnatcatchers and 44 pairs of coastal cactus wrens. In addition, a once-pristine parcel of habitat will now be girdled by pavement. "Here we are running a road through a possible preserve that may have 10 percent of all gnatcatchers," fumes Elizabeth Brown of Laguna Greenbelt, a local environmental group.

In March, Interior Secretary Bruce Babbitt classified the gnatcatcher as a threatened species under the Endangered Species Act, ignoring the teeth-gnashing of Southern California builders who feared that the listing would give environmentalists involved with NCCP some much-needed clout. At the same time, Babbitt anointed the planning process as the preferred method for saving both the bird and the coastal sage scrub. A special Interior Department ruling will allow some development to occur on gnatcatcher habitat, but only if the owner of the land participates in the NCCP. The good news is that the gnatcatcher now has some real protection under the ESA. The bad news is that preservation of the bird has been put in the hands of the same people who failed to protect it in the first place—the Wilson administration and local governments.

Still, with the Interior Department hovering over Pete Wilson's shoulder, environmentalists are hoping that federal scrutiny will make the NCCP process the model program it has been portrayed as. The stakes are particularly high now that protection of the red-cockaded woodpecker and the ancient forests seems to be following similar lines. If California blows it, it blows it for the whole country.

—Dashka Slater

► For more information, see "Resources," p. 104.

The $64 Million Question

Destructive and *money-losing? Must be the U.S. Forest Service.*

As taxpayers tighten their belts and join in mutual sacrifice to reduce the federal deficit, the United States Forest Service is writing multimillion-dollar checks to two large pulp mills in Southeast Alaska. Through this and other forms of largesse, taxpayers directly finance the clearcutting of 10,000 to 20,000 acres a year in Tongass National Forest, the largest nearly intact temperate rainforest in North America.

Don't think that destroying an ecosystem comes cheap. Last year, by its own estimate, the Forest Service lost $23 million on the Tongass, and that's only because it considers logging roads to be federal assets. Without such creative accounting, the loss totals $64 million. Either way, it's more money than any forest has ever lost in the agency's money-losing history.

The tax-dollar-denuding Tongass is the country's largest national forest, an area the size of West Virginia spread across a thousand islands and a narrow strip of mainland, together constituting 80 percent of the Alaskan panhandle. It is home to many species otherwise seen mostly in calendars and picture books: grizzly bears, river

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otters, boreal owls, wolves. An interagency committee headed by Forest Service biologist Lowell Suring, convened in hopes of averting a spotted-owl-type crisis, reported last year that logging of old-growth stands in the Tongass must be cut back substantially if these and other key species are to survive.

Tongass National Forest managers, whose budget is directly tied to getting out the cut, did their best to suppress the report, forbidding its release and prohibiting Suring from discussing it at professional gatherings. (As a result, Suring resigned his post and transferred to another forest.) Another biologist called in to review the report foolhardily agreed with it, and for his pains received the worst performance review of his 13-year career. The report's unwelcome news was released to the public only when local newspapers demanded it under the Freedom of Information Act.

Defending the agency in the *Anchorage Daily News*, Tongass honcho Steve Brink advanced novel "proof" of the theory that wildlife doesn't really *need* old-growth: "Humans will live in northeast Washington there behind the Capitol and survive and even reproduce, but that isn't their preferred habitat," he said. "They'd much rather live in Georgetown. Wildlife are much the same way."

What makes the Tongass uniquely scandalous among all the beleaguered national forests are the long-term contracts between the government and two giant mills: Ketchikan Pulp, owned by Louisiana-Pacific, and the Japanese-owned Alaska Pulp near Sitka. In a Soviet-style deal cut back in the 1950s, the mills were given 50-year contracts guaranteeing them a profit. When international pulp prices plunged in 1990, the Forest Service, in a thoughtful gesture, cut the price for timber that had already been purchased, and refunded the difference. This resulted last year in cash refunds from the Treasury totaling $9.8 million, in addition to $12.3 million in credits for future timber. Those credits will buy a lot more in the Tongass than they would anywhere else: the Forest Service charges only $2.26 per thousand board feet for timber with an export value of $500 to $2,500 per thousand board feet. It's only because of this bargain-basement price that Alaska's mills can afford to turn the old-growth forest into low-value cellulose stew.

Over the years, Ketchikan Pulp and Alaska Pulp have bought out or driven out of business 102 smaller logging enterprises; they now hold exclusive sway over almost all of the Tongass. Together they have chewed through more than 8 billion board feet of Sitka spruce and western hemlock. Two-thirds of the cut, most of it in the form of "dissolv-

Waterfall in Tongass National Forest

ing pulp," is shipped to Asia, where the old-growth habitat of the goshawk and marten is made into rayon, cellophane, and, more recently, disposable diapers.

In 1990, Congress sought to redress the forest's most notorious abuses through the Tongass Timber Reform Act (TTRA). It removed, for example, the Forest Service's mandate to spend at least $40 million a year to build roads, plan sales, and otherwise subsidize the mills' operations. The Forest Service was told to continue making timber available, but only "to the extent consistent with providing for the multiple use and sustained yield of all renewable forest resources." The TTRA protected a million acres of wilderness and roadless areas, prohibited the practice of "high-grading" (the cutting of "a disproportionate amount of high-volume old-growth timber"), and mandated that 100-foot buffer strips be left around the forest's many prime salmon streams. While the House voted twice to abrogate the ludicrous 50-year contracts, Alaska Senators Ted Stevens (R) and Frank Murkowski (R) got them reinserted in a slightly less indecent form in the Senate. Nevertheless, critics thought victory was at hand. "The era of preferential treatment for a single commodity, timber, is over," proclaimed Representative George Miller (D-Calif.) on the floor of the House.

How wrong he was. Since passage of the TTRA "reforms," the Forest Service has actually offered 38 percent *more* timber than the average harvest amount over the last decade. Furthermore, an October 15, 1991, memo uncovered by the Association of Forest Service Employees for Environmental Ethics shows that Tongass timber managers know that figure to be more than 50 percent above what their own forest supervisors think is a "sustainable yield." Protection of salmon and trout streams is very poor; on Prince of Wales Island, for example, 16 out of 20 streams surveyed do not have the requisite 100-foot buffer zones. High-grading continues, a practice the Sierra Club has filed suit to stop. And while the TTRA calls for balance among resources on the Tongass, says John Sisk of the Southeast Alaska Conservation Council (SEACC), "the Forest Service continues to treat timber as the number-one priority on every acre of land not otherwise designated by Congress."

The legislative branch having had its own best shot at Tongass reform, critics are now focusing on the executive. (Some critics are actually *inside* the executive, like White House budget director Leon Panetta and his deputy Alice Rivlin, former chair of The Wilderness Society's governing council.) The moment Mike Espy was confirmed as Secretary of Agriculture (the cabinet department overseeing the Forest Service), Representative Miller wrote him asking for immediate attention to "the fiscal and environmental disaster" on the Tongass. "The Forest Service continues to abuse the taxpayers by giving away timber from the Tongass at rock-bottom prices," Miller wrote. Rather than improving forest-management practices, he said, "the Forest Service appears to have regressed by intimidating scientists and ignoring fundamental principles of wise forest management."

Now is the time, says John Sisk of SEACC, to terminate the 50-year sweetheart contracts once and for all. "That's what's shackling Tongass management," he says. "As long as they're in place, you're never going to have any management flexibility." Breaking that logjam means taking on both the Forest Service bureaucracy, which has an institutional stake in maintaining the corporate welfare state, and Ted Stevens, who is so attentive to the pulp mills' concerns that he demands—and gets—weekly reports from the Forest Service of the amount of Tongass timber released for cutting. But it should be possible, especially with a Democratic president who once pledged to eliminate below-cost timber sales, and a Congress that might find it hard to explain to the folks back home why they have to shovel tax dollars into corporate bank accounts to destroy a national treasure. —*P.R.*

►*For more information, see "Resources," p. 104.*

THE WINNERS OF SIERRA'S
1993 NATURE-WRITING CONTEST

BELLY

BY MARY SOJOURNER

The first time I saw the giant pines, the squat and fragrant junipers, the countless grasses and low bushes, the flowers that seemed to be a dozen different shades of purple, the birds, the tracks, the earth and stones beneath my feet, I knew the names of none of them. I had been in this high desert country for two months, having come from a city 2,200 miles away, where the names of the trees were elder, oak, and maple, the flowers were rose and tulip and geranium, the birds were starling and robin, the earth buried beneath asphalt and concrete and perfectly groomed lawns. I had read Ed Abbey. I had longed for this space, this tree after tree, this warm red and gray glitter under foot, this light and beauty I could not name. And, standing at the edge of that ancient meadow, in Arizona late winter sun, I had no idea that by the time I learned the names, and the name of the place itself, they would be gone.

The north and south rims of the Grand Canyon of the Colorado River hold some of the richest and most accessible deposits of uranium in North America. The name of the geological phenomenon that contains the ore is breccia pipe. To mine uranium from breccia pipe, you sink a shaft, drill, and haul. You need equipment and buildings, holding ponds and berms, access and haul-out roads. You need, somewhere, a mill, and you need to know that under the 1872 Mining Law, you can hold claim to the land, the breccia pipe, and all the wealth that lies inside it for $150 a year in maintenance and investment.

You need to believe that forests are for multi-use management and that the name of the place can be written on a claim, in documents in your lawyers' offices, on your income-tax return, in statements of profit and loss. You need to believe, in fact, that the name can be written anywhere but in the heart. Your North Rim mines are named Hack and Pigeon, Hermit and Pinenut. You begin exploratory drilling 13 miles south of the South Rim of the Grand Canyon and you call the place Canyon Mine (Proposed). You do this quietly, in the name of keeping things easy. You do it, you say, in the name of wise use.

Long ago, long, long ago, there was a Grandmother. She had two grandsons. As boys will do, they set out on their adventures. This Grandmother tied threads to the doorway of her house . . . it was one of those houses made from bent saplings and rushes put over them . . . and she waited a long time. Those boys were gone a long, long time. One day the Grandmother looked at the threads and they were dripping blood. She became very sad and she tried to kill herself by stuffing dirt down her throat. It did not work. She lived.

This all happened up there by Red Butte, up about a mile or two from where those Denver people want to put that mine. There is more . . .

The next time I saw the place I'd heard it had been named Canyon Mine (Proposed). By this time, I had gone to meetings in Flagstaff and listened to the mining-company engineer, a loud, jolly guy with an abundant gut, flannel shirt, and worn Levi's tell us that when they did the exploratory drilling they hadn't seen no animals, hardly none at all. You could tell he'd misnamed most of us, hippies and eco-freaks and rednecks alike, as one after another, with relatively good grammar, we stood up and told him and the Forest Service honchos what we thought of their plan. We named our objections. We used words like rape and death and destruction. We said that no matter what you named it, the leveling of 13.7 acres of national forest land, the improvement of miles of Forest Service roads, and ten years of hauling ore to the mill in Blanding,

ILLUSTRATIONS BY
VIVIENNE FLESHER

whether you named it wise use by a company known for its mitigation efforts or taking what's rightfully yours, an Environmental Impact Statement was required.

The engineer called us names. We responded. And, somewhere far north of the shouting, the place was silent. There was a fat, three-quarter moon. Snow fell on the thick, dark branches of the trees; light shimmered off the snow. Maybe a raven cried out. Maybe a coyote trotted across the fresh snow, chased a mouse, caught it . . . only the tracks remained.

The following weekend a few of us, who shall be unnamed, drove up the main canyon highway, turned off on a Forest Service road and barreled through snowmelt and gumbo mud to the edge of the meadow. We looked toward the center, to the bare earth, the exploratory drill-rig, the dozer, and we named what had lived there: Ponderosa Pine, Utah Juniper, Gambel Oak, Cliff Rose, Four-winged Saltbush, Buckbrush, Buffaloberry, Pale Wolfberry, Rabbitbush, Mormon Tea, Banana Yucca, Big Sagebrush—the sage that grows where the earth has been disturbed—soft, pale leaves that we crushed between our fingers, whose scent we breathed in deeply, knowing that we found it where trees and juniper had been chained. Out loud, slowly, our voices quiet, we said, "Hill Lupine, Palmer Lupine, Verbena, Penstemon and Fleabane, Locoweed and Wood Betony."

"Steller's Jay," we said, "Raven, Wild Turkey, Black Bear, Antelope, Deer and Elk and Coyote. Mountain Lion, Bobcat, Red-tail and Eagle, Worm and Lizard and Ant . . ." One of us, a short man bent smaller with arthritis, knelt slowly and touched the ground. "Kaibab Limestone and Shale," he said. "Toroweap Sandstone, Coconino Pure Quartz Sandstone, Quartzite, Slate and Schist." We turned and looked off into the untouched forest. Snowmelt ran clear, ran away from the place, away to the south, away to the north, toward Havasu Canyon, toward the home of the Havasupai, toward the blue-green waters that fed every moment of their lives. It seeped in, down through earth and rock into the Muav-Redwall aquifer, that great subterranean stream system, so vast and complex it has never been charted. At our feet, where the earth lay bare except for dozer tracks, the water ran metallic orange and yellow. We thought about holding-ponds and hundred-year rains, about something trickling down, drop after drop, trace upon trace, monsoon after monsoon, year after year. The small man stood. "Let's go," he said.

We'd come prepared. Banners and prayer feathers. God's-Eyes, wooden stakes and bright ribbons, blue and green and purple.

"Canyon Mine," we hollered. "We take back this place." We went to work. We staked it out, all 13.7 acres, north to south, east to west, feathers shimmering in the late afternoon light, ribbons flying, stakes pounded deep into the earth. Someone hung the banner across the drill-rig.

Place, it said, Claimed for Nothing Human.

Well, the two boys had all these adventures, some of them pretty good, some of them pretty bad. They met some girls and one of those girls got a baby from one of those boys. That was down there by our canyon, down by the blue-green water, where the reeds grow. You know that place.

All the mean time, that Grandmother is up there in those trees by Red Butte and she is missing her boys and she is crying. They had ways of knowing things back then. We forget them . . . most of the time.

The EIS took a year. The Forest Service anthropologist wrote that the Havasupai had no discernible religion and no religious rights to the land. When all the letters and claims and counterclaims were almost over, the Havasupai, the tiny, 500-member tribe whose name means People of the Blue-Green Water, stepped forward. They said they had information for the Forest Service. They said they had waited because they would have to tell things they weren't supposed to tell. The Havasupai said that they had not trusted the man and had told him nothing. They said that to do otherwise would risk a great deal for them, maybe for everyone.

> The media came and told us that if we wanted them to cover our next demo, we'd need to destroy property, something exciting like that.

Those were some bad times back then. There were bad people. The boys got killed in a way I can't tell you. But the girl raised up that baby, that was the grandson of the Grandmother, and one day he went back to find his Grandma. You know how kids are. That trip there was so long . . . I think he went on a horse . . . that he was a grown man by the time he got there. Up there near Red Butte, where they want to put that mine, up where our old people still pick those medicine plants . . . up there . . .

The Head Ranger went through all the stories and statistics. My unnamed friends and I visited the meadow. We saw the toppled corpse of the big juniper, the head-high piles of dead sage and wildflowers. Now and then an unmarked truck drove in and waited while we hiked the perimeter of the place, while we sat in what was left of the grass, near piles of limestone and quartzite and slate, and ate our lunches and watched the light change, and the weather, and the way the wind moved in what was left of the trees.

We drove the proposed haul route, took photos of the elk and turkey, the narrow shoulders on the highway east from Grand Canyon National Park to Cameron, the narrow bridge over the Little Colorado, the washes that carved up the Navajo Reservation, the signs that said Flash Flood Area every few miles along the road. My friend drove and I spoke into a tape recorder. I described sand the color of pink pearls and clouds like veils and rock like, like . . .

"Hell," I said to my friend who must be nameless, "Ed was right. This rock isn't like anything. It's not a cathedral or a courthouse or an amphitheater. It's not named Kayenta Sandstone or Navajo. It's not stubborn as memory or fragile as hope. Its name is not even rock. What it is, just is . . . I give up."

We made a slide show, and dragged it from little town to big city. I wrote. Others sang. The EIS dragged on. I got to know some of the Havasupai. They got to know us. We learned each other's names. They learned that we held the place holy; we learned that all they wanted was to get this over and go home. One late September weekend, we gathered in the big, sage-filled meadow below Red Butte, a few miles from the mine site, and talked and ate and sang and danced and told stories. Some of us called it prayer.

So this boy who was now pretty much a man, finally gets back to where his Grandma lives. He didn't see her though. Her house was there, but she was gone. He waited around awhile. Maybe it got cold and the flowers died and there was going to be snow. Still, he stuck around. Kids had respect for their Grandmas in those days.

One day, wintertime, he saw something. It was his Grandma and she was riding a horse. He got on his horse and they met right there, up near Red Butte, up near where they want to put that mine.

The Head Ranger decided that the mine and the miles of haul route through the ponderosa pine and juniper and elk and snowmelt *would have no significant impact.* The Havasupai and a few of the environmental groups appealed his decision. Eight of us closed a road in the park. We put on white radiation suits and linked hands. People sang. Kids carried banners. Don't Nuke the Canyon, they read, and Save the Sacred Land, they said, and Honor Grandmother Canyon, they said. The media came and told us that if we wanted them to cover our next demo, we'd need to destroy property, something exciting like that. They shot a few pictures and left. Security took us away. They cuffed us and drove us back to Flagstaff, past the road that leads back into the mine site. It was a bright November day. The sage was soft and green. Afterwards, we—you can read the names in some eco-rad newspaper story somewhere—agreed that if you had to get busted, then up there, up 13 miles north of Red Butte, near where they wanted to put that mine site, that was the place to do it.

So, the Grandson and the Grandma, they met up there on their horses and they were happy to see each other. Every year since then, on that same day, they do that. I can't tell you exactly how, because it's a secret, but how they meet up there in that place where they want to put that mine, up near Red Butte, that's how our religion goes forward. That's how it lives.

Because up there, right where they want to put that mine, that's where the belly of the Mama is. She births out our religion and the boy and the Grandma help it go forward. If they stick that mine shaft in the Mama's Belly, well, you can see how that would be. Our friend Clark Jack, he told the Forest Service how it was. "It means, a robin, when it lays its eggs, if you go touch its eggs, the mama won't come no more. That is what is meant by destroying our sacred site. It couldn't be no more. There will be no more."

I go up to that place, that place that could be named the Belly of the Mama, a few times a year. Now there is a ten-foot-high chain-link fence around the bare earth. There is a headframe and holding pond, equipment shed, maybe a Cat or backhoe. When I get there, I ring a buzzer and sometimes a guard comes out and I tell him that I'm there to pray. Other times, two fuzzy dogs barrel out toward me. The lead dog snarls a few times; the rear pup, whose left eye is blue and whose right eye is brown, holds back. I offer a muffin, or what's left of a Circle K sub, and both dogs chow down. They whine with pleasure. I remember all the times I've prayed up here, the women's circle on Winter Solstice, the four Havasupai gatherings, the Autumn Equinox, the 50th birthday when my unnamed friends and I brought up a tape deck and played Tibetan Buddhist healing chants, and then a little Aretha Franklin.

I walk away from the gate toward the forest. Maybe I tie a raven feather to a tree limb, maybe I just sit on the red earth and tell Her about the letters we've written, the meetings we've held, the phone calls we've made. I tell Her that though uranium prices have dropped and though the company has closed its North Rim mines and put Canyon Mine (Proposed) on hold, it still has rights to Her. I tell the earth that I know She's lonely for the Havasupai bones and artifacts that the salvage archaeologist dug up and shipped south. I tell Her I hope all of that is safe somewhere, hidden in some dark room underground, away from curious eyes. *The bones of our ancestors,* a Havasupai elder told me. *We can only pray for them.* I look up into the brilliant sunlight, then back to the bare red earth.

"Belly of the Mama," I whisper. "I will never forget your name." ■

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►*For more information, see "Resources," p. 104.*

On the River

BY CRAIG LELAND CHILDS

The immensity is difficult to grasp. That is what the map is for, he says. By the end of the 36th day we have covered 800 miles, navigating the Yukon River to where the water plunges into chaos, a place called the Yukon Flats. Mosquitoes, islands, water, sky. The river is more than 20 miles wide, with no central channel and no clear definition of upstream and downstream. From the canoe's stern I see only the unbroken horizons. Todd sees more. Perched in the bow with a map across his lap, he squints into the low Arctic sun and adjusts his compass. He sees the islands, countless, lumped onto a river so wide it fades without fanfare into 40,000 surrounding lakes. Todd's map shows a honeycomb of blue meanders wrapping around shards of land for 300 miles. From the day we began he went map by map, and distance was measured by the number of times he packed one map away and brought out the next.

Villages are scattered intermittently along this route; fish camps and winter dogsled stops. The people who live here are Athabascan or Anglo; fishermen, gold-seekers, moose-hunters, cabin-builders, children and adults. The villages we find have no roads that lead to the rest of the world other than this river. Most of the villages we never find; they exist only on the map.

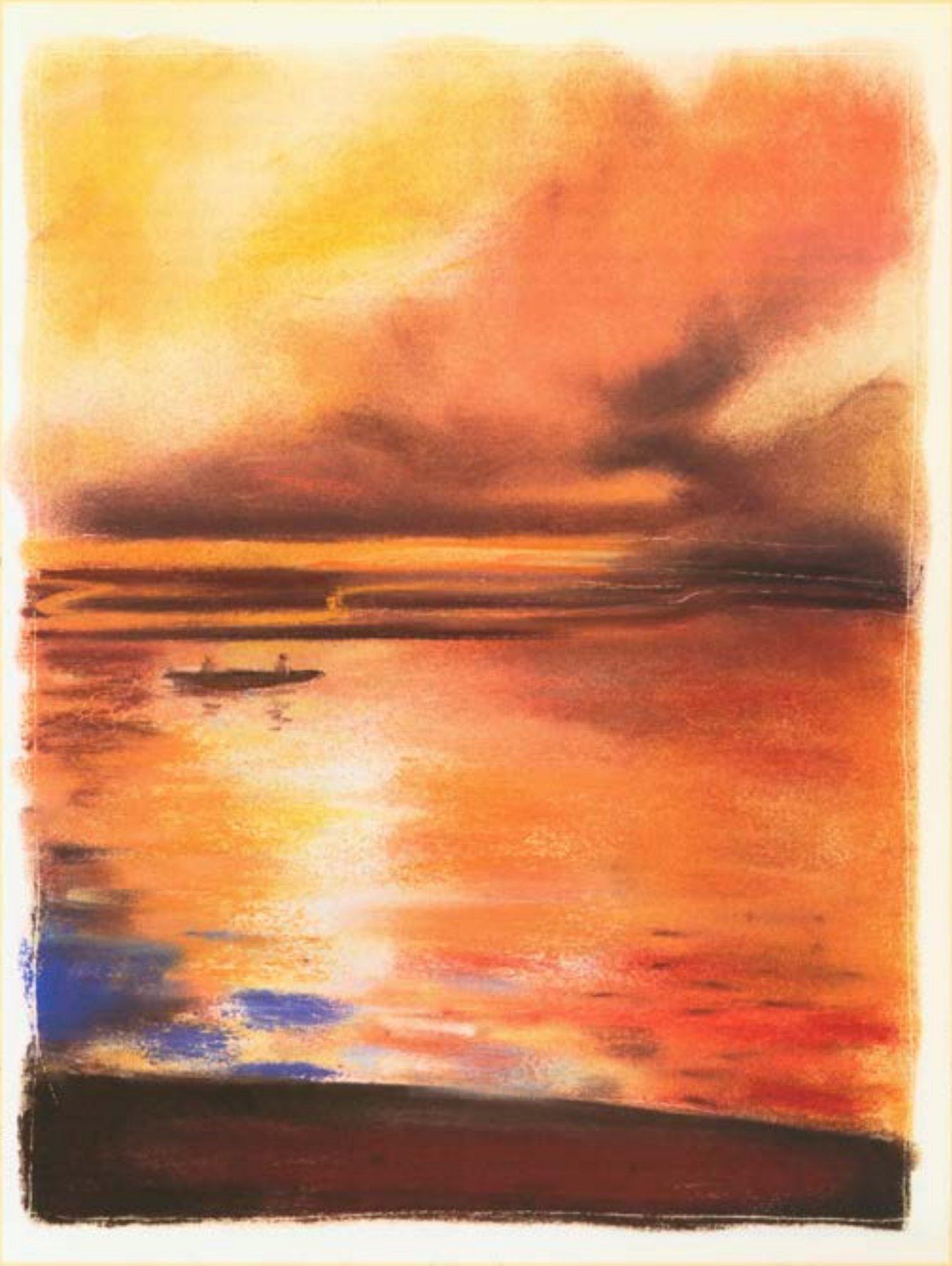
I see this river from the water. Cumulus clouds roll across tundra hundreds of miles away, visible over the smooth, featureless curve of the earth. Debris from a flood has fanned out and jams against the spits of land and hidden sandbars. Gangly stands of black spruce stitch the planet to the sky. The elements have been redefined here: Water, Black Spruce, and Sky. Among these, Sky has a definite advantage, unhindered and unfurled above and around us. Anything else is transient. The islands could dissolve from one summer to the next, the 23 hours of daylight will in a few seasons be solid night. The 50-degree water is more mud than liquid, fed by ten major tributaries and a historic flood draining into this permafrost basin. The hard sun circles overhead and our canoe slips into the oblivion of another branch of another channel to another fork. We couldn't be found even if we prayed. Todd tucks his compass away and folds the map. "I have no idea where the hell we are."

Nanavaugulak, Teshekpuk, Aklavik, Kugmallit Bay. Chalkyitsik, Nuklunek Mountain, Tokichitna Glacier, the Kulukbuk Hills. In Kuskokwim Bay the two nearby villages are Gogiganak and Kwigillingok.

The walls of the trapper's cabin are alive with maps. Folded, pinned, rolled, and yellowed, they are stuffed in chinks in the walls and plastered across the low, timbered ceiling. Names like Sukakpak Mountain and Big Sitdown Creek festoon each 1945 edition of parchment. We are desert river runners from the Southwest, accustomed to thousand-year-old Anasazi dwellings wedged into Utah's canyons, deep in labyrinths of naked stone. Both of us are out of our element in the far north. Even the words that describe this land are foreign.

Four tarred logs hold the ceiling in place, prickled with tenpenny nails protruding every which way for the hanging of clothes, pots, photos, and food. On one nail is a postcard, very old black and white, of two men and their sled dogs. Wolf-ruff parkas, heavy boots nearly buried in snow. A ratty caribou hide is tacked to the inside of the front door. Everyone who passes on the river stays here. They chop wood, restock the shelves, leave a few books, take a few books.

The mosquitoes in the thick berry bushes and alder forests around the cabin are in a mad swarm, pounding on



the window. I had tried to photograph our first moonrise, a rare sight on these bright Yukon nights, but was driven back by the mosquitoes. I returned to the cabin frazzled and angry. In the winter the mosquitoes are replaced by abject darkness and 70-below temperatures. Which is worse? Many people here would debate. Mosquitoes or cold, take your pick, but the one refuge from either is this cabin.

A journal is set on the table and I pick through it, coming across a woman's entry: "Jan 6, 1991 Arrived yesterday at 6 pm Blowing strong wind –30 knots –30 F Deep Snow. Nice Cabin. Enjoyed moose pizza. Had some trouble in the dark on the jumbled ice. Chopped some wood for the next traveler. Today the 6th it's still blowing Chinook! Start towards Eagle. Our dog team is in good shape."

We could live here. Moose, the area's main food source, have appeared on a daily basis, lumbering from the shores to stare at us as we pass. The tributaries are clear, giardia almost unheard of. The winters would be long, but we have skills to learn, things to teach each other. The summers are short but acute, and everything that can grows with haste and abundance—gardens, berries, mosquitoes.

We slide the canoe back into the river in the morning and by evening discover another open cabin. This one is set into the forest along the muddy bank with a clear view of the rolling mountains and solid forests that blanket most of the Upper Yukon. The river fills these valleys rather than cuts them, and in the seemingly endless expanses of wilderness there is no threat, no development. The canoeists and fur-trappers and gold-panners are far outnumbered by bears, moose, and eagles.

In moments of relative mosquito calm, Todd and I sit on makeshift chairs and watch the shaven moon appear through the greenery. Even the mosquitoes seem taken aback. Some might say it was the smoke from the fire that inhibited their eternal drone, but I think their fierce hearts were struck by the calm.

Todd Robertson doles out the environmental line as a public-lands specialist from his office desk at the Colorado Environmental Coalition. His large window looks over a field of gray downtown buildings. The roof of the nearest one is littered with lawn chairs and hibachis. One person is talking about wetlands, another is asking for a staff meeting while a half-filled computer screen flickers with the digitized light of an article Todd is writing to block a proposed dam on the Colorado River. "Writer's block," he says.

He is tired, his mind strained, his heart burning out. His desk is covered with assorted thick documents from the Bureau of Land Management, the Forest Service, the state, and he has lengthy retorts to each. There are tendrils that lead directly from his mind to the infinite folders and drawers that surround him, and as he carefully pontificates, those tendrils are almost visible. "Jesus, I hate this; these people are driving me nuts."

On the Yukon River he is in the canoe for sometimes 16 hours a day, and he ruminates over his duty as an environmental activist: "Public lands are sacred. I have a very clear vision of what should happen," he says, and then rains down upon me with political commentary that becomes more refined by the hour. His vehemence builds.

At his desk he turns his words into papers, legislation, and speeches. He admits that this is the dirty work of the movement. While people chain themselves to trees and survey wilderness areas, he makes the machine move from within. But tortured by living in Denver, he pays for effectiveness. He spends more time with papers and meetings than with rivers and trails. He wants to move, wants to flee, but the action is here.

The BLM waits for his responses. He confronts land agencies and lobbyists, and jams wilderness bills and proposals into the faces of lawmakers. His is the official environmental voice at small-town meetings and dinners at the governor's mansion. He returns from his occupational melee tired and dragged down; he wants to be a ski bum.

On the river he is reading *Tom Sawyer.* He puts the book down and paddles for long hours, reading currents and channels instead. The tendrils from his mind flail about in open space and he complains that in this serenity, his thoughts are tied to things far away. The busy office sounds haunt him. Digging his toes into the wet sand of an island he confides, "When it is really still and quiet, I swear I can hear a vacuum cleaner."

The island is long and built on washed river stones. There is no vegetation. Uprooted forests, the mark of the flood, are lodged around us like tons of pick-up-sticks. Tinkering with twilight, sunset and sunrise are hardly separable, marked only by a shift from one set of enflamed orange clouds to another. Night never comes and the Yukon embroils itself in whirlpools and races around us. We are baking biscuits in the Dutch oven and gathering damp driftwood for coals. On foot, Todd often circumnavigates the islands, and often I follow, although if the place is too large I become distracted and vanish on a tangent. On the 20-foot-wide islands, however, I do well. After charting the spaces he returns to camp an hour later with a wise smile on his face. There are fewer mosquitoes on bare islands—that is why he smiles.

The river is moving at 400,000 cubic feet per second, up from its usual 200,000 cfs. The rivers we are accustomed to rarely run higher than 4,000 cfs, a trickle in this landscape. Two and a half tons of silt are boiling through every second. We do not bathe or swim in this water. We eat biscuits and watch it from the island.

What I understand of this place is how lost we are. The sense of isolation is physical, raising the hairs on the back of my neck when I look across the clear horizons. But I am that way. If there were a road near here, and Todd assures me there are none for hundreds of miles, I would erase it. When we began in Whitehorse, Yukon Territory, I asked him at every opportunity how close the highway was until we had reached a safe "wilderness" distance. I feel like a child here. I peer around, over and over, attempting to grasp the enormity of this landscape. It is too much to explore, too much to witness.

> We couldn't be found even if we prayed. Todd tucks his compass away and folds the map. "I have no idea where the hell we are."

Todd does not delude himself. Wilderness is where he finds it and its value is real. Along with it comes responsibility and understanding, as well as awe. He opens the map to find his place in the cosmos; I close my eyes and imagine mine. But we are not so different. We have guided rivers in the deserts of Colorado, Utah, and Wyoming. We first encountered wilderness together. Our footprints were set side by side in the sand of that first desert canyon, and now our paddles move through the waters of this northern river. Each stroke takes us farther north than we have ever been before.

People grow old and rigidly square off their territories, by professions, profits, and habits, but our land is always shared. If there are ever any questions as to whose turf belongs to whom, islands like these dispel them. Still, I cook the dinners, he prepares breakfasts; he nails me with arguments over the sanctity and necessity of protected lands while I tell him I can live on whatever the hell piece of earth I want to live on, by God. We clash, by design, on every thought. But on the 43rd day we can still sprawl in the canoe and talk for eight hours straight. In the wilderness we are not so far apart.

In the end, though, I am certain he will be the one who gets us down the river alive. ■

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RECLAMATION

BY JOHN KRIST

Tufts of dry grass scratched at the floorboards as the car crept along the rutted dirt track. Clumps of unripe grapes hung in the abandoned vineyard along the road's north side, and a purple carpet of fallen plums lay untouched in the dying orchard to the south. Tree branches hung low overhead, and the grasping fingertips of unpruned grapevines reached out to stroke the side of the car as it passed.

Wild blackberries sprawled over everything, choking trees in a thorny grip, heaped in mounds over the vines, sending tendrils across the road. In the summer heat, the smell of ripening fruit rose like a cloud, dense, almost liquid as it poured through the open window, sweetly redolent of damp earth and morning dew and sticky juice running down my chin.

At the bridge over the creek I stopped, worried that hot exhaust pipes would set fire to the increasingly tall and dense grass covering the road. I parked next to a sagging garage in what used to be a graveled driveway, tiny stones peeking through brown weeds, and shut off the engine. The air vibrated with insect song. Every few seconds the cooling engine emitted a metallic tick. A distant airplane hummed.

I was home.

I had grown up on this ranch, 23 acres of prune trees and grapevines in Northern California's wine country. I was five when we moved here, refugees from the urban bustle of San Francisco, 65 miles to the south, and I didn't leave until I was a junior in college, 15 years later. We were hobby farmers, I suppose, living on my dad's paycheck from IBM instead of the harvest from orchard and vineyard. If a late freeze scorched the emerging springtime buds, or an early rain rotted the grapes, or unseasonable heat kept the fruit from setting during blossom time, or scab or aphids or any of a hundred other possible assailants beset the crop, it meant digging a little deeper to make the property tax payment, but that was all. No danger of foreclosure and eviction, not as long as IBM needed people like my dad.

Though we didn't rely on the income it produced, we still worked the land ourselves, pruning the vines and trees in the winter, disking and pulling suckers in the spring, crawling in the hot summer sun picking prunes, and suffering knife cuts and bee stings in the autumn-crisp vineyards. We hoisted lug boxes of fruit, dug bogged tractors out of springtime mud, turned storm-toppled trees into firewood with a chain saw, cut drainage ditches by hand in December rain.

You can't make a living anyway on 23 acres. Not any more, if you ever could. It takes hundreds of acres now to make back the investment in equipment, fertilizer, irrigation, and pest control involved in profit-seeking agriculture and still have enough to live on.

The real value of the land, however, lay not in the crops it produced, not even in the lessons it taught us about hard work, the kind that blisters your hands, stains your clothes, puts an ache in your back, and makes a noontime drink of plain water taste good beyond words. The measure of the land's worth was the way it forced us into intimate contact with the natural world and with the place where wildness and domestication rub against each other in a slow, grinding, tectonic embrace.

We would impose order on this land, make of it a garden all straight rows and orderly crops and clean earth naked of unwanted growth in the deep shade of the orchard. And it would fight back, insects multiplying, storm-swollen creek spilling over its banks and taking great, muddy bites from driveway and vineyard. Wild blackberries, lulling us with their sweet bounty, sent pale shoots

into the chicken coops and tractor barns to test the redwood planks, finding a loose joint and slowly prying the walls apart. Always a small rebellion, silent in its tenacity. Always put down, with the help of diesel-powered machinery, steel cutting blades, chemicals.

And now, only four years free of our presence, the wildness that always lurked in the forgotten corners and fallow pastures was asserting itself. Telephone wires snagged and dragged from their poles by willow branches. Driveway reduced to a tunnel through greenery. Vineyard and orchard swallowed by brambles. Swaybacked barns disappearing a piece at a time, wind-torn gaps in their sheet-metal roofs, doors knocked askew by intruding vines. Even the yard trampled bare and hard as a stockyard by two

decades of child play had been swallowed by a tawny sea of ryegrass.

I walked up the lost driveway, my socks collecting foxtails and burrs, toward the house where I grew up. It stands on a slight rise, shaded by a pair of tall evergreens. Four children were raised within its cramped rooms, leaving one by one as they married, went away to college. Finally my parents left, too, my father accepting a job transfer that took them out of the country for three years. By the time they returned, the house—which had never been more than a couple steps ahead of dilapidation anyway, due to a combination of age and idiosyncratic construction methods—was uninhabitable. And so it sits, decaying, while around it the land slips out of control.

I waded through summer-dead grass, visiting the landmarks of memory: the loamy corner where I'd helped plant a garden and learned about the mysteries of seed and root, the sluggish creek where I'd fished for crawdads, the places I'd captured tadpoles and caterpillars and learned about the small miracle of metamorphosis. In this place I once happened upon a spider wrapping a struggling fly in a fatal cocoon; it was a quarter-century ago but I still remember the sound of vibrating wings slowing as the sticky strands drew tight. Down there, protruding from the earth near a perennial spring that set a boggy trap for unwary tractor drivers, I had found a carefully flaked obsidian blade, which now rests on a windowsill in my office. Over here I had hunted lizards, chased dragonflies, picked berries, watched snakes etch the dust of the road.

It was always there, the echo of the wild place the land had been before someone laid out the rows of trees and vines, cut the road, erected the buildings, strung the wires. Wildness, not wilderness. It's been more than a century since even this rural landscape lost its virginity, its native stands of grasses grazed over by cattle and crowded out by exotic weeds; longer still since the Pomo began exerting their subtle influence on the distribution of favored basketry materials, critical oak trees and their staple acorns. Were everyone to leave tomorrow the way my family left this ranch, it isn't likely true wilderness would return. The native ecosystem is lost.

But the wildness would reassert itself. That unruly force in nature that resists graded roads and monoculture crops, our convenient straightening of meandering watercourses, our reluctance to surrender a single piece of fruit to insects or mold, would suddenly find no opposition.

We always knew the force was there. There was the inevitability of the seasons, the song of storms, the piercing beauty of frost mantling the grass, the summer fog swooping in from the Pacific only a few miles to the west. They disregarded the needs of horticulture and could not be manipulated. And there were all the little live things, the quail that marched like unruly battalions of fat little soldiers into the yard each morning, feathery topknots bobbing like caps on their heads. And the million varieties of insects, the vultures floating motionless on July thermals, the bullfrogs and jackrabbits and swooping hawks, the lizards and barn owls. Creeping morning-glory vines, with their trumpet blooms and strangling tendrils. The ubiquitous blackberries. The spreading willows that choked the creek and dammed winter runoff.

All of them held to the fringes, resisting the order and predictability that are the hallmarks of modern agriculture. They waited with the patience of glaciers and eroding streams. They lived their lives in the spaces we neglected, and by their presence they made the land something immeasurably richer than merely a producer of commercially valuable fruit.

They had outwaited us, and now the ranch belonged to them.

There was something saddening in the realization. The place I had spent my childhood and my youth, the place that as much as anything made me who I am, no longer existed. The ranch where I worked and played and wondered, where I explored and daydreamed, where my family lived and evolved, was gone. House ruined, orchard and vineyard dying and overrun, equipment standing in rusted immobility. As I returned to my car and prepared to leave, the sense of that loss colored every stalk of grass and drooping willow branch.

Yet I felt curiously comforted too. For in all that decay was also the triumph of rebirth, the joyful freedom implicit in the ascendance of the wild. In the grass that blurred the outline of the driveway, the blackberries that choked vine, tree, and barn, was the handiwork of the same force that turns smoking volcanic islands into lush tropical gardens, colonizes glacial moraines when the ice retreats, shatters and shoves aside the forgotten asphalt of derelict roads after the last car has passed. The abandoned ranch wasn't as grand and overwhelming to the senses as Yosemite's waterfalls or the monolithic stone carvings of Capitol Reef, but in its quiet way it paid homage to the power that created them. It, too, was a monument to wild nature, but on the scale of grasshoppers and fence lizards.

The wild was obliterating my history, I thought as I turned the car around and followed the ruts back along the driveway. It was reclaiming the land unhurriedly, as if it had always known it would. We had only been borrowing this corner of the earth, and now it was time to give it back.

I stopped at the end of the driveway and let the car idle as I got out to close the gate. Looking back across the sweep of gently rolling landscape, straw-colored and silent beneath the August sky, I latched the gate and surrendered the land to the hawks and blackberries. ▪

JOHN KRIST *is the city editor of* The Star-Free Press *in Ventura, California, and the author of* 50 Short Hikes in Yosemite and Sequoia/Kings Canyon *(Wilderness Press, 1993).*

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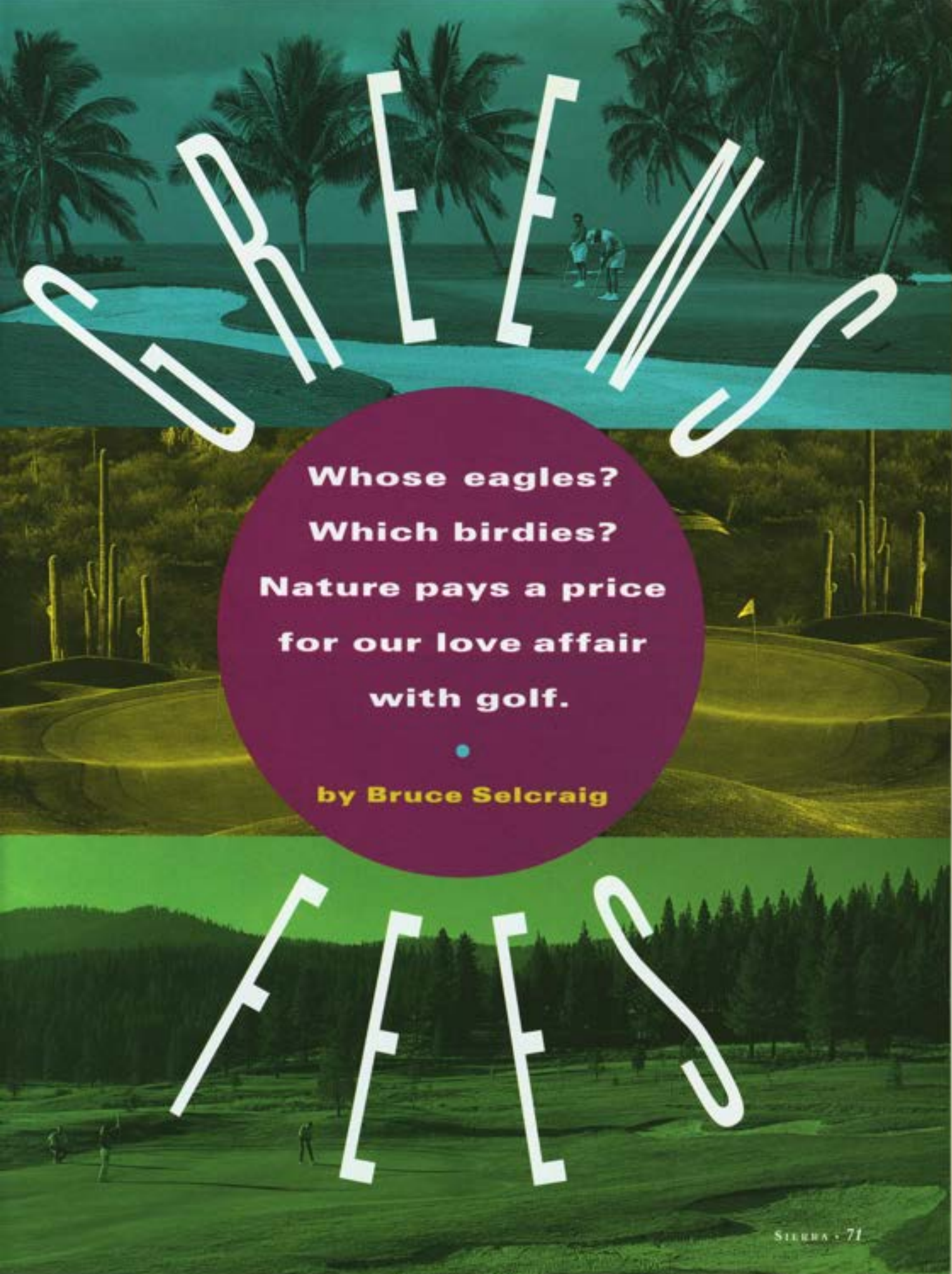


GREENS FEES

Whose eagles? Which birdies? Nature pays a price for our love affair with golf.

by Bruce Selcraig

Looking more like a nouveau Western rancher than a golf course superintendent, Ron Ruppert pulls on his jet-black Ray-Bans and faded denim jacket and drives his truck through the junipers and piñons beneath the slate-and-sugar Sangre de Cristo Mountains. Bulldozers and backhoes grunt in the morning chill of the high desert as Ruppert slaloms through orange wooden stakes outlining the new Las Campanas golf course outside Santa Fe.

"This course is as environmentally sensitive as they come," says Ruppert, an agronomist and non-golfer. He runs down a list of accomplishments: his 6,500-head computerized sprinkler system will use far less water than systems at comparable desert courses; at the start of construction hundreds of native trees were carefully uprooted and boxed for replanting; even the miles of concrete golf-cart paths are "color-coordinated to match the indigenous soil"—meaning they're tan.

"I'm creating a better environment here, a better habitat," Ruppert says, surveying one of the five artificial lakes set against the 105 acres of emerald-green turf. "Our goal is to integrate this course so perfectly with the environment that it will look like it was dropped on the desert from a helicopter."

Oh, the *vision* of golf course developers! Just when we thought they hadn't a clue about protecting habitats they go and build a desert golf course with a "better environment" than nature's own.

Such a conservation ethic is enough to make some of us who enjoy golf (don't blanch—one out of six Sierra Club members plays) despair that the game's high priests will ever get beyond their well-deserved reputation for causing environmental havoc. Golf course developers have always coveted splendid natural backdrops for their playgrounds; in response to the public's growing love of unspoiled environments, some developers are, ironically, pushing their own unnatural worlds still closer to wetlands and streams and other pristine sites to provide more "natural" settings.

The golf gods protest that we needn't worry, that they have always been fine stewards of the land. But it's hard to

Bulldozing a better backdrop in Hawaii. The 700 U.S. golf courses constructed in the past two years have brought the nation's total to 14,000.

Florida's Old Marsh Golf Club. Heralded by its developers as environmentally sensitive, others ask why it was built on a wetland at all.

forget some of their baser moments:

► In 1984, on a private course in Hempstead, New York, an overapplication of the insecticide diazinon (which was banned from golf course use in 1990) killed at least 700 Atlantic brant geese.

► Outside Orlando, Florida, over a two-year period in the late 1980s, an elite country club dumped millions of gallons of nitrate-laden golf course runoff into one of the state's clearest lakes, leaving its sandy bottom covered with black muck.

► In Alleghany County, North Carolina, trout populations in Laurel Branch have only begun to rebound after dropping to one-third of their 1988 numbers in the four years after construction of a golf course sent tons of mud into the mountain stream.

It wasn't always this way. Before Porsches and polyester, golf was an unpretentious, working-class game from Scotland that conformed itself to nature, not the other way around. Yet America transformed golf into an upper-class-twit religion tainted by all-white country clubs and Disneyesque landscaping. (You haven't lived until a golf course developer shows you two wetlands and asks, "Guess which one we made?") It's no wonder that over the past decade the golf establishment found the exemplar of its moral and intellectual aspirations in avid golfer Dan Quayle.

You haven't lived until a golf course developer shows you two wetlands and asks, "Guess which one we made?"

Not coincidentally, the developer-friendly Bush years brought about one of the greatest golf course construction booms in the history of what is now a $25-billion-a-year industry. In 1991 and 1992, new U.S. courses opened at the rate of almost one a day; today, another 2,000 are in various stages of planning or construction. But with 27 million golfers scrambling for tee times, the lords of golf insist the country's 14,000 courses are still overcrowded and that the construction of new courses must continue apace into the 21st century.

These emerald islands of manicured turf can remake a culture as well as a landscape. In booming Santa Fe, New Mexico, where one 18-hole course has served the town for nearly 40 years, five new courses (three as parts of expensive residential subdivisions) will be under construction or completed in the next two years, and several others are being considered. One planned course threatens to ruin the rural life of a 300-year-old community called La Cienega de Santa Fe. Many of its 400 families are concerned that the two historic *acequias* (irrigation ditches) that flow through the village will be depleted or polluted, and that the exclusive project will drive up property taxes overnight.

What gives golf developers the willies these days is knowing that many of their new courses won't open without long, expensive confrontations with environmentalists. Delays of

up to one year and added permitting costs up to $1 million are not uncommon. Though these obstacles fail to deter most developers (who tend to be devoted golfers themselves), Sierra Club and Audubon Society chapters have been successful throughout the country in altering or halting golf course projects they believed to be environmentally flawed. (The Sierra Club is currently challenging six courses in California and Michigan.) The Homestead Resort on the northern shore of Lake Michigan, perhaps the most controversial, proposes to fill portions of an 87-acre marsh. The regional EPA office had blocked the project, but Michigan Governor John Engler, who headed George Bush's 1988 state campaign, repeatedly appealed to then-EPA Administrator William Reilly to overturn the regional decision. Reilly obliged before leaving office, but a coalition of environmental groups sued. Now the matter rests before a federal court of appeals.

In the West, the overriding concern is usually water. While superintendents say most golf courses have reduced their water use in the last decade, it's of little consolation to Western conservationists who must contemplate the unslakable thirsts of desert golf meccas such as Palm Springs, Phoenix, and Las Vegas. At the windy, furnace-hot Palm Springs Country Club, for example, about 430 million gallons of water are pumped from an aquifer each year to maintain the artificial oasis — enough to meet the daily needs of almost 11,000 people.

In more humid climates, pesticide use is the critical issue. A 1982 EPA survey showed that the average course was sprayed and spread with more than nine pounds of herbicides, fungicides, and insecticides per acre each year, about three times the amount of poisons applied by even the most chemical-intensive agribusiness operations to

The American ideal of a golf wonderland: Thunderbird Country Club in Rancho Mirage, California (above). The traditional, less manicured Royal Lytham and St. Annes in Lancashire, England (left).

COURSES IN THE COURTS

Over the past three years, the Sierra Club has been involved in litigation against seven proposed golf courses around the country. In all but one of those cases (a course now nearing completion in Lakewood, Colorado) construction has been delayed or halted.

► On the outskirts of Los Angeles County, the Newhall Land and Farming Company gained approval for construction of an 18-hole golf course, 1,800 residences, and a 44-acre commercial area, along with the four-lane widening of a scenic road in an oak-dotted, state-designated Significant Ecological Area. The Sierra Club and a local environmental group sued in October 1992, contending that the development violates the county plan.

► In the Southern California suburb of Rancho Palos Verdes, one of the state's remaining undeveloped parcels of coastal sage scrub (and home to at least one breeding pair of the threatened California gnatcatcher) is in jeopardy because the city has approved plans for an 18-hole golf course. (See "Pact with the Developers?" page 53.) After the California Coastal Commission okayed the project over the objections of its staff, the Sierra Club, along with the California Native Plant Society and Save Our Coastline 2000, filed suit in January.

► In Michigan, the Sierra Club and four other groups are pursuing a lawsuit against the EPA and the Michigan Department of Natural Resources. At issue is whether the state has final jurisdiction over its wetlands and at what point the federal agency can rule on a plan's compliance with the Clean Water Act.

► In the lush Santa Ynez Valley outside Santa Barbara, California, the Sierra Club and a local group have challenged a golf course proposal as inconsistent with the county plan. The suit, in fact, challenges the county plan itself, alleging that it fails to reflect state laws protecting natural resources.

► In the golf mecca of Palm Springs, the Sierra Club has sided with bighorn sheep against a proposed course. The suit claims that the bighorn and several other wildlife species in Palm Canyon Wash, along with local flood-control efforts, are threatened by development.

► A coalition of wetlands advocates that includes the Sierra Club recently defeated a 400-acre golf course and commercial development that had been proposed for a site adjacent to 80,000 acres of Pacific Flyway waterfowl habitat near Los Banos in California's Central Valley. Undaunted, city officials are now considering a residential development for the site.

—Doug Fine

Tees v. trees: the Sierra Club has sued to protect oaks in Southern California's Santa Clarita Valley.

an acre of corn or soybeans. These figures vary greatly from region to region. A 150-acre, 18-hole course in North Carolina's heat and humidity might require more than 1,500-plus pounds of pesticides annually—three times more than a course in Colorado.

Among the estimated 126 pesticides currently in use on golf courses, three popular ones—chlorothalonil, 2,4-D, and trifluralin—have caused cancer in laboratory animals, according to the Eugene, Oregon–based Northwest Coalition for Alternatives to Pesticides (NCAP). Golfers usually don't know what chemicals have been applied to their favorite courses because only about 20 states require clubs to post notices, and few elsewhere voluntarily inform the public. It's not uncommon for golfers and golf course workers to have adverse reactions to the array of chemicals used to maintain their turf grass. And in one well-publicized case, that reaction was fatal.

Before Labor Day weekend in 1983, Navy Lieutenant George Prior, a healthy 30-year-old flight officer, was playing golf at the Army-Navy Country Club in Arlington, Vir-

ginia. After his round he experienced headaches, fever, and nausea. Within three days a sunburn-like rash covered his body, and large blisters hung from his arms and back. He developed pneumonia and kidney failure, fell into a coma, and died some 20 days after the game. An autopsy found that Prior had been killed by a violent allergic reaction to one of golf's most common pesticides, chlorothalonil.

To understand why golf courses are awash in chemicals, we must go to the most chemical-dependent area of the course, the putting green. There grass is mowed as short as one-tenth of an inch so putts will roll uniformly and sweetly into the hole. Because greens are shaved to almost pool-table smoothness, says Tom Cook, a horticulturist at Oregon State University, they constantly exist on the edge of life and death. Superintendents must fight moisture, wind, heat extremes, molds, and fungus (and, in my hometown of Austin, dreaded fire ants) to keep their "greens" green. If they don't, golfers and club owners whine, and then it is the *supers* who exist on the edge of life and death.

Such rigid standards exist because a golf ball will not roll consistently across patches of dead or dying turf. Golfers may compromise on some things, but if they've hit three wonderful shots and then arrive on a green that looks like a worn-out bathmat, they feel cheated.

Putting greens are more susceptible to chemical leaching than fairways or roughs because beneath that thin layer of turf is a base of 70 to 90 percent sand. Chemicals sometimes leach through sand, especially after heavy rainfalls. If those chemicals eventually migrate into, say, a stream filled with brook trout, which have a low tolerance for pollution, the fish may die.

The study golf supers cite most often in their defense, prepared in Cape Cod in the late 1980s, is actually so open to interpretation that both sides of the chemical controversy use it to support their arguments. Researchers looked for traces of 17 commonly used turf chemicals in the groundwater under four courses. The Golf Course Superintendents Association of America pointed out that no "currently registered" pesticides were detected in toxicologically significant concentrations; NCAP points out that the groundwater was still contaminated with seven pesticides, and that chlordane, a highly persistent pesticide now banned for use on golf courses, was found at levels more than 200 times greater than the government's recommended limits.

The United States Golf Association hopes to arrive at more definite conclusions about chemical use on golf courses by spending $3.2 million for 21 different studies now under way in 10 states. Whether industry-sponsored research is above reproach is an obvious concern: golf is a mammoth business in the United States (500 million rounds were played last year, at roughly $20 per round), and course maintenance alone is a $4.5-billion-a-year industry.

Can you trust a developer who tells you his golf course is environmentally sound? Arguments run from the simplistic (courses provide open space—at least for their members) to the sophisticated (some courses limit their pesticide use to avoid wildlife kills like that above). The New York Audubon Society's Cooperative Sanctuary System is one attempt to reward do-gooders. Courses are certified in seven categories ranging from "wildlife food enhancement" (such as bird feeders, below left) to "water enhancement" (such as buffer zones between fairways and waterways, below right).

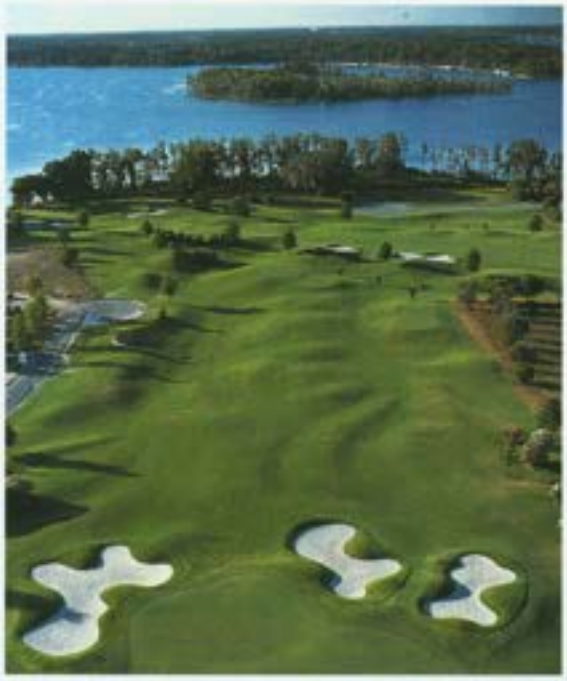
Each year, 12 million pounds of herbicides, fungicides, and insecticides are used to keep U.S. golf courses primped, pampered, and pest-free.

Chances are that the studies won't be relying on the research of Richard Klein. The former water-quality analyst with Maryland's Department of Natural Resources has made a new career of evaluating the environmental impact of shopping centers, housing developments, and more than one hundred golf courses. His firm, Community & Environmental Defense Services, often works for local citizen groups that oppose golf courses. Klein's research on Greystone Golf Course in Baltimore County, Maryland, which nearby residents feared might harm their well water and prolific trout stream, resulted in developers relocating a third of the golf holes farther from the stream than planned and greatly reducing the amount of water pumped from the ground. On Oahu, Hawaii, Klein helped scale back another project by advising that sediment from golf course construction could harm the ecosystem of Kaneohe Bay.

"We've defeated half of the bad projects we've gone after," Klein told me, "and found win-win situations for most of the others. I try to spell out what it would take to kill the course and what it would take to reconfigure the course to make it good. It's not lucrative work, but it's a lot of fun."

The golf gods are not amused.

Architect Michael Hurdzan of Columbus, Ohio, told *Golf Course News* that Klein "takes information out of context." Stuart Cohen, president of Environmental & Turf Services, Inc. in Wheaton, Illinois, said Klein's research "is below nominal scientific standards." The golf magazine called him an antigrowth advocate, and editorialized, in amazement, that "laypeople actually believe what he says."



For two years, Isleworth Country Club near Orlando, Florida, dumped nitrate-saturated effluent into adjacent Lake Bessie, turning once-clear water an algae-choked gray.

I asked Klein to describe the worst location for a golf course.

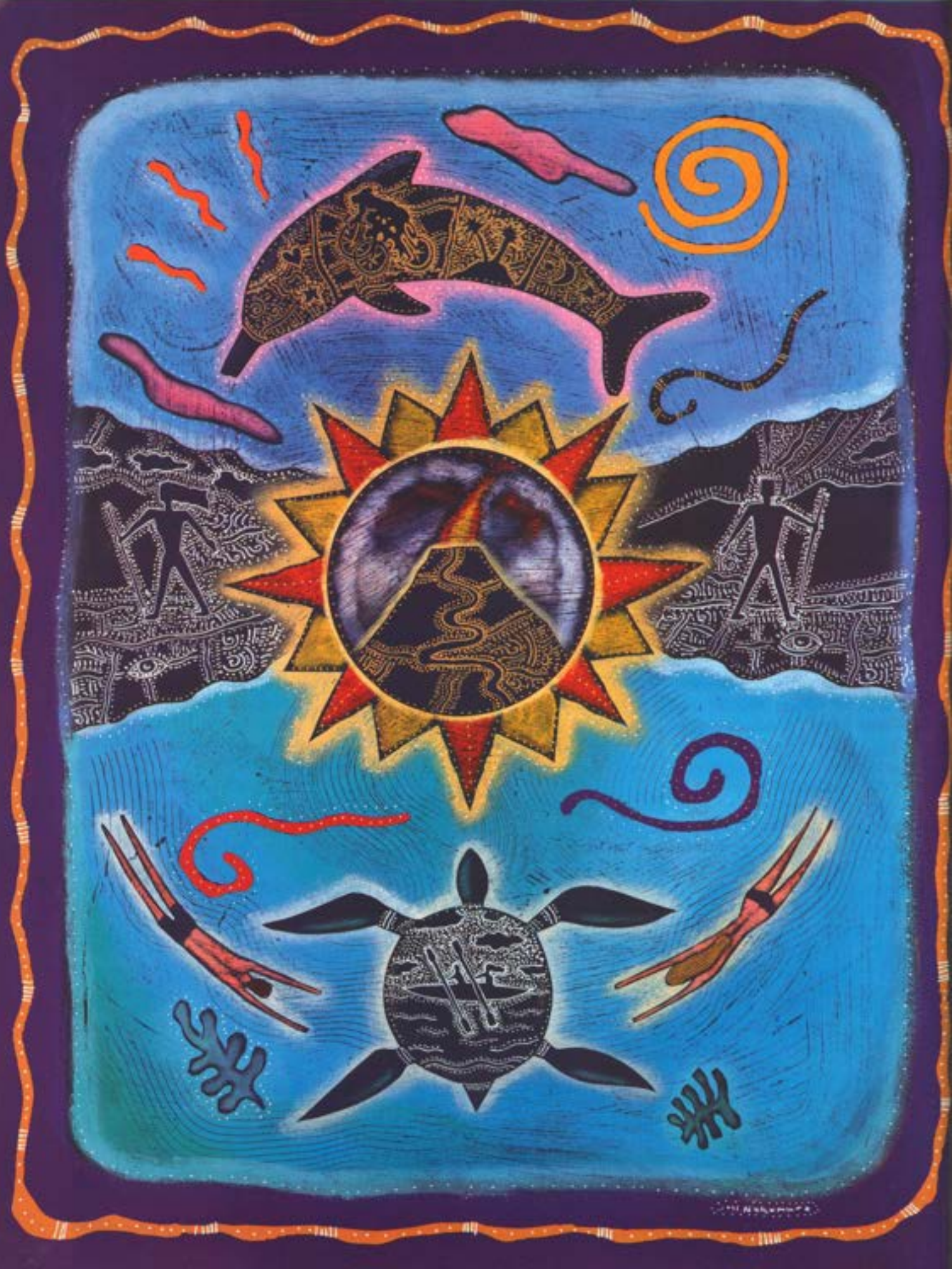
He mulled the choices for a moment. "About the worst place you could put a golf course," he said, "is near a water source, in a sandy area, with a shallow water table."

"You're describing most of Florida," I suggested.

LAND OF THE ETERNAL TEE

time, Florida has at least a thousand golf courses, more than any other state. Palm Beach County alone has 149. Adding up to some 312 square miles, Florida's golf courses, if they could be dropped from the sky Santa Fe–style, would almost cover

Continued on page 86



An Archipelago Built for Two

BY 7 A.M. WE ARE ON OUR BIKES, heading north out of Kona along the Big Island's northwest coast. The road cuts through fields of black lava that are already absorbing the first feelers of the sun's heat. In the distance to the right the volcanoes loom; a few hundred yards to the left the sea washes against a narrow fringe of palms. Few roads cross our ribbon of two-lane highway; a large sign warns motorists to beware of feral donkeys. With Sue in the lead we are cranking at a sedate, sensible pace. ◆ And that's the problem. I want to go faster. Sue knows I want to go faster. I know she feels like I'm breathing down her neck. She knows I feel like a hobbled horse. ◆ This has happened before: on skis, in hiking boots, with paddles in hand. We have a delicious, broken-in marriage. But—alert Oprah!—we are a Couple Who Moves at Different Speeds. As crises go, it's on the smallish side. But how many people have never really learned to cherish wild places because their camping or hiking or biking experiences were snarled by the tension of trying to keep up? ◆ I confess there is very little logic behind my desire for exertion. There is only the feeling in my muscles as we amble along the highway this morning: they want to stretch, be tested, hurt a little. It's not about health—if it were, I wouldn't climb off my bike and eat bags of potato chips. The only thing I can articulate is that I want to lose myself in the wilderness inside me,

She's a weary pedaler; he's a wary paddler.

Can this vacation (a.k.a. the Ironpair Triathlon) be saved?

by Bill McKibben and Sue Halpern

Illustrations by Joel Nakamura

want to erase some of the thought and replace it with strain, huff, pump. Want, for a few hours, to turn purely physical.

Early this morning, at the town dock, a streetlamp lit up a broad circle of the sea. A manta ray swam silent laps within the pool of light, eating the fish drawn by the shine. I felt an absurd, elusive attraction—I wanted to fit in like that, as self-contained and efficient and alert and brain-quiet as a wild animal. As purely physical.

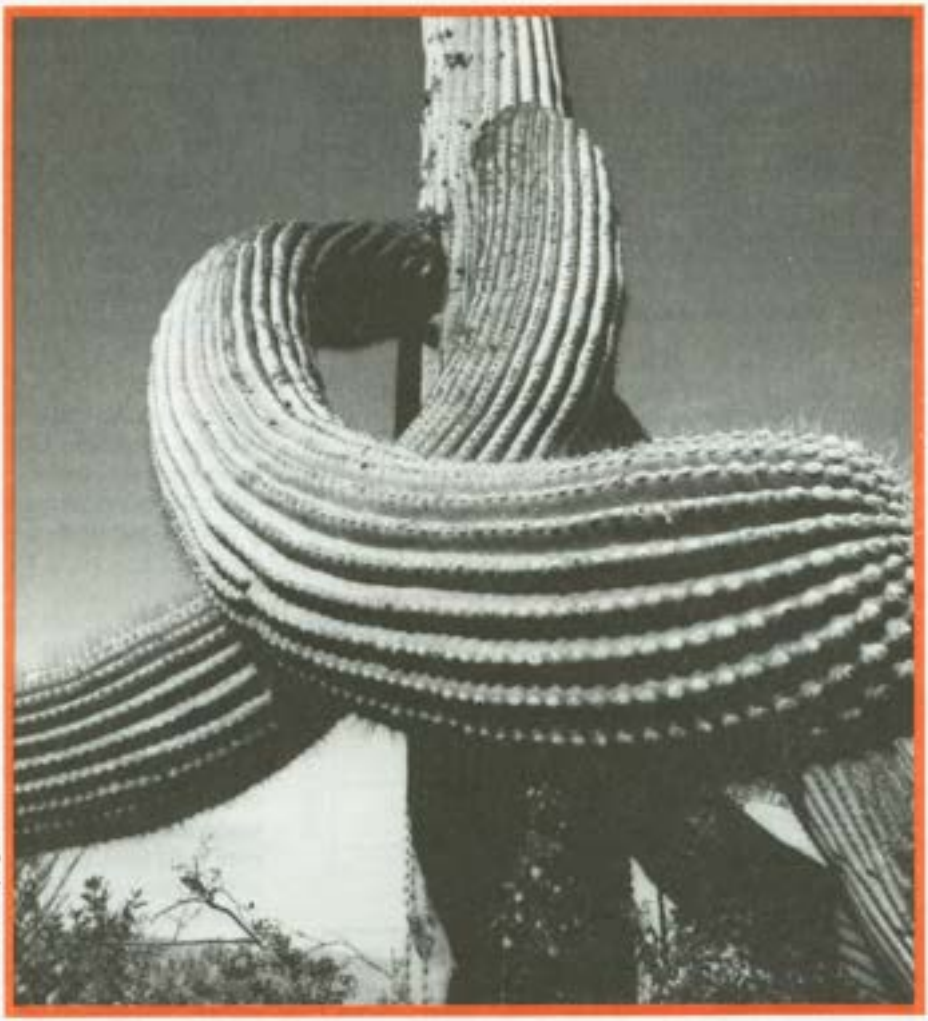
Every fall, at the same dock, the Ironman Triathletes emerge from their ocean swim and climb on bikes for a 112-mile ride before running a marathon. I'm not even a monoathlete, but in recent years the sport hasn't sounded quite as insane as it used to. I've gotten fond of exhaustion.

IT'S A LITTLE AFTER SEVEN in the morning and we've been on our bikes for more than an hour, Bill riding close behind me. Although we're out of town, traffic is heavy, especially truck traffic. So far it is exactly like the man in the rental shop told us it would be: motorists passing on the right, and cyclists getting sucked into the road on the draft of one 18-wheeler only to find themselves in the path of another. When he recommended heavy mountain bikes, both as ballast against such currents and as insurance against the shoulder's rutted, broken pavement, I eagerly agreed. For the moment, though, the asphalt is in one piece, and so are we, pedaling with some vigor to get beyond the condo zone, the new-construction zone, and the industrial zone that all radiate from Kona. This part of the road is simply a conduit to something less civilized; because we know that other place exists, we try to get there with some dispatch.

This works for a while, but then the heat kicks in, and there is no shade, and to take a drink of water means getting off the bike and rummaging through the panniers for the canteen. I am already slowing down, and slaking my thirst will only slow us further. A sign says it's 18 more miles to Waikoloa, our first day's destination.

Bill is pointing out the pink-and-purple bougainvillea, the yellow-fruited noni plants, the cinder cones, the lava tubes. I know he would rather be stretching his legs and going faster; he knows I want us to ride together so we can admire the flowers, discuss the landscape. Still, having him so close is making me uncomfortable—every time he squeezes his brakes to avoid running into my back wheel it sounds like a reproach. I know he doesn't mean it this way, and I know that it makes no sense at all that I am frustrated whether he rides like this or, what's more common, a half-mile ahead. Maybe I am the textbook case of the woman

We're Not The Only Ones Up In Arms Over The Environment.



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who can't be satisfied; maybe I should just divorce him and marry someone with a heart condition.

For the time being, though, we push on. The terrain is not bad—gentle uphills with nice payoffs on the other side. Even so, I find myself slowing down all the more, and not because I want to look at the scenery. I am just plain beat. Off to the left the Pacific is like a mirage: riding parallel to it, I never get any closer. We crest a hill and there, on the other side, is another couple, biking their way toward us. We stop and wait for them to reach the top. They've been cycling this part of the Big Island for three days, they tell us, and it's been hellish—strong headwinds, big trucks, lousy shoulders. I am daydreaming about riding back to Kona with them, turning in my bike, and picking up a rental car, when Bill jolts me back to the here and now by asking for the sunscreen. It's time to forge ahead.

We can see Waikoloa in the distance, five miles away, and while it's not a pretty sight—lots of concrete buildings crowded on a desert plain—it is quite attractive to me, largely because it is a few hundred feet below us. I coast all the way.

Ours are the only bikes on the beach; the parking lot is full of cars. I suppose the ocean is more appealing, more soothing, because we have had to sweat to get here. That's the theory, anyway, the one I was working from when I planned this trip. Right now I'm not so sure. This does not feel like much of a victory; I feel that my slower pace has let my partner down. What I am sure of is the packed sand and the temperate waters and my competing desires to stretch out on one and bob in the other. Soon I am floating in the ocean, washed by the gentlest of waves.

SUE AND I SPEND THE AFTERNOON on a beach in the resort community of Waikoloa. There are several hotels there, but the biggest—one of the most expensive hotel projects in the world—is the Hyatt Regency, a pleasuredrome so grotesque as to nearly defy description. Sweat-stained and scruffy, we walk straight past the toucans on perches guarding the front door and into an interior courtyard large enough for huge artificial waterfalls and dolphin pools and restaurant upon mall upon lounge. It's difficult to walk this vast kingdom, where the coconuts have been removed from the palms so they won't fall on guests; you're supposed to take either the electric tram or the electric boat that glides silently on the network of canals. We watch people for a while; most seem a little hushed, as if in deference to the opulence, and several dispute about where to find the Orchid Cafe or the flamingo pen, turning the resort map over and over in a vain attempt at orientation. It is not surprising that a world capable of producing this ersatz paradise has also given birth to the raving triathlete desperate for any connection with something urgent and primal.

On the road to Hawi

THE SHOULDER ENDS somewhere past Waikoloa. The sun is just up, and aspects of the landscape are not yet distinguishable. This is desert and it is deserted, except for the cars and trucks that whiz by with such speed my bike shudders.

But this is not my problem. My problem is that every downstroke sends a current of pain up my thighs from my knees. In the past these trusty legs have carried me up thousands of vertical feet and across hundreds of horizontal miles with hardly a whimper, but for some reason this morning they are wailing. The pain is general and it is specific, and we are in the middle of the desert and there is no choice but to go on until we find a place to stop.

We pick our way toward the next town, a sleepy outpost that consists of a gas station, a convenience store, and a sugarcane-processing plant. I climb off my bike, Bill straddles his, and we talk over our options. It's pretty clear I can't go on, not right now. I urge Bill to continue to Hawi without me—at least one of us will be able to see the landscape turn from rock to pasture, and the long green meadows that lead down to the sea. We make a plan to meet later a few miles up the road.

LEAVING SUE BEHIND, I ride by myself for a while—long, intense miles up the deserted Kohala coast. I take a side trip down a rutted mud track to Mookini Heiau, an ancient Hawaiian temple that was the site of repeated human sacrifices. Its 15-foot walls are built of cannonball-size rocks. There is no one else around and the fog gathers slick on the stones. All in all it feels a little *too* urgent and primal, so I ride away fast.

I stop an hour or two later at Lapakahi State Park, a pleasantly low-key restoration of a traditional Hawaiian fishing village perched near a coral beach. The man in the hut by the parking lot gives me a little map so I can guide myself around the taro fields and the small shrines. I come to a bluff where the villagers once sat to play a sort of checkers and look out to sea. "This is a quiet time when smells of fish and roasted sweet potato, crunchy and golden inside, drift from the fire pit nearby," the pamphlet reads. "The men are content but alert. Perhaps it is now that someone will shout

I want to erase some of the thought and replace it with strain, huff, pump. Want, for a few hours, to turn purely physical.

At no time is there any talk of walking faster, because the faster we walk the sooner we'll be gone from this strange, still, gorgeous place.

'akule!' and all will be left behind in a rush to get the canoe launched. In a few minutes the sea will be swarming with fishermen harvesting the plenty the gods have provided." It sounds as if the Lapakahians, even lacking mountain bikes, might have mastered this problem of pace.

BILL SPRINTS AWAY and I settle in at the convenience store with the local newspaper, waiting for the pain in my legs to subside. "Self-pity could threaten to engulf you," I read in my horoscope. "Exercise boosts your spirits and helps restore your self-esteem."

A man in a pickup truck pulls into the parking lot. He's got a fancy road bike in the back, and lots of cycling paraphernalia. When he sees my bike he stops to chat, tells me he's driving north, past Hawi, to pedal with a friend. I tell him why I've stopped; he asks if I want a ride. It's a risk, but he looks honest enough; he's wearing biking shorts, and there is a helmet in the cab, and I *do* want to see this part of the island. So what if I don't get to Hawi under my own steam? We introduce ourselves and I lift my bike into the truck bed. It's a pleasant coastal drive, and when we get to Hawi I meet up with Bill, who has made it here in record time.

Deep in Haleakala crater

WE SPEND THE MORNING in a cab, an airplane, a rented car—in insulated environments where, as long as our shells are unpunctured by collision, nothing can really go wrong. We spend the afternoon in our hiking boots in the rain, having to make real decisions. What we decide will, as always in the outdoors, determine how comfortable we are, and even how safe.

Not that there is any real danger in Haleakala Crater, the immense remnant of the great volcano that built the island of Maui. The temperature might drop to freezing, but not far below; the only wild animal is the nene, a small Hawaiian version of the Canada goose, notorious only for its panhandling. Still, when we reach the campground at Holua, we have to choose: camp here in the cramped dampness of an undersize tent, or push on six miles to a dry, warm cabin at Paliku, at the far end of the crater. On the one hand, darkness is just two hours off, maybe two and a half; on the other, the topo map shows an easy downhill grade. It's always like that, equal parts tantalizing and sobering.

Sue's inclination is to stay, mine to go. Another hiker is standing near, and we tell him of our dilemma. He looks incredulous—who wouldn't opt for the roof? Once he says it, the dripping rain seems just too dismal, and we strike off, though not without some nervousness. Sue, I think, is afraid she's going to have to hike faster than she wants to, faster perhaps than she can. I fear that if we end up bivouacking, it will be an unpleasant night emotionally as well as physically. With companions of roughly equal strength, it's not as troublesome to goof up—your failure is of judgment or estimation, not compassion. But I want to go—and if we make a sodden camp on the lava, I'll have a long shivery night to kick myself.

As if by common survival instinct, we talk of everything but our situation. Shrouded in fog, we return to the mainland, proposing marriages for our friends, renovating our house, playing several killer rounds of Botticelli. We move efficiently, briskly—we stop to drink, but we do not tarry. And we make it, of course—ten minutes before dark, just as I am forced to admit I simply cannot guess the dead actress whose last name began with "K" who had a statesman husband.

Once inside the Park Service cabin it takes me less than half an hour to light the woodstove, with the damper in the wrong position, thus filling the structure with so much smoke we have to sleep with the door wide open. Still, we are plenty warm, and proud.

THE TRAIL INTO THE CRATER to Paliku is one of those remarkable engineering feats of the Civilian Conservation Corps, a series of finely graded switchbacks that hang over the valley like tiers of balconies. Bill and I walk this part of the trail quickly, despite the rain.

I am in the lead, setting the pace, and it is a responsibility I am not enjoying. If we don't get to the cabin in time, I will feel it is my fault. My feet fly, but my mind is still back at the first campsite, wondering how bad it would have been to put down our packs, put up our tent, take off our boots, and listen to the rain hit the fly. We once spent a memorable evening in a downpour, camped without a tent on top of a mountain, singing songs to drown the thunder. Maybe after all these years I remember it being more fun and exciting than it really was. (I do recall that it was days until our boots no longer sweated rainwater.)

I stop for a moment to look at the spiny green crater walls in the distance, and the cinder cones of red and black on the crater floor. "We don't have time for this," Bill says half in jest, nudging me along. "We can't slow down if we're going

to get there before dark."

The trail, where it is not loose, rugged lava, is cinder. It's like hiking through sand, and it slows us down. What can be seen of the terrain is lunar and eerie. We pass a giant hole in the ground called "The Bottomless Pit," and although we are hiking at 6,500 feet, it seems impossible, looking up at the steep crater walls, that there is any deeper place on earth.

I am nervous, worried that we won't make it, worried that we'll get lost, worried that my legs will give out again, worried that the key to the cabin will slip out of my pocket and we won't realize it until we get to Paliku.

Somehow it is an hour later. A sign says we have a mile to go. There is just enough light to read it. We have slogged through ankle-deep water and slid over rain-slick lava. We are cold and clammy but only notice it now.

"Grace Kelly," I tell him.

THIS IS A DAY FOR READING, for drying out in the sun, for sitting on a rock outcrop and looking through the vast open end of the crater far out to sea. Most of the morning a cloud factory churns in the pass—great white billows rise out of the ocean and come charging up toward us, stopping a quarter-mile short, dissipating in the heat of the crater. But at dusk it begins to clear, and eventually we can see across the 20 miles of channel to the Big Island and its still-living volcanoes with their own cloud caps.

A few days later, when we hike out, we read in the newspaper that a camera crew had been stranded on the rim of Kilauea, Hawaii's most active crater, after a helicopter crash, breathing the sulfur for a couple of nights. There are the primal experiences, like triathlons, that you can end at any time, by walking instead of running; and there are those that you can't escape, owing to the vagaries of weather or volcanic activity or tectonic movement. Such challenges are past rare now, almost vanishing—they make the news. But they must have once been standard fare for people who lived half their lives in wooden canoes, who hiked for hours and days without a forecast, who knew that warm and dry were states of deep pleasure, not neutral givens.

Such people would find the very idea of "roughing it" for pleasure perverse, and they'd probably be thrilled with central heat and air-conditioning. But after a few years, or a few generations, they might find something lacking in what we call normal life. Or maybe it's just me. I hike because I have an appetite for beauty, but I know I hike for other reasons, too.

WE COULD BE IN THE AMAZON, it is so green and lush around the cabin. Out front is a meadow of tall grass and a stand of squat trees; we must be the only people on this continent. Paliku, which gets around 200 inches of rain each year, is one of the wettest places in the crater, but not today. Today is summer. Bill

scouts a promontory and we climb it and eat our lunch. Giant cumulus clouds drift across an oceanic sky. It is a lazy day at the far end of the middle of nowhere. Because Bill's boots are soaked through and drying on the picnic table in front of the cabin he is basically grounded. It is a relief not to have to go anywhere.

The next morning we do have to leave, and there is no way out of Haleakala but up. I am in the lead again, but this time it's the sun that's chasing us. Still, there is little chance of getting into trouble, and we are both at ease, strolling more than hiking. There is finally time to look around. We stop to inspect a silversword cactus that, aside from the two of us, appears to be the only living thing on the crater floor. We remind each other to stay hydrated. We rest on the soggy ground where we might have camped two days before. At no time is there any talk of walking faster, perhaps because the faster we walk the sooner we will be gone from this strange, still, gorgeous place.

The southern coast of Kauai

AS WE EAT BREAKFAST, our kayaking guide recalls the time he paddled from Oahu to Kauai, 70 miles across open ocean. He fell asleep at one point, only to be awakened by a rogue wave breaking across his bow.

Then, in the Kauai newspaper, between the ads for roofing materials and bulletins about storm insurance, I find a story about tiger sharks, 15 feet long, that had killed two boogie-boarders in recent weeks. Apparently the sharks had mistaken the boarders for sea turtles, a mainstay of their diet. Several Kauai beaches are closed as a result.

As we drive across the island to the put-in point, our guide starts talking again. This time his subject is wind, and the kayaker who got a little too far out one day and couldn't fight the gusts back in to shore and, not to put too fine a point on it, blew out to sea and was never found, no not ever.

All of which is to say that now that we are out in a stiff cross-breeze that pushes foaming waves across the bow of our kayak as we speed through ponderous groups of sea turtles, I am a little uneasy. I've hardly been in a kayak before, much less out on what soon seems the absurdly open ocean. A little uneasy, as in asking my wife three or four hundred times, "Don't you think we should be a little closer in to shore?" or "Are we far enough away from the breakers?" A little uneasy, as in paddling maniacally against the wind. A little uneasy, as in swearing *sotto voce* at our nonchalant guide who has paddled on a quarter-mile ahead, apparently under the impression that this is a calm and normal day, not a brush with briny mortality. Some questions occur to me:

1. Is that fat swell out there a rogue wave?
2. What about *that* one?
3. Fifteen feet is about how long?

Sue has been sea-kayaking before, in conditions of actual danger—for her this is nothing, and she is mildly amused at my consternation. No longer the comfortable, even overconfident semiathlete eager to break out on my own, no longer the rambling philosopher of primal experience, I am damn glad she knows what she's doing.

We paddle on, stronger by the minute. The wind turns to our backs, pushing like the hand of God. The sky could not be bluer, nor the sea clearer. A sea turtle crosses amidships, three or four feet beneath the surface. Ponderous, contained, at home. Another turtle follows; they surface near each other with rude snorts and then dive again, side by side.

IT IS ONE OF THOSE delightful laws of physics that people who are in the same boat have no choice but to travel at the same speed. Our craft is an 18-foot tandem sea kayak that we put in a few miles north of Poipu and are taking eight miles north, to Port Allen. We're close enough to shore to see the effects of Hurricane Iniki—resort hotels in shambles, motorboats upended in the shoals, palm trees ripped out of the ground, crowding the otherwise empty beaches, turning gray.

Ours is the only boat around, small or large, and we're definitely not paddling in sync. Bill, for a change, is the tense one. He's never paddled in open ocean before, and the tug and slap of the waves emphasize how small we are and how flimsy our little craft. The turtles are out, though, flotillas of them, big green sea turtles that drift on the surface and look like giant toadstools, or ottomans. One dives underneath the kayak and surfaces on the other side with a terrific "harrumph."

Because I am the more experienced paddler, I am the captain of our kayak, which is to say that I know better than to assume anything but that the sea is in charge here. It's up to us to match and marry its rhythms, and until the wind picks up, we do.

The wind sets us back. We push against it; it does not give. Our progress can be measured in inches. Bill suggests that I paddle with just a wee bit more vigor. I suggest that I am paddling as hard as I can.

The dolphins chasten us. They are off to the left, a few yards away, six of them in three pairs, and they are leaping out of the water, completing double and triple axels, spinning fantastically, then falling back into the water, perfectly synchronized. It is a thrilling, joyous display, maybe three minutes long, and then it is over. The dolphins sink back underwater, we continue on our way, and whatever there is to say about it we say by slicing our paddles through the water and then through the air and then through the water—through the air, through the water—with deliberate, mindful unity. ■

BILL MCKIBBEN *is the author of* The End of Nature *(Doubleday, 1990)* and, more recently, The Age of Missing Information *(Plume, 1993)*. SUE HALPERN *is the author of* Migrations to Solitude *(Vintage, 1993). They live in the Adirondacks.*

►***For more information, see "Resources," p. 104.***

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Greens Fees

Continued from page 77

New York City's five boroughs.

When I arrived in the Orlando area, I found myself surrounded not only by the understated charm of Disney World, Sea World, Flea World, and Gatorland (home of "Gator Wrestlin' Cracker Style"), but by a large number of exclusive housing developments beside lush golf courses. Traveling north on Apopka-Vineland Road west of downtown, I ran a gauntlet of walled communities with security guards and dreamy names like Torrey Pines, Turnberry, and Silver Woods.

The finest of all these fortresses is Isleworth, a 500-acre development built over turn-of-the-century orange groves, land now valued at a million dollars an acre. It's home to, among others, Disney World executives, Orlando basketball superstar Shaquille O'Neal, and a half dozen professional tour golfers. Offering undeveloped lots at $250,000 and mansions into the millions, Isleworth beckons with "stunning homes wrapped in serene magnificence . . . with breathtaking views of water, cypress, and fairways."

What makes the Isleworth property so appealing is a 175-acre sinkhole called Lake Bessie, part of North America's largest concentration of sand-bottomed lakes. Looking like thousands of tiny droplets on a map, 2,500 lakes formed in limestone depressions cover the four central Florida counties of Lake, Osceola, Orange and Polk. Bessie and the surrounding Butler Chain of Lakes are so renowned for their purity that until the 1970s some residents drew their drinking water from them.

Walter Morcom, a thin and gray-bearded 82-year-old, moved to Lake Bessie's banks in 1948, when the shore was full of maples, hickories, and oaks, and he could see to the bottom of the lake. "We used to swim after softshell turtles," Morcom told me on a rainy fall day. "We felt like we had Eden here."

So did John Robertson, a successful Orlando attorney who built his home near Morcom some 20 years ago. But Eden changed, with rapid algae growth on the lake and rising water levels that killed trees, flooded yards, and rotted boat docks. Then, in January 1987, one of Robertson's neighbors was fishing on the lake and discovered green, foul-smelling effluent pouring out of a 42-inch pipe from the Isleworth property. The change suddenly made sense to Robertson.

"They had been secretly dumping their golf course's nitrate-laden runoff into the lake for two years," Robertson told me as we puttered around Lake Bessie on his pontoon boat. "The pipe wasn't on any of their plans. It was hidden in brush. It ran millions of gallons into the lake." What had been one of the state's clearest lakes became oxygen-starved and turned an opaque metallic gray, while the bottom became coated by a black muck. Isleworth officials denied responsibility and even accused the Lake Bessie residents of spiking water samples tested by the state.

What ensued was a golf course developer's worst nightmare. After a monumental four-month trial—the longest ever in Orlando—a jury found in August 1990 that Isleworth had negligently polluted the lake. The residents were awarded $6.66 million in legal fees and damages. In a scene of indescribable delight for Robertson, court-ordered moving vans were sent to the country club to seize its assets, right down to the tacky clubhouse sweaters, as local television-news helicopters hovered above.

I had hoped to meet with Isleworth general manager Ed Blakeley, but the night before our meeting he called to say his bosses had canceled the interview. "I'll be quite blunt about it," he told me amiably over the phone. "We don't need the press. The trial wasn't decided on facts, but emotions. It was a travesty. The biggest myth is that land developers and golf courses are major polluters. We're all environmentalists. We all want to save the earth."

Save it for *golf*, they mean. Where were all these country-club Cousteaus when thousands of acres of wetlands and prairie became sand traps?

Given the typical process of development, most land merchants were able to quietly do and say whatever was expedient at the time to get their projects approved. When it was okay to carve up wetlands, they did it; when the feds said guard them like the Mona Lisa or you can kiss your Rancho de Valet Parking goodbye, well, they got the green gospel quick.

Some golf course developers, however, do respond to environmental concerns once they have their permits in hand, and they deserve credit. At the Honors Course in Ooltewah, Tennessee, course superintendent David Stone has helped restore the native bluebird habitat. At the Pine Ridge Golf Course in Towson, Maryland, superintendent Tom Cassat is experimenting with integrated pest management by attacking fungi such as black algae with diluted bleach, and fertilizing his course with a turkey-bone-and-feather concoction instead of harmful chemicals. At the Eagle's Landing course near Ocean City, Maryland, fewer chemicals and preservation of wetlands mean happy egrets and blue herons—and lots of mosquitoes. Golfers do their part by lathering on bug repellent at the clubhouse.

There would probably be many more success stories if it weren't for the unrealistic demands of many golfers. Golfers want faster, trimmer putting surfaces and shorter, smoother fairway turf. Yet the more meticulously shaved grasses have less mature root and shoot systems and are usually less tolerant of heat, cold, drought, or excess moisture, and more subject to disease than higher grass. In Scotland, the ancestral home of golf, courses are less manicured and consequently require fewer chemicals.

Some superintendents are trying to educate golfers that it is unreasonable and unhealthy to expect a wall-to-wall carpet of green grass at their favorite course. An Austin course superintendent, Greg Hinton, told me, "Mister Golfer needs to be less concerned with color. Brown is okay. That nice green park appearance is not really necessary."

His is unquestionably a wonderful notion, but don't count on "brown-is-

beautiful" becoming golf's new motto. While speaking with Mark Leslie, an editor at *Golf Course News*, I confided that I would feel uneasy playing at one of the glitzy desert resorts in Arizona or Southern California. There was a disbelieving silence on the other end, for these are golf's holiest shrines.

"Isn't there anyplace," I asked, "where you think golf just doesn't belong? Like Palm Springs, maybe?"

Leslie was incredulous. "Have you seen what's outside Palm Springs? There can't be an uglier spot on God's green earth. But there's some beautiful turf at La Quinta golf course."

Leslie's attitude mirrors that of his industry's leaders and, sadly, most golfers. Golf's potential profits have developers thinking virtually no piece of earth is unsuitable for the game, and that virtually any open terrain, regardless of its ecological qualities, almost begs for fairways and sand traps.

There is much to love about this simplest of games. Golf is, at its heart, an excuse to walk outdoors with friends in an increasingly unfriendly world and compete against the toughest of opponents, yourself. I will continue to play golf, and I'll continue to ask course supers what they do to protect the land beneath my spikes. (Most don't mind the questions.) And I will boycott the worst courses like a load of Japanese tuna, even as I understand that a golf course is probably preferable to any shopping mall, but less desirable than land left wild.

Can golf reform itself? Probably not anytime soon. This once-unassuming game is permeated with greed and guided by developers whose understanding of nature apparently comes from pretty postcards. But I do have a suggestion for those who are driving golf's insatiable expansion: if they truly want to gain some credibility for their "green" movement, they would do well to learn the most basic conservation lesson of all, which is that nature is often best protected when people simply leave it alone. ■

BRUCE SELCRAIG *writes—and golfs—in Austin, Texas.*

REVIEWS

KATHLEEN COURRIER

John Burroughs: An American Naturalist
by Edward J. Renehan, Jr.
Chelsea Green; $24.95

Probably no nature writer living today enjoys the acclaim that John Burroughs (1837–1921) knew in his lifetime. Sales of his books broke records; his writing retreat in upstate New York—"Slabsides"—became a kind of literary Lourdes; and Burroughs, who possessed an almost slavering admiration for the rich and famous, vacationed with the likes of Teddy Roosevelt, Henry Ford, Jay Gould, Andrew Carnegie, and Thomas Edison. But for most of his life, Burroughs was also a farmer—and no country gentleman. He wrested rocks bare-knuckled from the raw Catskill soil and rejoiced when his only son returned from Harvard to do the same.

Helped along by a paper trail that any biographer would envy, Edward J. Renehan, Jr. paints a seamless picture of Burroughs' double life. He shows how Burroughs' years away from the farm not only afforded the essayist the leisure to develop his descriptive powers and the chance to befriend Walt Whitman (his future guru), but also convinced him to return to his rural roots. Renehan gives an intelligent reading of eight decades of American intellectual history as well. Sizing up Burroughs' fit with his times, he shows how easy it was for a naturalist awed by Charles Darwin's genius to get caught up in the late 19th century's gathering tidal wave of social Darwinism. He tracks Burroughs' myth-busting role in a hot debate (since cooled by the advent of documentary films) over conflicting notions of animal behavior. And he imparts some sense of why the romantic agrarian vision that made Burroughs a celebrity in his own day would not have the staying power of his friend John Muir's uncompromising wilderness ethic.

The Very Rich Hours: Travels in Orkney, Belize, The Everglades, and Greece
by Emily Hiestand
Beacon Concord Library; $20

Though she muses brilliantly on the joys of aimless travel, poet Emily Hiestand leaves such pursuits to others. Her trips to quiet, far-off places are taken "to pose a question—what is right habitation?—and to listen for such answers as each place has to give."

Trailing Mayan ghosts in Belize, Hiestand asks whether "economic development means acquiring the ecological and psychological wounds of the West." Drifting through the Everglades, she slowly lets go of the idea that life revolves around human beings, then exults in the peace that shedding the notion brings. In Scotland's remote Orkney Islands, she tests the premise that "a people who cultivate civilities in public life also tend their lands and water with care." In Greece, Hiestand revisits the classics, speculating that the social upheavals dramatized in Greek tragedy may have begun with violations of nature (as in the *Oresteia*, for example, when Agamemnon sacrifices his daughter Iphigenia, the female life force, to the demands of the warrior state, only to pay later with his own life).

Hiestand clearly has trouble relaxing the ingrained defenses of a somewhat shy middle-aged woman made wary of strangers by city life. Yet she cheerfully obeys instincts that tell her the keys to right living are to be found far from familiar places and everyday experience.

A Fierce Green Fire: The American Environmental Movement
by Philip Shabecoff
Hill and Wang; $25

A young Aldo Leopold once saw "a fierce green fire" burning in the eyes of a wolf he had shot, and could never forget it. Former *New York Times* reporter Philip Shabecoff, who now edits the electronic newsletter *Greenwire*, borrowed this image for the title of his new book because he sees the rise of the U.S. environmental movement as a force as vital as wild nature.

Interested mainly in how new ideas about managing resources have been received politically, Shabecoff bites off history in hunks the size of presidencies. In this century, he singles out Theodore and Franklin D. Roosevelt for their foresight, and Warren Harding and Ronald Reagan for their systematic violations of the public trust. Reagan gets the most convincing drubbing, partly because Shabecoff—a novice historian but a veteran reporter—was a witness to Reagan's term of destruction. Shabecoff shows how, blow by bureaucratic blow, "Reagan's policies and especially his appointments constituted the most organized, sustained, and virulent opposition ever encountered by the environmental movement" and smothered the tradition of bipartisanship in American conservation.

As Shabecoff sees it, the Reagan "counter-revolutionary" years effectively neutered the militant activism born on the first Earth Day, which had itself replaced a tamer, slower-growing movement. But in the end, he observes, environmentalists became more pragmatic and professional, developing sophisticated media campaigns and po-

litical action committees to extend their reach farther than ever before.

The Power of Place: How Our Surroundings Shape Our Thoughts, Emotions, and Actions
by Winifred Gallagher
Poseidon Press; $20

According to Winifred Gallagher, "Where do you come from?" might be a better social access code than the usual "What do you do?" Place, she sets out to prove, shapes both how we behave as individuals and how we evolve as a species.

Recent studies summed up in *The Power of Place* show how people respond to light, temperature extremes, noises, natural beauty, crowding, electromagnetic fields, and other environmental variables in their surroundings. The findings validate some myths and debunk others (yes, inadequate light can nurture depression and, no, crime doesn't peak when it's 92 degrees in the shade). They also spark provocative theories, such as the idea that anxiety may have begun as a physiological defense against cold weather—perhaps a clue to why people in northern climes are often perceived as uptight.

A few of the social scientists Gallagher interviews have rediscovered folk wisdom and are taking a serious look at nature's tremendous influence on people. Unfortunately, a fair amount of the social science described in the book is claptrap, but the dubious trade in resurfaced truths doesn't bother Gallagher. And why should it? She may well be right that modern science's neglect of traditional knowledge and nature's restorative powers is a far worse sin.

The Way
by Edward Goldsmith
Shambhala; $20, paper

Where Milton's *Paradise Lost* once strove to "justify the ways of God to men," Edward Goldsmith's *The Way* attempts with equal ambition to justify the ways of Gaia to humanity. In this dizzying tome, the maverick editor of *The Ecologist*, Britain's most strident and unorthodox

green magazine, expounds upon the principles of ecology and enumerates the conceptual shortcomings of the mechanistic view of reality associated with French philosopher and mathematician René Descartes. Goldsmith argues that humans will never regain harmony with the natural world as long as our dominant worldview is one borrowed from physics and everywhere misapplied. He claims that mainstream science and its stepchild, economics, have atomized experience, beguiling us into extending our control over nature and igniting our unnatural passion for what passes as progress.

For a better way, the *only* way, Goldsmith looks to "vernacular" societies. With eons of environmentally benign experience under their pelts, hunter-gatherers have adapted to their habitats in ways that industrial and even agricultural peoples haven't. Traditional folk have also preserved the vital link between spirit and matter—the original environmental-protection policy.

But until he attracts disciples who can translate his inspired ranting and overcooked polemics into a usable design for simpler living, Goldsmith's ideas won't change the ways of those who scoff at the notion of returning to the modern equivalent of hunting and gathering. *The Way* is a scripture-in-progress, not a guide to action.

BRIEFLY NOTED

Thirty-two years ago, the San Diego Chapter of the Sierra Club published a little red handbook on basic mountaineering that enabled many a tenderfoot to become an accomplished peak-bagger. The book has been revised many times, but the latest version, ***Wilderness Basics: The Complete Handbook for Hikers and Backpackers*** (The Mountaineers; $14.95, paper) expands well beyond the immediate need of the San Diego Chapter for a textbook to use in its wilderness courses. The new edition is geared to all those seeking advice on how to prepare for, persevere in, and enjoy the wilds. Edited by two veteran Sierra Club outing leaders, Jerry Schad and

David Moser, the book includes sections written by 22 Club members who share their knowledge of wilderness ethics, physical conditioning, trip preparation, outfitting, foods and cooking, wilderness navigation, the weather, backpacking with children, coast, desert, and mountain travel, winter mountaineering, first aid, and search and rescue. . . . At the outset of ***The Backpacker's Handbook*** (Ragged Mountain Press/McGraw Hill; $14.95, paper), author Chris Townsend quotes from a sign posted on a wilderness outfitter's backcountry dwelling: "Do not break into this cabin unless in an emergency. If you do not come across the mountains prepared, you do not deserve to be in them." To help his fellow trekkers heed this admonition, Townsend has written a clear and comprehensive primer on backpacking gear. His knowledge in this area is immense: he learned the necessities of low-impact hiking and camping in the course of traversing at least 12,500 miles across the backcountry of North America and Western Europe. . . . "Canoe travels are the stuff from which lifetime memories are made," writes I. Herbert Gordon in ***Canoeing Made Easy: A Manual for Beginners with Tips for the Experienced*** (Globe Pequot Press; $16.95, paper). This fully illustrated guidebook offers lucid advice on trip planning, paddling techniques, "reading the water," portaging, and much more. Gordon learned the sport inside and out during 25 years of paddling North American waterways, partly as a canoe instructor and national wilderness-trip leader for the Sierra Club's Atlantic Chapter. . . . An innovative cartography company in the Northwest has produced the latest in a series of elaborate trail maps that eliminate the need to cart around bulky, cumbersome guidebooks. ***50 Old-Growth Day Hikes in the Mt. Hood National Forest*** (Old-Growth Day Hikes, P.O. Box 5651, Eugene, OR 97405; $7.50) incorporates a wealth of information on two sides of a single sheet. It includes several detailed topographic and area maps along with interpretive text describing trail routes and the types of old growth to be found in various locales. . . . Progressive-minded high-school students and others preparing to go to college would do well to begin their search with the 1993 ***Making a Difference College Guide: Education for a Better World,*** edited by Miriam Weinstein (Sage Press, 524 San Anselmo Ave. #225, San Anselmo, CA 94960; $12.95 plus $1.75 shipping; California residents add $.95 tax). The book lists 71 schools offering a socially responsible education. All in some way meet the editor's criteria for fostering critical thinking, social activism, sensitivity to women's issues, and responsibility to community, the earth, and future generations. . . . "Our dominant political parties seldom take distinctive policy positions until pushed by social movements." So notes sociologist David Walls in ***The Activist's Almanac: The Concerned Citizen's Guide to the Leading Advocacy Organizations in America*** (Simon & Schuster; $18, paper). To help activists identify who is pushing for what kinds of change, Walls provides descriptions of and commentary on a wide variety of groups, including several working in the environmental field. Most of the organizations profiled (including the Sierra Club) are progressive, but Walls does include a few, such as the Heritage Foundation, that lean too far to the right to fit comfortably in this collection. . . . Is it safe to consume water boiled in aluminum pans? Can the AIDS virus be transmitted by sharing a glass of water? How does lead get into tap water? Is "distilled" water good for drinking? These are just a few of the 101 questions raised (and concisely answered) in ***Plain Talk About Drinking Water*** by James M. Symons (available from the American Water Works Association, Member Services, 6666 W. Quincy Ave., Denver, CO 80235-3098; $5 each plus $5 shipping, paper). This simple primer addresses nearly every conceivable potable-water issue, responding to queries both elementary and arcane. . . . J. Gordon Millichap's ***Environmental Poisons in Our Food*** (PNB Publishers, P.O. Box 11391, Chicago, IL 60611; $29.95, cloth;

Embracing Earth: New Views of Our Changing Planet
Payson R. Stevens and Kevin W. Kelley
Foreword by James Burke
Chronicle Books; $39.95

Images of Earth from space, created with remote-sensing technology, can reveal (as a camera does) what the human eye would see at such a great distance, or they can show things otherwise invisible: the temperature of oceans, the flow of air currents. The data thus collected help scientists inform environmental policymakers; as works of art, they likewise inform the hearts of citizens, perhaps with equal effect.

Above, Turkey's Mt. Ararat and environs. Left, the Yangtze River as it flows past Shanghai.

$14.95, paper, plus $2 U.S. delivery and handling) provides an enlightening (if sobering) reference guide to toxics that worry many people. These include (among other things) food additives, caffeine, alcohol, trace elements and minerals, vitamin excesses, and pesticide residues. Millichap does a fairly good job of explaining the technical aspects of these substances, keeping the book both scientifically grounded and readable. ***—Mark Mardon***

READINGS

From ***Tales of a Shaman's Apprentice: An Ethnobotanist Searches for New Medicines in the Amazon Rain Forest*** *by Mark J. Plotkin (Viking; to be published in August 1993).*

To the ethnobotanist, curare represents a sort of Holy Grail. Prepared from jungle plants and smeared by the Indians on the tips of their arrows and blowdarts to give them a deadly effectiveness, this lethal poison embodies all that we seek in the course of our research. Its preparation often shrouded in secrecy and ritual, its complex chemistry still incompletely understood by Western scientists, curare has fired the imaginations of Western explorers for almost five hundred years.

Curare is one of the few words in the English language derived from Amazonian Indian dialects. Also called *wourari, wourali, urari,* and various other names, curare is actually a blanket term for all arrow poisons prepared by tribal peoples from tropical plants. Most curares function by interfering with the transmission of electrical impulses from the nerves to the muscles. This causes the muscles—including the diaphragm, which controls breathing—to relax and to eventually stop working. A curare victim can suffocate within just a few minutes. But new types of curares are still being discovered. While working in northern Brazil in the late 1960s, Professor [Richard Evans] Schultes discovered an arrow poison that, instead of killing its victims outright, apparently stuns them by inducing hallucinations. The animal lies there, presumably tripping to the Amazonian

equivalent of "Sgt. Pepper's Lonely Hearts Club Band," while the hunter calmly moves in for the kill.

Though curare is still used by some Indians as a potent weapon in the hunt, physicians in industrialized countries have long used curare to treat a variety of conditions. Initial experiments concentrated on using curare to ease the stiffened muscles caused by polio and to treat such diverse conditions as lockjaw, epilepsy, and chorea, a nervous disorder characterized by irregular and uncontrollable muscle movements. More effective treatments were eventually found for those illnesses, but researchers pinpointed a number of uses for a curare that originated in the western Amazon. An alkaloid known as d-turbocurarine, the active principal in this curare, is extracted from a liana in the moonseed family, then injected into a patient as a muscle relaxant during throat, rectal, and abdominal surgeries. This compound is also used to relax patients receiving shock therapy to lower the incidence of spinal fractures suffered during treatments, and in the diagnosis of myasthenia gravis, a muscular disorder. This alkaloid cannot be synthesized in the laboratory in a form that has all the attributes of the natural product.

Each Amazonian tribe has its own unique recipe for making curare, and ethnobotanists dream of stumbling across a secret arrow-poison plant containing an unknown compound that may prove beneficial to the world at large. Once again we are involved in a race against time: as indigenous peoples come into increasing contact with the outside world, they almost always lay down the bow and arrow and the blowgun in favor of the shotgun, and so their knowledge of how to make the curare is often lost, possibly forever.

From ***Kayaking the Full Moon: A Journey Down the Yellowstone River to the Soul of Montana*** *by Steve Chapple (HarperCollins; to be published in August 1993). Reprinted with permission.*

We stood after midnight under August's full moon and watched in terror as a spruce log the length of a white-water kayak tumbled out of the Gardner tributary and slid, rolled, floated, and bobbed along the main Yellowstone eighty feet below us. Sometimes the spruce log disappeared into a suck hole only to erupt from the current a few seconds later. Once, the big log tumbled end-over-end in swollen rapids colored hog brown by the rain of the previous three days. There was no sound, no splash-splash from the cavorting log, only the constant electric rush of white water over granite far below.

My wife, the Brazilian, turned to me on that high bridge overlooking the upper Yellowstone, and we laughed. She was holding Jack in his Snugli, and I was holding Cody in my arms, both boys fast asleep. Ours was nervous laughter then, not anxious, strictly defined because, after watching the antics of brother log, we understood without speaking that it would be impossible to kayak this river we had come so far to run. At least not without a few days of local training. No way would we paddle it tonight, under the full moon, our original intention. Even under this clear moon the log kept disappearing from view. And I was afraid we would, too, if we jumped on that current.

But what a moon! It was so far, it seemed to be dripping white lard and smiling at us at the same time. The Cheyenne call the August moon the Moon When All Things Ripen. Across the river to the east, the Moon When All Things Ripen lit up little, huffy, tree-covered Buffalo Mountain, in the Absarokas. Behind us in the Gallatins to the west, the light of the moon ricocheted off vainglorious Electric Peak, that grand edifice of chert and granite that towers over the upper Yellowstone in the same way that Emigrant Peak dominates Paradise Valley beyond Yankee Jim Canyon, twenty miles downriver, in the same way that limitless sky ironically defines the prairie Yellowstone, four hundred miles away.

It was a moon that stopped time and made hearts fly. But no amount of candlepower could have induced us to kayak the river that night. ■

Editor's Note: Under the terms of a settlement reached between the Sierra Club and the developers of a destination resort near Lake Tahoe, California, attorneys for both sides may be accorded the opportunity to present their perspectives on the case to the readership of Sierra. *Both sides have submitted the following texts to fulfill that agreement.*

Club SLAPPs Back

By Phillip S. Berry, V.P. Legal

The Club recently benefited from a $2.4 million settlement of five malicious prosecution suits in which it participated against a major developer, Perini Land & Development Company, and its attorneys. The settlement marked the end of a bizarre and self-defeating attempt by the developer to silence public comment opposing its massive development in Squaw Valley, California.

In 1987–1988 the Sierra Club and four individuals were sued by Perini Land & Development, subsidiary of the huge Perini corporation, a developer of large resort projects throughout the country. The litigation fit the profile of a "strategic suit against public participation," or "SLAPP," an acronym coined by George "Rock" Pring, University of Denver Law Professor and former member of the Sierra Club Board of Directors, and his coauthor, Penelope Canan.

The Perini litigation grew from public efforts to be heard on wetlands issues involved in a proposed massive "destination" resort plan which called for an 18-hole golf course to be built on a relatively pristine alpine meadow in Squaw Valley. In 1987, the Army Corps of Engineers, which controls permits for encroachment on wetlands, invited public comment. Individuals from all over the state responded, some with criticism and many with calls for a public hearing—something the developer hoped to avoid, even to the point of attempting to intimidate the opposition.

The Army permit was the last approval needed to allow the project to enter full construction. Earlier attempts by environmentalists including the Sierra Club and the Institute for Conservation Education (ICE) to block the development had failed after county and Water Quality Board hearings. The Club, ICE, and one individual, Dorothy Schoder, had been particularly concerned about placement of the proposed golf course over a meadow aquifer, the sole source of drinking water for local residents. They feared fertilizers and pesticides would contaminate the water and threaten an endangered trout species downstream. The result of the Club's opposition was an elaborate agreement to evaluate any proposed chemical usage carefully and prohibit use of any damaging substances. For the Club, the agreement was a compromise: it saw little hope to stop the development but the agreement's provisions could prevent a disaster for water quality.

In the agreement, the Club pledged to withhold further opposition to the development. The Club kept its promise, as did the other two conservation signatories, ICE and Schoder, both also motivated by similar environmental concerns.

Perini originally sought to have the agreement bind several prominent Squaw Valley citizens also vocal against the project, including Rick Sylvester, a mountain climber and stuntman stand-in for James Bond. Though early on involved in negotiations for the agreement through counsel, Sylvester refused to sign it, and consequently provisions were included requiring the Club to publicly make clear Sylvester did not speak for it in his expected continued opposition. Sylvester's opposition all along had been as an individual, not as a Club spokesman.

When Squaw Valley residents, including Sylvester, began agitating for an Army Corps hearing, Perini filed suit against all signatories to the agreement, except the Club, as well as various non-signatories including Sylvester, and 50 "Does" it claimed were bound by the agreement, though by explicit terms it bound only those who signed. The Perini suit, filed just six days before an Army Corps hearing, charged a general "conspiracy" against the project and was widely interpreted as an attempt to silence public opposition by anyone who had not signed. This "message" was read as a threat that anyone who testified against the project would be sued by the powerful developer.

The Perini suit was brought by lawyer Lawrence Hoffman, a developer's attorney with offices at nearby Lake Tahoe. Hoffman had negotiated the original Club agreement for Perini. He publicly announced that the intent of the suit was to pursue every defendant "right down to the family inheritance." The suit alleged some $75 million in damages for supposed project delays. There had in fact been delays—but caused by Perini itself in failing to apply for the Army permit when first advised to do so by Corps officials more than a year before. Moreover, because of errors in Perini's original permit application misdescribing the extent of wetlands involved, further delays occurred following initiation of Perini's suit.

The suit's allegations that non-signers to the Sierra Club agreement were somehow bound thereby was too much for the Army Corps of Engineers. Reasoning that the suit had chilled public opposition, the Corps by an extraordinary and unprecedented public notice extended the comment period and offered to accept anonymous public statements. Numerous unsigned statements were given and the public process ground on, eventually yielding the permit Perini originally requested.

Meanwhile, in response to a court ruling that the Sierra Club was an indispensable party to any litigation concerning its agreement, Hoffman in 1988 brought in the Club as a party defendant. Not content merely to adjudicate rights under the agreement, Hoffman charged that he and his client had been fraudulently induced by the Club into believing the agreement bound more than those who signed it. The Club's denial was vigorous: Carl Pope and lawyer Mark Weinberger, who had negotiated on behalf of the conservation interests, pointed out that Perini had sought unsuccessfully to bind Sylvester and others and, in lieu of their signing, had sought promises that the Club would declare Sylvester was acting all on his own in any further opposition.

Massive discovery was undertaken in the Perini suit including weeks of depositions to explore Perini's fanciful claims. Hoffman was deposed for days by the other parties. The Sierra Club as the newest party to the suit waited its turn to cross-examine Hoffman, who then attempted to break an explicit stipulation allowing a further deposition by the Club's attorneys. Finally, a court order was necessary to force Hoffman to give the earlier promised testimony regarding the Club's alleged fraud.

Hoffman at last finally submitted to a deposition on June 9, 1990 and spent the morning dodging questions. A recess was taken for lunch after which Hoffman suddenly and unexpectedly announced that Perini would dismiss the action against the Club. Subsequently, the entire action was dismissed. None of the SLAPPed defendants—neither those who did sign the earlier agreement, nor those who refused to sign—paid anything to Perini. However, by this time the collective costs of defending the SLAPP amounted to close to a million dollars in lawyers' time and out-of-pocket ex-

penses. Perini refused to reimburse those expenses.

The Club filed its SLAPP-back suit against the developer and Hoffman in December 1990, followed quickly by similar suits from each of the other four individuals Perini had sued. The five suits were consolidated by Judicial Council order and another massive round of discovery began.

Perini was now defended by new and different counsel, who to the Club appeared deeply concerned that Hoffman had carried things too far. They raised a defense of "advice of counsel," which in effect put the onus on Hoffman to justify the whole sorry affair. By so doing, Perini waived its attorney/client privilege, which opened its and Hoffman's files to judicial scrutiny.

With the open files (literally boxes worth) in front of him, Hoffman testified again for days as to his legal theories and alleged facts, in an attempt to justify his advice to file and prosecute the SLAPP for three years. Amongst other things he claimed that an integration clause in the Club agreement—which legal authorities recognize as intended to limit an agreement to its written terms—had in fact the opposite effect. Hoffman contended the Club agreement included, in addition to its written terms, oral understandings whereby the Club's attorney promised that non-signatories would be bound. Weinberger had vigorously denied ever making such an agreement or promise and pointed out that a specific state statute and the generally understood common law principles barred Hoffman's fanciful contention. Hoffman pointed to Weinberger's providing public documents to one Squaw Valley opponent of the project as evidence of the Club's supposed breaching the agreement but had difficulty explaining why this extension of a simple courtesy was somehow a breach and why Weinberger was not free to act when Perini had failed in five instances to meet conditions precedent to the Club's performance under the agreement. Hoffman rejoined, denying there were any such conditions precedent, but opposing attorneys felt their existence was clear on the face of the agreement.

To maintain its advice of counsel defense, Perini had to demonstrate a good faith belief in the litigation it had brought. Toward the end, just prior to dismissal of Perini's suit, Hoffman had filled its files with letters in attempted self-justification, an exercise he himself termed "papering the file." One letter to his client contained advice to throw away a particular memo, but to keep others. This advice, Hoffman claimed in his later deposition, was intended merely to direct the client to save the "essential" document while discarding others. Hoffman claimed the recipient had a habit of throwing out the wrong correspondence. Hoffman denied any attempt to purge the files of unwanted or inconvenient documentation.

Perini's new counsel soon thereafter broached settlement in what the Club's attorneys saw as an effort to make amends. The upshot Club attorneys view as a victory for the conservation side—a significant payment divided amongst those sued by Perini. Perini maintains it and Hoffman paid nearly $2.5 million as merely the probable costs of defending likely protracted litigation. The Club feels vindicated and plans to use the two suits as examples of how vigorously it will defend its and other's rights to use governmental processes to protect the environment.

Developer Sued Opponents Because It Believed They Failed to Honor Their Word

By James N. Penrod, Esq.†
Hassard, Bonnington, Rogers & Huber
and Barry D. Brown, Esq.††
Long & Levit

As a twenty-three year member of the Sierra Club, one of the authors does not think the Club should be proud of this story. Perini Land and Development Company sued the Sierra Club and several individuals for one reason and one reason only—to enforce an agreement they signed that said their concerns had been satisfied and that, in return, they would end their opposition to Perini's resort development.

Perini's breach of contract lawsuit has repeatedly and erroneously been characterized as a "SLAPP" suit, which is a form of litigation intended to chill public participation in development decisions. This is simply not true. Perini strongly believes such so-called SLAPP suits violate a fundamental precept of democracy—freedom of speech. Perini sued to vindicate another fundamental precept of democracy—that people should keep their word. Indeed, this case is a classic example of the legal process being used repeatedly to stall a project and make it so expensive that the developer will give up.

This saga began when the developer sought permits to build a resort in the Lake Tahoe area. Perini worked hard to design a resort that would blend in with the surroundings without degrading the environment. Its goal was to set a benchmark of environmental excellence. The project met all the Placer County requirements; the public was heard and heeded all along the way. Indeed, there was widespread support from the local community for the resort project. The county, following its review process, issued the appropriate permits in 1985.

Then the litigation began. First came a lawsuit against both Perini and Placer County (May 1985). Perini organized a meeting with those who brought the suit and negotiated a settlement agreeing to make changes and additions, at considerable expense, to satisfy the concerns of the plaintiffs in this initial suit. This group was satisfied and, in exchange, agreed to no longer oppose the project.

Several local residents then organized a local chapter of the Institute for Conservation Education (ICE). ICE is a shadow organization of the Sierra Club which presumably has tax-exempt status. The Club allowed funds contributed to ICE by the local residents to be used to fight this project.

These individuals and ICE—with representation from a lawyer they and the Sierra Club hired—opposed the resort project at the next level of regulatory review, the Regional Water Quality Control Board, Lahontan Region.

When the Lahontan board approved Perini's plans, ICE and others appealed to the State Water Resources Quality Control Board. And when the State Water Resources Quality Control Board rebuffed them, the Sierra Club, ICE, and several individuals sued the board in the Winter of 1986. (Perini was the real party in interest.)

Once again Perini organized negotiations. Once again Perini made changes and alterations in a good faith effort to satisfy their concerns—$1.5 million in concessions: to change water-protection processes, provide more open space and a public recreation site, modify its golf course design, expedite construction of a

† James N. Penrod is a long-time member of the Sierra Club and is a partner at Hassard, Bonnington, Rogers & Huber, the law firm representing Perini in the malicious prosecution actions.

†† Barry D. Brown is a partner at Long & Levit, the law firm representing Perini's Tahoe attorneys in the malicious prosecution actions.

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multi-purpose trail, and establish an oversight committee to review its compliance. Perini also agreed to pay ICE $40,000 in cash for legal costs and fees to pay their environmental consultant (in addition to Perini's) to monitor progress of the project.

As in the case of the first settlement, the opponents felt their concerns had been remedied and they agreed *". . . that they shall not, individually or jointly, directly or indirectly, take any further action to oppose, or to encourage opposition, to the issuance of such additional regulatory permits, or any other approvals required for the Resort project, nor shall they encourage, promote, or support any opposition by any other person or organization."* Such "non-opposition convenants" are standard in these types of settlements.

Yet one year later (Spring 1987) they were back. Opposition to the project was expressed before the Army Corps of Engineers, which had belatedly decided to claim jurisdiction over a small portion of the project area. Others wrote to the Corps and also appeared at hearings to oppose the project, and sent letters—at least one under an assumed name!—to the Tahoe World newspaper, urging others to oppose the Resort before the Corps of Engineers. Other opponents of the Resort were given voluminous information from the files of the settled litigation to aid them in continuing opposition to the project. Perini's counsel strongly believed all those acts were specifically precluded by the agreement to cease opposition.

When opposition didn't cease, Perini asked its legal counsel on the scene to determine the best course of action. On advice of counsel, Perini concluded it was justified in filing a claim for breach of contract. In July 1987, Perini did just that, naming ICE, and several individual opponents. The Sierra Club was not made a party to this action until several months later when the court decided, in response to a motion by one of the individual defendants, that the Sierra Club was an "indispensable party." *Thus, the Sierra Club was forced into the case by one of its cohort opponents to the project—not by Perini.*

The suit's mischaracterization as a SLAPP suit was added insult. The very few SLAPP suits on record were clearly directed at chilling public comment. Perini worked closely throughout the history of the project with environmental interests, including the Sierra Club, to identify and resolve disputes. Perini sued only those it believed had agreed to cease their opposition and then, in Perini's view, had not honored their word.

The next year (April 1988) one of the individual opponents filed a Federal suit against Perini and the Army Corps of Engineers seeking an injunction to stop construction. Because of the short construction period in the mountains, these Springtime legal activities were timed perfectly to stop construction for a year at a time. Later that same year, another Federal suit was filed and, in early 1989, yet another state suit was filed. Perini prevailed in all of them, two of which were appealed all the way through the Ninth Circuit Court of Appeals.

Bear in mind that, by this time, Perini had:

- Performed all the environmental and other studies required by law.
- Received approval of its development from all authorities with any jurisdiction at all.
- Been sued five times, settling two cases and prevailing outright in three others.
- Paid enormous sums in litigation costs and incurred millions of dollars in added costs to the project as a result of the two settlements.
- Suffered millions of dollars in carrying costs from the repeated delays caused by the litigation.
- Received written assurances from certain individuals that they would cease their opposition which were not honored.

Perini dismissed its breach of contract case in 1990. The Resort was open, and legal costs of the breach of contract action were climbing. Perini was confident that it would prevail, but collecting damages seemed doubtful. It seemed to be in everyone's best interest to put the litigation behind them and, in effect, to forgive and forget. Six months later, the Sierra Club and several individuals filed malicious prosecution cases against Perini. It is our view that malicious prosecution actions provide little benefit to society and in fact several states do not permit them.

To this day, Perini believes it was wronged by the activities of the opposition. Nevertheless, Perini again sought to settle the litigation—not because Perini did anything wrong—but because the enormous cost in time and money required to continue the litigation was not justified and would have easily exceeded the amount paid to settle the case. The Resort had been completed and was well into its second year of operation. By any reasonable standard, this case cried out to be, and was, settled. Winning would have come at too great a cost.

Sierra Club Surrebuttal to Statement by Perini and Its Lawyers

The rebuttal statement by Perini and its counsel continues the theme of the SLAPP-suit against the Club and others by confusing (through frequent, overbroad and purposely vague "they" statements) actions taken by non-signatories in continuing opposition to the Perini project and the Club's and Carl Pope's clear non-involvement after settlement of the Water Board's suit. The Club kept all its promises, while others not bound by any agreement continued their opposition. Perini's SLAPP-suit was an affront to constitutional guarantees because it attempted to hold citizens, who were merely attempting to exercise their constitutional freedoms, to agreements they never made.

When the Court ordered amendment of Perini's original SLAPP-suit it signaled only that any adjudication of rights thereunder required the Club's presence. The court did not tell Perini to sue the Club for alleged fraud.

ICE is not and never has been a "shadow" organization controlled by the Sierra Club. Its Board is and always has been fully independent, without any interlocking directors.

Perini claims it incurred millions of dollars of extra costs because of continued opposition to its project by others. The Club repeatedly requested proof of this, both in the SLAPP-suit and in the recently settled SLAPP-back suit. No documentary proof was ever offered by Perini, which actively fought against revealing financial information.

Finally, the claim by Perini and its attorneys that SLAPPs are "very few" is clearly wrong. The Club has defended at least ten such suits, winning every one of them. Professor Pring has collected details on hundreds of SLAPP-suits against citizens all across the country and concludes they are major threats to citizens' exercise of constitutional guarantees and to protection of the environment. That is why we SLAPP-back. We believe publication of this $2.4 million settlement will be a deterrence to others, which is why it is discussed in these pages. ■

LETTERS

Continued from page 36

expand wilderness, preserve old-growth ponderosa pine, and protect wildlife in this precious emerald island on the plains.

Open-cut gold mining has revived with a vengeance during the past decade in the Black Hills. To cite a glaring example, homes in the town of Lead, just 20 miles from Spearfish, are being gobbled up by Homestake Mining Company's open pit. Remember too that the Black Hills were slated to be mined for uranium and ringed with coal-fired power plants and nuclear reactors as part of a "national sacrifice area," a plan defeated in the 1970s only by the energetic Black Hills Alliance of Indian and non-Indian environmentalists.

Finally, Mr. Lee's proposal to force Indians off the reservations to "blend" with the dominant society was, alas, tried during the Eisenhower administration. The so-called "termination" policy scattered Indians to the cities, where they were quickly reduced to illness, poverty, minority status, and renewed dependence. "Termination" of such tribes as the Klamath of Oregon and the Menominee of Wisconsin enabled logging companies to snap up the tribes' rich timberlands. Cavalier suggestions that removing Indians from their reservations would better protect their ancestral ways are regarded with suspicion, if not alarm, in Indian Country today.

I can't say how often liberal friends have kidded me about the Sierra Club being exclusively for rich, white "tree-huggers" with no awareness of social and economic reality. The sophisticated and careful reporting of Meg Knox (and of Mary Jo McConahay the issue before, on Central American environmental issues) proves that my friends are wrong—that the Sierra Club really is open to a variety of people and ready to grapple with the full range of factors that have caused the environmental crisis.
Andy Feeney
Washington, D.C.

BY OUR FRUITS THEY SHALL KNOW US

The attempts at environmental censorship by Christian fundamentalists and the extreme right ("Friends of the Devil," March/April) will only serve to radicalize their cause and force them toward the lunatic fringe of our democratic society. Meanwhile, our green cause has broadened and become more mainstream.

However, let's not kid ourselves: these right-wing fanatics are our ideological enemies. They hate us and vilify us, and we must forever be on our guard.
Jurgen Schlicker
Carson City, Nevada

As a Messianic Believer (I believe in Yeshua—Jesus—as the Messiah) and an environmentalist by Covenant with the Living God, I have been appalled by the actions and preaching (perhaps "screeching" is a better term) of my extremist brothers and sisters in Messiah. The "fundamentalists" operate on non-biblical, unscholarly presuppositions, and they should be understood with this in mind.

You are to be applauded for avoiding the anti-Christian rhetoric that I often find in environmental circles. I am concerned, however, that many Believers in Messiah who share some, and I emphasize only *some*, of the fundamentalists' views may now feel threatened by groups like our own Sierra Club. May I suggest an article on a Real Christian's view of environmental education and eco-stewardship and eco-spirituality? I think it is important for non-believers to realize that not all Christians who fervently believe in Yeshua are out to torch libraries.
Christopher Page
Sherman Oaks, California

NO REFUGE

Bless Terry Tempest Williams for turning her horrifying experience with low-altitude military flights over Arizona's Cabeza Prieta Wildlife Refuge into the wonderful essay "All That Is Hidden" (March/April). She captures so well the incomprehensible paradox embodied in the use of this wilderness refuge as a high-tech battleground.

And the military is at it again. From March 12 through April 4, the Marines flew up to 80 flights per day through the refuge. These planes fly at super-high speeds just 200 feet above the ground. Helicopters also plague the refuge and its wildlife, with four copters flying just 50 feet above the ground as often as five times daily. All this at a refuge established in 1939 "for the conservation and development of natural wildlife resources," and that is also a designated wilderness area.

The problems at Cabeza Prieta are just one example of problems throughout the refuge system that can be addressed only through systematic reform. Your readers can help by urging their congressional representative to support H.R. 833, the National Wildlife Refuge System Management and Policy Act of 1993 introduced by Representative Sam Gibbons (D-Fla.), which will improve management of the federal refuge system and give the Fish and Wildlife Service greater authority to control uses on refuge lands.
Pam Eaton
The Wilderness Society
Washington, D.C.

According to a 1990 report by the Fish and Wildlife Service, at least one harmful activity occurred on more than 60 percent of the 485 refuges in the federal system. These include economic uses, such as overgrazing and oil-and-gas drilling; recreational uses, such as offroad-vehicle travel, waterskiing, and jet-skiing; and military operations. At Copalis National Wildlife Refuge in Washington state, the Department of the Interior actually authorizes the Navy to drop dummy bombs!
James R. Waltman
National Audubon Society
Washington, D.C.

TO MARKET, TO MARKET (TO BUY SOME RED MEAT?)

The Sierra Club's new executive director, Carl Pope, says he worries that "using market mechanisms to clean up the environment . . . runs the risk of shifting the focus away from the moral imperative to do something about pollution" ("Clubways," March/April). But what good does morality do us if

we are up to our armpits in pollution?

Morals are in the eye of the beholder. If we design institutions assuming that everyone meets our definition of morality, we'll lose out every time someone does not. On the other hand, if we design institutions assuming that people are selfish, we'll benefit whenever someone turns out to be selfless.

Market mechanisms are an ideal solution to most environmental problems because they give everyone, no matter what their morality, the same incentives to protect resources and not pollute. Markets can not only save wildlife, wilderness, clean air, and clean water, they can also save taxpayers billions of dollars per year.

Contrary to Mr. Pope's claim, the savings-and-loan scandal is an excellent example of shortsightedness by government, not the market. Congress gave savings-and-loan associations the authority to invest in anything they wanted with the guarantee that, if the investments lost money, the funds would be backed up by the federal government. Disaster was a certain result of incentives like that.

Neither markets nor government are perfect. But given a choice, I'd rather trust my future to people whose self-interest was at stake than to people who I could only hope would be moral enough to protect the things I cherish.

Randal O'Toole
Portland, Oregon

Carl Pope says the automobile, suburban housing, and red meat are among the most environmentally detrimental aspects of the American way of life. I would like to know the extent of Mr. Pope's personal commitment to lessening their impacts on America.

First, how many automobiles does he own and/or drive? How many miles a year does he travel in automobiles? What gas mileage does he get? Does he walk, ride a bike, or take mass transit on any regular basis?

Next, does Mr. Pope live in a single-family home? How far from work is his residence? How large is his home or apartment? Is it energy-efficient?

Finally, how much red meat does Mr. Pope eat each month? What is the "correct" diet, and does he adhere to it?

I expect fair and honest answers to these questions. Only then can we common Club members judge whether Mr. Pope practices what he preaches for the rest of us.

Matthew J. Taylor
Cincinnati, Ohio

Carl Pope replies: *Second things first. I drive one car, which gets 42 mpg, about 5,000 miles a year. I take mass transit and then walk to work. I live in a single-family home, in a relatively dense urban neighborhood; it's outfitted with energy-efficient light bulbs, and my utility bills run about $20 a month. I eat red meat, but a lot less than I used to.*

I am, in short, part of the problem. The point of my comments was not to prescribe a correct lifestyle, but to state a simple fact: technological changes can mitigate a tremendous proportion of our present environmental problems—but even giving technology its full measure, it is difficult to see how the planet can accommodate 5 to 10 billion people living in the way that I, and most of us in the United States, do.

My published comments about the market oversimplified my view. The problem is not the use of market mechanisms*; they can indeed be both powerful and reliable. The problem is that most people who think and write about markets, or who design them, ignore critical moral elements. Markets reflect the values of those who participate in them—and weighted values at that, based on the participants' wealth. Thus, the interests and preferences of future generations, species other than* Homo sapiens, *and as a practical matter the poor of the world, are absent from the mechanisms of normal markets. We could design market mechanisms to reflect these excluded parties; we will, however, only do so as the result of an extended moral dialogue among all citizens. Market mechanisms, then, should be the outcome of such a dialogue—not, as too many currently assume, a substitute.*

RARIN' FOR BEAR

"Is Smokey Sacred?" (January/February) convinced me that I can no longer completely support your biased viewpoints. I therefore wish to terminate my membership and subscription to *Sierra* . . . an association that goes back many years.

From a secular and legal point of view, Smokey *is* "sacred." His symbolic role in promoting forest-fire prevention was legalized in 1950, and any infringement on that statute is prohibited by law and subject to penalties. The three cooperating organizations that manage Smokey's program of education (the National Forest Service, the National Association of State Foresters, and the Advertising Council) are strictly limited in his symbolic use to the prevention of man-caused forest fires and the protection of wildlife.

The only purpose of maintaining a Smokey Bear licensing program is to utilize contemporary marketing methods to spread the message of forest-fire prevention. The Sierra Club exploits the same methods to spread its messages, as do a host of other self-interest groups. It is a snide conclusion to say that the Forest Service does otherwise.

I have been Smokey's artist and the caretaker of his image almost since his inception in 1944. I am therefore very sensitive about his image and personality. Also having done five conservation-related U.S. commemorative stamps (including John Muir, the founder of the Sierra Club, whom I greatly admire), there can hardly be a question about my interest in the conservation of our natural resources.

Rudolph Wendelin
Arlington, Virginia

CORRECTION

The photo captions that accompanied "Fields of Dust," our January/February article on the shortcomings of the General Mining Law of 1872, contained several errors. The landscapes depicted on pages 51 to 53 were indeed scarred by hardrock mining. But copper, not gold, was the mineral extracted, and cyanide was not used.

✍ Sierra *welcomes letters from readers in response to recently published articles. Letters may be edited due to limitations of space or in the interests of clarity. Write to us at 730 Polk Street, San Francisco, CA 94109.*

Sierra Club members re-elected two incumbents and chose three new directors in April's Board of Directors election. Phillip Berry and Rebecca Falkenberry were both returned to the Board; the new faces are former director and Club president Lawrence Downing of Minnesota, former director Roy C. Hengerson of Missouri, and J. Robert Cox of North Carolina.

At its May meeting in San Francisco, the Board elected Michele Perrault to a one-year term as Sierra Club president. Other officers are Joni Bosh, vice-president; Mark Gordon, treasurer; Kathy Fletcher, secretary; and Rebecca Falkenberry, fifth officer.

The Sierra Club Annual Dinner was held May 1 at the Sheraton Palace Hotel in San Francisco. Timothy E. Wirth, former U.S. senator from Colorado, was the featured guest speaker.

Sierra Club volunteers, chapters, and friends received the following awards for 1992:

- The John Muir Award (for leadership in national conservation causes) to Martin Litton for his work on behalf of national parks and other wildlands.
- The William E. Colby Award (for leadership, dedication, and service to the Sierra Club) to Jim Dodson of the Angeles Chapter.
- The Edgar Wayburn Award (for service to the environmental cause by a person in government) to Representative Nancy Pelosi, Democratic congresswoman from California.
- The David R. Brower Environmental Journalism Award to Philip Shabecoff, editor of the daily environmental-news digest *Greenwire*.
- The Walter A. Starr Award (for continuing support of the Club by a former director) to Sanford Tepfer.
- The Denny and Ida Wilcher Award (for work in membership development or fundraising) to the William Bartram Group, South Carolina Chapter.
- Susan E. Miller awards (for exceptional contributions to chapters by individual Sierra Club members) to Charlotte Anderson of the Ventana Chapter, Gregg Moore of the John Muir Chapter, and Vieve Weldon of the Angeles Chapter.
- The Ansel Adams Award (for superlative use of still photography to further the conservation cause) to John Fielder.
- The Oliver Kehrlein Award (for outstanding service to the Club's Outing Program) to William Deneen.
- The Raymond J. Sherwin Award (for extraordinary service by a Club member in the cause of global protection of wildlands) to Bill Mankin.
- Special Achievement Awards (for strong and consistent commitment to conservation over an extended period of time) to Maxine Johnson, Kathleen Goddard Jones, and George Pettit.
- Special Service Awards (for efforts of singular importance to conservation or the Club) to Ernest Dickerman, Jim and Sue Higman, Don Morris, and Wheaton Smith.
- The Chapter Newsletter Award (for exceptional creativity and impact in a chapter publication) to Kathleen Mitchell, editor of *The Mackinac*.

The Sierra Club notes with sorrow the death of Nathan C. Clark, on April 19 in Los Angeles at the age of 87. Clark served the Club as a member of the Board of Directors between 1955 and 1968; during that period he held positions as fifth officer (1957–58), vice-president (1958–59), and president (1959–61). He remained an active member of the Angeles Chapter following his retirement from the Board. In addition, he was a founder and longtime trustee of the Sierra Club Foundation. In 1987 he received the Club's Walter A. Starr Award, which honors the continuing active work and support of the Club by a former director.

Bruce Hamilton and Debbie Sease were named in May as the Sierra Club's director of conservation and communications and its legislative director, respectively.

Hamilton has worked for the Club since 1977; most recently, he was its director of conservation field services. He has served as a field biologist in Colorado, California, and Virginia, as a marine technician at Scripps Institute of Oceanography, and currently sits on the boards of directors of the Environmental Support Center and the National Trails Coalition.

Sease, prior to this appointment, directed the Public Lands program for the Club, playing an important part in protecting ancient forests and the Arctic National Wildlife Refuge, and in the reform of mining and grazing laws. Before joining the Club, she worked on legislation for The Wilderness Society, and was the executive director of the University of the Wilderness. She is currently on the boards of directors of American Rivers and the League of Conservation Voters.

Ansel Adams and Nancy Newhall first brought together the photographs and text of *This Is the American Earth* in 1955; now the Sierra Club, as part of its continuing centennial celebration, has re-created this exhibit and reissued the large-format photography book of the same title, first published in 1960.

Curated by David Featherstone and supported by a grant from Kubota Corporation and with the cooperation of the Ansel Adams Publishing Rights Trust, the remounted exhibition opened at The Friends of Photography's Ansel Adams Center in San Francisco in September 1992, traveling thereafter to the American Museum of Natural History in New York City and to galleries in Tokyo, Nagoya, Hiroshima, and Osaka in Japan. It has been at the Yosemite Museum in Yosemite National Park since May 29, and will continue through September 15, 1993. Museum hours are from 10 a.m. to 12 p.m. and 1 p.m. to 4 p.m. daily; admission is free. ■

Reed McManus

After the Bronze Age

Call it "Revenge of the Freckled." It's no longer just the blue-eyed and fair-skinned who must take sun protection seriously. Whether it's because of a thinning ozone layer, mass migrations to the Sunbelt, or simply a populace that spends too much time outdoors, ultraviolet (UV) radiation is having an effect: more than 600,000 cases of skin cancer are diagnosed each year in the United States, almost all the result of overexposure to the sun. It's now suspected that even a brief history of sunburn in your first 10 or 20 years doubles your risk of skin cancer as an adult.

The obvious remedy is to keep skin out of the sun. Shade your face with a wide-brimmed hat and wear tightly woven clothing (otherwise, solar radiation leaks through). Keep in mind that solar radiation is stronger the closer you get to the equator and the higher in altitude you go; that water, snow, and sand reflect as much as 85 percent of the sun's rays; that UV rays penetrate several feet underwater; and that even overcast days are dangerous, because clouds don't block ultraviolet rays.

The key is to think like the researchers at the U.S. Food and Drug Administration: to them, tans and sunburns are only superficial indicators of the cellular damage caused by prolonged sun exposure. They consider sunscreens and sunglasses medical devices, not fashion accessories.

A sunscreen's all-important "sun protection factor" (SPF) indicates how much longer a person can stay in the sun before burning when using a sunscreen than without any protection at all. Each individual's base figure depends on skin type, location, and the time of day and year. (Dermatologists use a six-point scale of skin types to determine the figure.) In the tropics a fair-skinned person can slide for only about ten unprotected minutes of midday sun before starting to broil; sunscreen with an SPF of 15 will extend that safe time to two and a half hours. (Lathering on more sunscreen doesn't extend one's allowable exposure time, it merely replenishes the existing protection.)

Sunscreens with SPFs as high as 50 are available. But because the FDA devised its testing methods before manufacturers started concocting high-digit formulas, the agency recommends an SPF of 15. Research currently under way may result in a recommendation of 30 or so.

An SPF rating measures only a sun-

Postmodern Man has arrived, and he's wearing a big, floppy hat.

▲ ▲ ▲

screen's ability to block UV-B rays, the ones that burn. Most sunscreens also claim to protect skin from UV-A radiation, the non-burning but deeper-penetrating rays that are now suspected of being even more carcinogenic than UV-B. While most sunscreens block some UV-A rays, only sunscreens with the ingredient Parsol 1789 offer "broad spectrum" UV-A protection.

Not surprisingly, the same rays that damage skin can damage eyes: up to 25 percent of cataract cases are caused by sun exposure. Ultraviolet standards for sunglasses, however, aren't monitored by the FDA. "Cosmetic" sunglasses can allow up to 30 percent of UV-B and 40 percent of UV-A rays to reach the eye, and still get away with claims to "maximum protection." Special-purpose glasses—the category serious outdoor enthusiasts should consider—block a minimum of 99 percent of UV-B rays and 92 percent of UV-A.

Even a $10 pair of glasses may protect you if its UV percentages are high. (If a manufacturer doesn't offer that information, find another pair.) In all but the most designer-driven cases, however, the more you spend, the more durable the UV coating, the frames, and the lenses. Ground and polished glass provides the greatest clarity and is the most resistant to scratches.

Sunglasses can also block less-harmful unwanted light. Polarized lenses cut down on glare reflecting off flat surfaces such as water; and photosensitive lenses adjust automatically to changing light conditions. Brown, gray, and green lenses render the truest colors, while yellow, amber, and rose tints enhance contrast on overcast days. For everyday use, sunglasses should block at least 75 percent of visible light; for bright conditions, look for a dark lens that allows only 3 to 10 percent to pass.

For a culture raised on images of golden bodies at poolside, the thought of choosing sun lotions and sunglasses on their ability to block out Old Sol takes some getting used to. But the alternative may be darker than any tan. ▪

REED MCMANUS *is a senior editor of* Sierra.

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Join activists working on issues that concern you. Contact the Campaign Desk, Sierra Club, 730 Polk St., San Francisco, CA 94109; phone (415) 776-2211.

To receive semimonthly updates on the Club's conservation campaigns, subscribe to the *National News Report*. Request a free sample copy and subscription information from the Campaign Desk.

AFIELD

"Hearth & Home," page 41

Some groups working to keep our cities shaded are: American Forests, 1516 P St., N.W., Washington, DC 20005; (202) 667-3300; the National Arbor Day Foundation, 100 Arbor Avenue, Nebraska City, NE 68410; (402) 474-5655; and TreePeople, 12601 Mulholland Dr., Beverly Hills, CA 90210; (213) 273-8733.

Global Releaf, a program of American Forests, advises and supports treeplanting efforts in this country and abroad. Write for a free copy of their bimonthly magazine, *Urban Forests*, an excellent resource for people looking to establish an urban tree group. This fall, American Forests will host the Sixth National Urban Forest Conference, subtitled "Growing Greener Communities," in Minneapolis, Minnesota, September 14 to 18.

Two handy books for people interested in greening their hometowns are *Growing Greener Cities* by Gary Moll and Stanley Young (Living Planet Press, Los Angeles, 1992), and *The Simple Act of Planting a Tree* by TreePeople, with Andy and Katie Lipkis (Jeremy P. Tarcher, Los Angeles, 1990).

"Body Politics," page 44

The EPA has calculated radon exposure county by county. To find out if you live in Zone 1 (high risk), Zone 2 (moderate risk), or Zone 3 (low risk), contact your regional EPA office. If you're in the real-estate market, ask for a copy of the EPA's publication *A Homebuyer's and Seller's Guide to Radon*.

Many useful articles have been published on radon, among them "Radon: The Problem No One Wants to Face," in the October 1989 issue of *Consumer Reports*; and "Radon: Counseling Patients About Risk" in the September 1990 issue of *American Family Physician*.

To stay up to date on the bad stuff in the basement, take a look at *Radon News Digest*, published by Hoosier Environmental Publishing, 801 Congressional Blvd., Suite 200, Carmel, IN 46032; (317) 843-0804. Subscriptions are $125 a year, so you might want to see if your local library carries it.

"Good Going," page 46

The Friends of the Boundary Waters Wilderness is the only conservation organization devoted solely to the preservation of the canoe country. The group has been involved in gaining wilderness designation for the Boundary Waters Canoe Area, protecting the international Quetico-Superior Ecosystem, stopping military jet-training flights over the area, and addressing acid rain and mercury contamination. The organization, which publishes a quarterly newsletter, can be contacted at 1313 Fifth St., S.E., Suite 329, Minneapolis, MN 55414; (612) 379-3835.

Canoe Country Wildlife by Mark Stensaas (Pfeifer-Hamilton, 1993). Subtitled *A Field Guide to the Boundary Waters and Quetico*, this book tells you how to recognize—by sight, sound, and touch—North Country critters ranging from black bear to American toad. Stensaas, a National Park Service ranger, is in no short supply of fun facts; when you're done with this book you'll know (among many other things) the migration habits of smallmouth bass, the language of the loon, and how to determine the sex of wood ticks.

DEPARTMENTS

PRIORITIES

NAFTA, page 48

Write your representative and senators, urging them to oppose any version of NAFTA that does not fully protect all federal, state, and local environmental programs from challenge; that does not provide enforceable sanctions against any party that refuses to enforce its environmental laws; and that does not provide a funded and enforceable cleanup program for the U.S./Mexico border.

For a fuller discussion of NAFTA's environmental implications, you can request the Sierra Club report, "Environmental Concerns Regarding the North American Free Trade Agreement" from the Club's International Program at 408 C St., N.E., Washington, DC 20002.

For a more sanguine view, see "Environmental Impacts of a North American Free Trade Agreement," in which Professors Gene Grossman and Alan Krueger argue that a rising tide floats green boats. The article has been published as Discussion Paper #158 by the Woodrow Wilson School, Princeton University, Princeton, NJ 08544. The critique of this article, by Thea Lee *et al.* of the Economic Policy Institute, is available from the Institute at 1730 Rhode Island Ave., N.W., Suite 200, Washington, DC 20036. Arguing that free trade is not inherently anti-environmental, the Worldwatch Institute has published a monograph entitled "Costly Tradeoffs: Reconciling Trade and the Environment," by Hilary French. Available for $5 from Worldwatch, 1776 Massachusetts Ave., N.W., Washington, DC 20036-1904.

Gnatcatchers, page 53

For more information about NCCP, and to receive the newsletter *Habitat California*, contact the Sierra Club's California Biodiversity Task Force at 409 Jardin Place, Davis, CA 95616; (916) 756-6455.

Tongass Logging, page 55

Write to Secretary of Agriculture Mike Espy (USDA, Administration Building,

Room 200-A, Washington, DC 20250) and demand that the 50-year sweetheart contracts in Tongass National Forest be terminated, that full attention be given to wildlife and ecosystem protection, and that the Forest Service call a halt to below-cost timber sales in the Tongass.

An extremely thorough study, *Tongass at the Crossroads*, has been released by the Association of Forest Service Employees for Environmental Ethics. It is available for $10 from AFSEEE, P.O. Box 11615, Eugene, OR 97440.

For a detailed and somewhat technical examination of how the Forest Service manages to lose so much money, see *The $64 Million Question*, by forest economist Randal O'Toole, available for $5 from Cascade Holistic Economic Consultants, 3758 S.E. Milwaukie, Portland, OR 97202.

The leading conservation organization on Tongass issues is the Southeast Alaska Conservation Council, 419 6th St., Juneau, AK 99801. Also write to the Sierra Club at 730 Polk St., San Francisco, CA 94109 and ask to receive *Alaska Report*, a quarterly newsletter of Alaska conservation issues.

FEATURES

Nature-Writing Contest, page 58

The Havasupai's struggle against the mining of their sacred land, as described in "Belly," is still going on. To offer support, contact Rex Tilousi, Havasupai Tribal Council, P.O. Box 10, Supai, AZ 86435; (602) 448-2731.

Hawaii, page 78

There's a plethora of guidebooks to the islands; from them you can indulge every craving, whether for a deserted beach or a resort with five swimming pools, a burger or a kalua pig. Among those on our shelf: Lonely Planet's updated *Hawaii* (1993); *Maui Trails, Hawaii Trails, Oahu Trails,* and *Kauai Trails,* four separate volumes by Kathy Morey published by Wilderness Press (available from 800-443-7227); and *Hidden Hawaii,* by Ray Riegert, Ulysses Press, P.O. Box 3440, Berkeley, CA 94703; (800) 377-2542.

For natural-history junkies there's *Islands in a Far Sea: Nature and Man in Hawaii* by John L. Culliney (Sierra Club Books, 1988) and *The Burning Island: A Journey Through Myth and History in the Volcano Country, Hawaii,* by Pamela Frierson (Sierra Club Books, 1991).■

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My strategy for living lightly has actually been forced upon me by my decision to live in New York City. With rents being what they are, my only housing option is the famed "New York City studio apartment," which is little more than a glorified closet. Because of this, one must live lightly or suffocate under a mountain of material goods and trash.
Jon Mote
New York City, New York

Our family lives in a standard suburban tract house in Southern California. We participate in curbside recycling. I ride my bicycle to work every day when it is not raining. When it does rain, I take the bus. We buy our produce from a local organic farmer, use rechargeable batteries, compost all leafy yard trimmings and vegetable and fruit scraps (including coffee grounds and filters), and consider a candidate's environmental record as the most important voting criterion. These strategies not only work well, they are not the least bit inconvenient.
Terry Dressler
Goleta, California

Our solar-heated water system has long since paid for itself. In midsummer, our utility bill shows "no charge" on gas. Our Solar Box Cooker was inexpensive to make from a kit and has proved an excellent way to save fuel. Both the heater and the cooker operate effectively for seven to eight months of the year in Northern California. We also use a solar clothes dryer (i.e., clothesline) year round.
Doris Haskell
Stockton, California

Choosing to be child-free and refusing to purchase a satellite dish for TV reception are the best decisions we've made, environmentally and emotionally. Free from coercive advertising and the need to come up with things kids need, we consume few resources and produce very little waste as a result. We get our kid fixes 187 days a year by teaching in the local high school.
Jay and Eve Stuckey
Thompson Falls, Montana

I moved to a dense urban area 20 years ago, dispensing with my car and TV and opting instead to walk, bike, or take the bus or train to work and, of course, Sierra Club meetings. My life is enriched by having over a thousand restaurants and markets within one mile of my home. I get exercise and fun at perhaps one-tenth the national average for energy consumption, land use, and pollution production.
John Holtzclaw
San Francisco, California

We are a one-car household in a two-career house. This was a tough one, but the personal car is one of the greatest sources of pollution and materials consumption that humans inflict on the planet. If we really need a second car, we rent one. Even hundreds of dollars in rentals every year doesn't come close to the cost of buying and maintaining and creating the demand for a second car—at least not a new one.
Jane Elder
Madison, Wisconsin

I have made a number of changes, becoming a total vegan (no meat, dairy, fish, or eggs), buying all my food in loose bulk with reusable bags, stopping the purchase of most new products (with the exception of natural soap and baking soda), and buying other necessities such as clothing from secondhand stores whenever possible. I also installed fluorescent light bulbs and I use an old-fashioned straight-edge razor instead of disposables.
Evan Kirby-Smith
Garden Grove, California

Having lost the War of the Dandelions, I've minimized the lawn around my house. Out front I've got about half lawn and half flower-garden terraces. In back there's a vegetable garden, and I'm trying to bring in prairie plants. The gardens get watered from a rain barrel, but the lawn is on its own; being non-bluegrass, it does fine. My mower is an old hand-push reel model. People shake their heads in pity at me as they spend their weekends going up and down, back and forth, riding their noisy, fuel-guzzling, pollution-belching machines, but I wouldn't want the hassle of those things—let alone the guilt trip—even if you gave me one. The Silent Scott is ready whenever and for as long as I am. And if I get tired, I can sit on the deck and have a beer.
Roberta Plummer
Wautoma, Wisconsin

We don't do anything in particular, beyond being vigilant and aware of our actions and the effect they might have on the environment and those around us.
Debbie Heaton
Bear, Delaware

We built an alternative energy (wind-powered) home out of discarded building supplies and horse-logged standing dead trees from a burn. We selected the trees so as not to remove any that would be good raptor roosts or nesting sites. The wind energy was a dismal failure due to poor location that we couldn't change. Next we built a passive solar home that used old logs from a local mill and rejected (read recycled or reused) bricks and other materials. The home is very efficiently heated, primarily by the sun, despite being located at the 44th parallel. Recently we constructed a solar greenhouse to grow our own vegetables. This was also made from recycled materials, including the glass, for maximum efficiency and minimum cost. Even when it freezes outdoors at night, we can eat organic vegetables from our greenhouse.
Meredith Taylor
Dubois, Wyoming

Like many eco-conscious Earthlings, I've piously adopted the better-known procedures for living lightly: solar water, cooking, and space heating; insulation, beekeeping, etc. I even sew with used dental floss, feed dandelions and other weeds to my rabbit (himself a light-living fertilizer plant), and use worn-out bike tires to repair shoes. But I also intend to *die* lightly on the earth, having provided in my will that I be composted rather than occupy cemetery space in a final bout of conspicuous consumption.
Malcolm Cluny
St. Louis, Missouri

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