

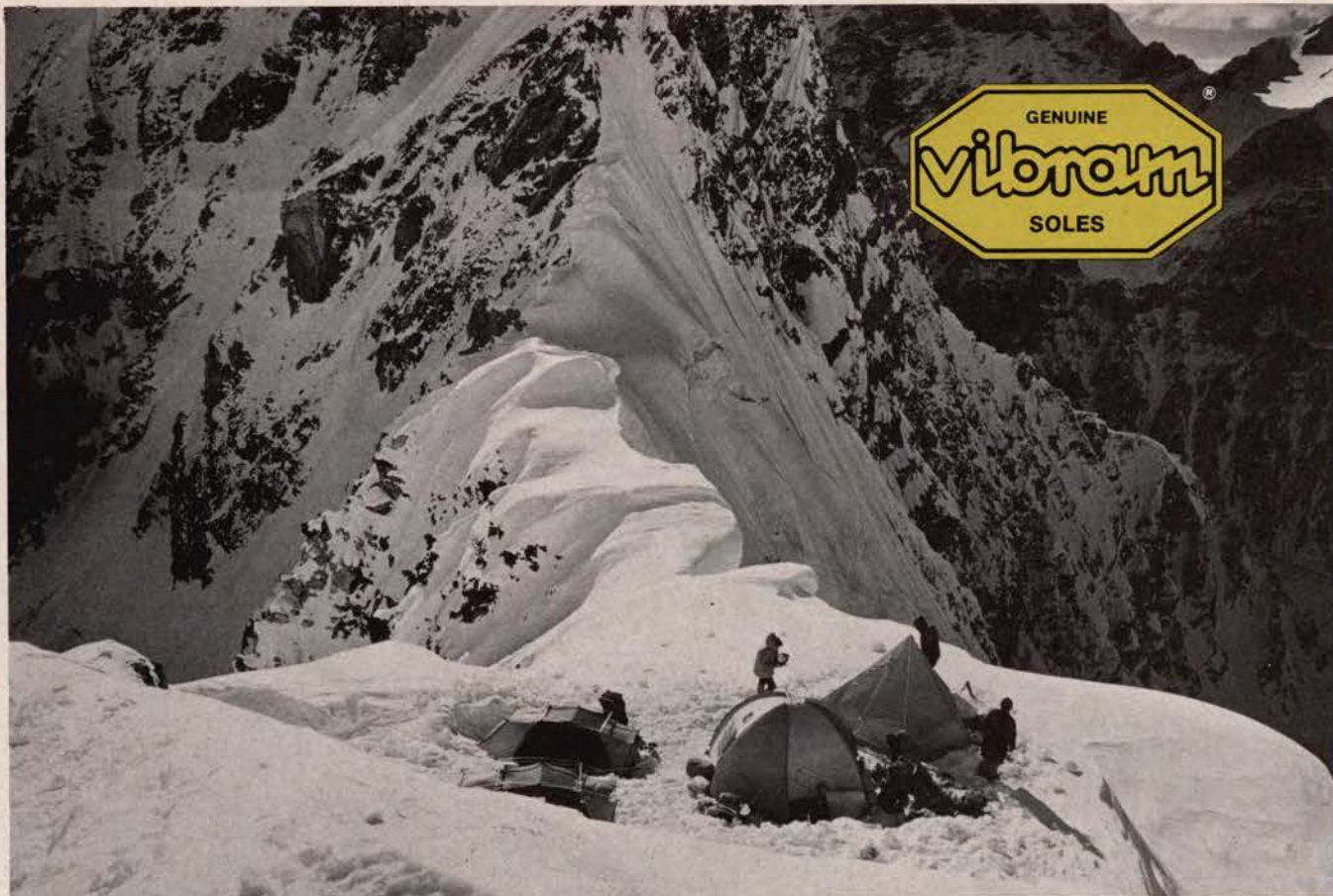


# SIERRA

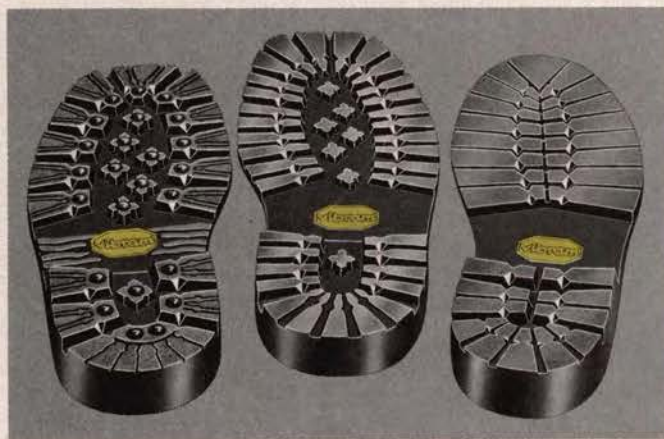
THE SIERRA CLUB BULLETIN

February/March 1978 \$1.00

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# SIERRA

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FEBRUARY/MARCH 1978

VOLUME 63/NUMBER 2

- |    |   |   |
|----|---|---|
| 6  | Great Bear Wilderness:<br>The Missing Link  | Dale Burk<br><i>Photography by Tupper Ansel Blake</i> |
| 11 | Westway—Worst Way?  | Neil Goldstein  |
| 15 | Residential Energy Use<br>How Much Can We Save?   | Eric Hirst and Linda Pearlstein                       |
| 17 | Waiting for a Philosopher King<br>Making Cancer Policy Until Certainty Arrives                              | Gus Speth   |
| 20 | Advise and Dissent<br>Warren Olney and the Club   | James Keough  |
| 22 | Counterfeit Wolves and Lonely Islands   | Mary Anne T. Neville                                  |
| 26 | The Sierra Club's 1977 Washington Wrap-Up<br>I. The 95th Congress' First Session<br>II. Carter's First Year | Brock Evans<br>Michael McCloskey                      |
| 29 | Southeast: Fending Off the Tree Farms   | Edward Easton III                                     |
| 31 | Southwest: An Archaic Quirk of Western Water Law  | Brant Calkin  |
| 32 | Southern California: The Case Mountain Grove—<br>Sequoias or Fenceposts?                                    | Mary Ann Eriksen                                      |
| 33 | Inner-City Outings  | Elly Miles  |
| 46 | A Tribute to Brandy   | Michael Frome   |

#### Departments

- |    |   |  |
|----|---|--|
| 4  | Letters to the Editor<br>Radnor Lake Update<br>Safety and Wilderness<br>Local Solar Use<br>Mining Law   | Jane Martin<br>Scott Pedersen<br>John A. Brigham, Jr.<br>Peter Idema |
| 5  | Editorial<br>The Inner-City Frontier  | William Futrell  |
| 35 | Books<br>Books on Energy: A Current Checklist   | Robert Dahlin and Daisy Maryles                                      |
| 39 | For Younger Readers<br>At Home in the Sea   | Joseph Connor<br><i>Illustrations by Clement Hurd</i>                |
| 42 | News<br>Directors adopt policies; OCS development; Clean Water<br>Act amendments; Mineral King; Timber cuts in Florida;<br>Tocks Island; Whaling Commission |  |
| 44 | The Observer  | Robert A. Irwin  |

*Historically, the problems of living in cities have not been a major concern of conservation organizations. Most of us, however, live and work in cities—cities that may be crowded, polluted and overwhelming, yet cities that nourish us in many basic ways. In this issue of Sierra, the Club's president William Futrell writes of the need to involve ourselves in urgent urban conservation problems. Neil Goldstein reports on Westway, New York City's transportation debate, and Elly Miles describes the Club's Inner-City Outing Program. In future issues, Sierra will continue to devote space to urban problems. Cover: the dense buildings of lower Manhattan, New York, with the World Trade Center towers looming behind. Photograph by Ed Cooper.*

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## Notes to Readers

- *Sierra* is changing the way its covers are dated in order to provide better service to readers—especially those in the east. The next issue, April, will now reach readers around the middle of March, and each issue thereafter will reach you before the cover date. The result, we hope, will be a more current and timely magazine.
- This year's Sierra Club national elec-

tion ballot will include two questions dealing with the Sierra Club's position on California's proposed Peripheral Canal. In April, *Sierra* will present a debate on the merits of supporting the bill that authorizes construction of the Peripheral Canal and a statement concerning a national Club vote on this issue.

—Editor



### Radnor Lake Update

On behalf of the Radnor Lake Preservation Association (RLPA), let me thank you for the excellent article by Bob Brandt on Radnor Lake "Why There Are Deer in Nashville," [September 1977]. We all think that this beautiful area merits such publicity.

The story of Radnor Lake does not end, however, with its purchase as a natural area by the state in 1973. After coming under state jurisdiction, fishing in the abundantly stocked lake was prohibited, causing a furor that has not ended to this day. Many of those who gave money to save Radnor from developers did so, they now claim, with the hope of fishing there. Although the Conservation Department has stuck to its no-fishing rule, it has begun to study the impact of controlled fishing on the lake. Our group believes fishing would disturb the ecological balance as well as the wilderness beauty at Radnor, but the question remains unresolved.

Another development has brought Radnor Lake back into the spotlight: part of the watershed which drains into the lake is currently being offered for sale to developers by the Ogle Hall family. The RLPA is urging the state to buy this valley with the help of the Nature Conservancy and has commissioned and paid for an appraisal of the

land. As yet, the state and the Halls have not agreed on a price, but our group expects a breakthrough this year. Another large public fund raiser will be needed to add this property to the Radnor Lake State Natural Area.

Jane Martin  
 Nashville, Tennessee

### Mining Law

In the November/December *Sierra* news item "Rocky Road Ahead for Mining Law Reform," it is stated that the 1872 mining law "does not require miners . . . to reclaim land after mining it." However, in a 1974 amendment to the law, a miner who causes a significant disturbance to National Forest lands must reclaim the land upon termination of mining operations and is required to post a performance bond to insure his integrity.

Peter Idema  
 Missoula, Montana

*The Editor replies:*

The 1872 Mining law itself does not require miners to reclaim lands after mining. Though other laws pertaining to National Forests have enabled the Forest Service to issue administrative regulations requiring reclamation of mining operations on forest lands, the Forest Service's right to write and enforce regulations on mining is compromised by the prior, statutory right given miners to mine public lands by the 1872 law.

Not even weak regulations protect the 474 million acres of public lands overseen by the Bureau of Land Management, although a proposal for BLM regulations is now being considered. But no matter what regulations are adopted by federal agencies, the miner operating under the 1872 law retains the ultimate escape clause—under that law, the government will give away its land to the miner who mines it, at virtually no cost. When that happens, the regulations of the federal agency that used to own the land no longer apply, and the miner is free to use or abuse the land.

# The Inner-City Frontier



**I**T'S TIME THE Sierra Club acknowledged that the environment doesn't end at the city limits, by turning its attention to another frontier—the inner city. Recognizing the need for an urban public-works program as one of our priority legislative efforts, the Board of Directors recently established an Urban Environment Task Force, chaired by Willy Hyman, vice-

chairman of the Northern California Regional Conservation Committee. Further urban initiatives are being considered, depending on member support.

In January 1977, when the board determined its top legislative priorities, it included an urban public-works policy to make American cities livable, along with more traditional conservation issues—Alaska, lower-48 wilderness, stronger air and water pollution control laws and energy policy reform. In a letter to President Carter, the Sierra Club listed specific examples of potential environmental public works in urban areas:

- modernization of the nation's passenger rail system to conserve energy and to improve the quality of life, air and transportation
- community development assistance for urban areas to improve the inner-city environment and to reduce energy-wasteful suburban sprawl
- insulation for federal, state and municipal buildings throughout the United States
- rehabilitation and restoration of public and private buildings and neighborhoods of historic significance
- urban recreation projects
- maintenance, reclamation, restoration and transportation projects for park lands
- resource recovery for solid-waste disposal
- mass-transit construction.

In response to the Club's letter, Housing and Urban Development (HUD) Secretary Patricia Harris hosted a meeting between Sierra Club leaders and key HUD personnel. We quickly agreed that HUD is potentially as much an environmental agency as is the Department of the Interior. We spent several hours discussing the relationships between the Sierra Club's program and HUD's program. We look forward to continuing this dialogue.

Our Urban Environment Task Force is currently circulating a draft document on Sierra Club Goals for the Urban Environment. Club members interested in aiding or commenting on this effort should obtain a copy of the draft from our staff coordinator on this issue, Neil Goldstein, Sierra Club, 800 Second Avenue, New York, New York 10017.

One theme running through these activities is our desire for

expanded outreach. In July 1977 Willy Hyman, who is also on the Resolutions Committee of the NAACP, invited me to the national NAACP convention in St. Louis. We urged the convention to pass a strong resolution in favor of wilderness protection, which it did. More importantly, we triggered awareness of mutual concern among urban, civil rights and environmental groups. This did much to counter the efforts of major oil companies at the convention to emphasize the conflict between energy development and environmental quality. For years, the Sierra Club has pushed to improve our nation's physical environment, in both our wilderness areas and our cities. Our program to take inner-city kids on wilderness outings has been enthusiastically received (see "Inner-City Outings," on page 33). We feel a strong responsibility to take the lead in urban environmental issues, although without diminishing our activities in the Club's more traditional fields.

Much of the vision that led to the passage of the environmental laws of the 1970s has faded. We have become too enmeshed in the specific laws and too forgetful of the larger picture. While the environmental movement is now accepted as a basic American value in opinion polls and in the halls of Congress, our outreach to groups who do not yet share our beliefs is weaker.

A basic change in our strategy should be an increased effort to engage those who have not marched with us in the past. The urban environment must be high on the environmental movement's agenda for the 1980s if the movement is to survive. And, the future of the inner city is linked to the future of the coasts and the parks. If we raise a generation of citizens cut off from clean air, fresh water and open beaches, how can we expect them and their elected representatives to champion environmental values? If the inner city is to be segregated, in more and more cities a place of squalor, how can we expect its millions of people to exercise stewardship of nature? Often we hear that people of the inner-city are not interested in the environmental agenda because they are poor and have been denied basic civil rights for years. Yet clean air, clean water and access to open space are also basic civil rights. To say that urban blacks are not interested in clean air, clean water and open space, for instance, is profoundly racist and inaccurate. In the coming years we are certain to see new coalitions focusing on such urban environmental problems as unhealthy air and water, suburban sprawl with loss of recreational space, dilapidated transportation systems and destruction of ocean beaches.

From this process we can expect to see new formulations of the environmental ethic as the movement recruits people who have different heritages but who are one with us in shared concerns and hope for our country. The environmental movement is rooted in love of our country and concern for its survival. It cannot turn its back on the needs of the millions of people who need its message most. —William Futrell

# Great Bear Wilderness: The Missing Link

DALE BURK

Photography by Tupper Ansel Blake

*The 1976 Omnibus Wilderness Act required a formal wilderness study for nearly 400,000 acres of National Forest land in Montana known as the Great Bear Wilderness. This is the "missing link" of unprotected wildland situated between Glacier National Park and the existing Bob Marshall and Scapegoat Wilderness Areas—the last unprotected part of a key wilderness expanse that provides unequalled habitat for the endangered grizzly bear. The Forest Service has published a preliminary proposal, and here, noted Montana conservation writer Dale Burk explains why the late Senator Lee Metcalf's (D-Montana) original and much larger proposal is preferred. A complete Great Bear Wilderness would be a fitting memorial to Senator Metcalf. A final report and Congressional action are expected during 1978.*

—The Editor

**W**E WOKE TO the sound of the river and, once again, the soft pelting of rain against our tent. Our spirits sagged as we contemplated a third consecutive day of hiking in the rain, and I suggested that we should perhaps cut our trip short and hike out of the wilderness to our waiting car some seventeen miles downriver.

"Not until we check out the area at Three Forks the Forest Service wants to cut out of the wilderness," was my brother's reply. "I want to see the area from the ground before I make up my mind to agree or disagree with them." He grinned as he finished the statement, "even though it's obvious you think they are making a mistake."

We were camped deep in the heart of the proposed Great Bear Wilderness in northwestern Montana, in a stand of lodgepole pine near the confluence of Granite Creek and the area's main waterway, the Middle Fork of the Flathead River. The river here is officially designated a "wild" component of the National Wild and Scenic Rivers System. But while the river and a narrow corridor along it are protected, its great watershed and the wildlife it supports are not.

Our backpack trip was to evaluate the proposal to establish a 386,560-acre Great Bear Wilderness. In a few days we'd be testifying at a Forest Service hearing on its plan to reduce the size of the proposed wilderness to 299,000 acres. My brother had insisted on seeing Great Bear personally before he testified at the hearing. Since I'd been in the area many times and was one of the Great Bear's earliest proponents, he'd asked me to serve as his guide.

We hadn't anticipated a wet hike in early September, but we were glad to see the rain. The area had suffered drought all summer, like much of the West, and the area's watershed—so critical to the survival of major fish species that migrate to the Middle Fork's headwater tributaries to spawn—needed rain. Our physical comfort was, therefore, of little concern, but be-

fore our trip was done, the clouds did lift to reveal snow-covered slopes a few hundred feet above the trail.

When we left the area, my brother was convinced—as I had been almost a decade earlier—that this great stretch of wild land deserved preservation as wilderness. It is both one of the nation's most important remaining wildlife habitat bases and the wilderness headwaters of a magnificent wild river.

He also understood why the Forest Service's recommendation that wilderness designation be denied to 23% of the proposed Great Bear Wilderness must be overruled when Congress considers it early in 1978. The agency suggests that this critical wildlife habitat and fragile watershed should be opened to road construction, logging, oil exploration and habitat manipulation programs. These activities, however, would simply threaten the wild environment that sustains the area's wildlife population.

The proposed Great Bear Wilderness is the last major component of unprotected wildland along the continental divide in northern Montana. Its 386,560 acres form a critical link between the Scapegoat and Bob Marshall wildernesses to the south, and Glacier National Park and Canada's Waterton Lakes National Park to the north. Together, the five areas would form an unbroken chain. Once established, the Great Bear would guarantee a secure habitat base for a number of animals, including the threatened grizzly, which inspired the proposed wilderness' name, and the northern Rocky Mountain timber wolf, which is an endangered species.

In addition, the Middle Fork supports a healthy population of westslope blackspotted cutthroat trout, until recently an endangered species elsewhere in the West because of habitat destruction. It now is a threatened species, but so far it faces no problems in the Flathead River system.

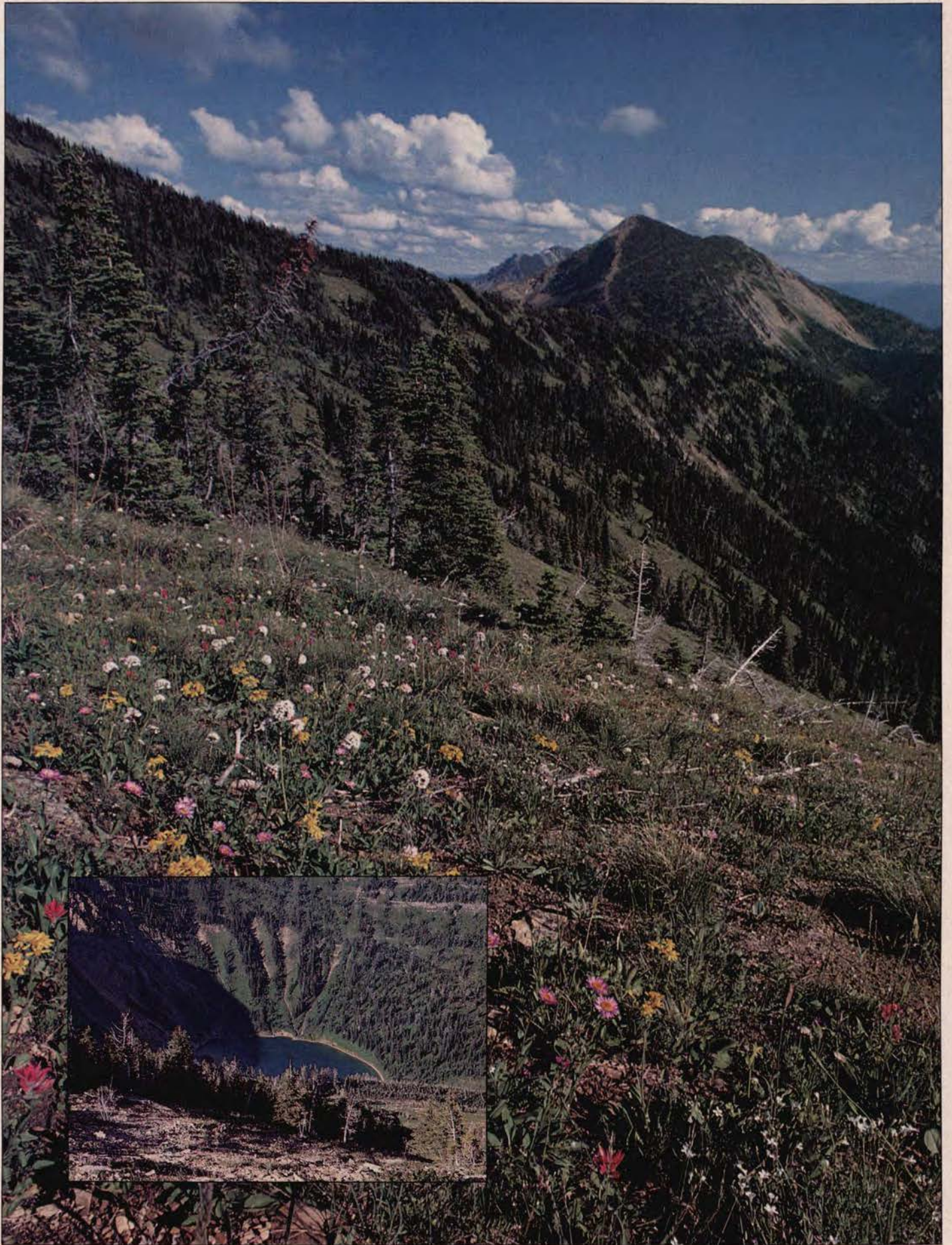
The Great Bear area is such a magnificent wildlife habitat that the Forest Service itself has said, "the variety of wildlife in the [Flathead] drainage is seldom found elsewhere within the continental United States." Many observers differ with this observation only in degree, arguing that the grizzly and the wolf are found together *nowhere* else in the continental United States. Because of this, they argue, preservation of the area takes on national significance.

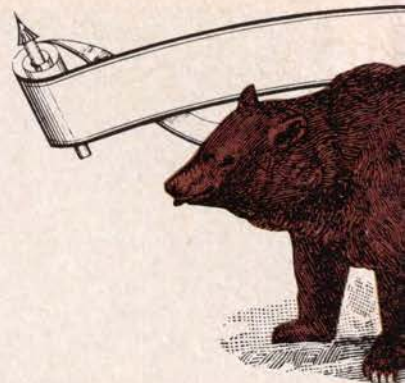
The proposed Great Bear Wilderness is composed of two adjacent units, one of 316,760 acres in the Middle Fork drainage west of the Continental Divide and the other a 69,800-acre unit in the Lewis and Clark Forest east of the divide.

It is imposing mountain country typical of glaciated terrain, with numerous alpine basins and broad, U-shaped valleys and precipitous, highly erosive slopes. Elevations vary from about

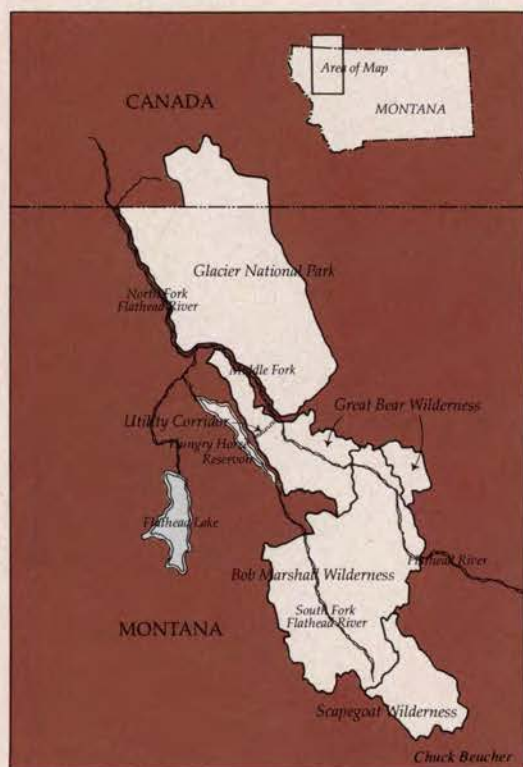
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*The proposed Great Bear Wilderness is big—nearly 400,000 acres of rugged alpine country, occasional lakes and an extreme climate. Inset, Almeda Lake.*





Right: Too steep for logging, this glacier-carved landscape is ideal wildlife habitat. Wildlife from top left: the golden-mantled squirrel, mountain goat, cedar waxwing, blue grouse, Rocky Mountain elk and a whitetail fawn.



3,800 feet on the river to 8,875 feet on Mt. Wright. East of the divide the area has a harsh, wind-driven climate of extremes—excessively cold in the winter and dry in the summer. It rains more west of the divide, and the climate is less severe, although it is still arduous by standards outside mountainous regions. Yearly snowfall averages 209.1 inches, and temperatures can vary from -30 degrees Fahrenheit in winter to over 100 degrees in the lower valleys in summertime.

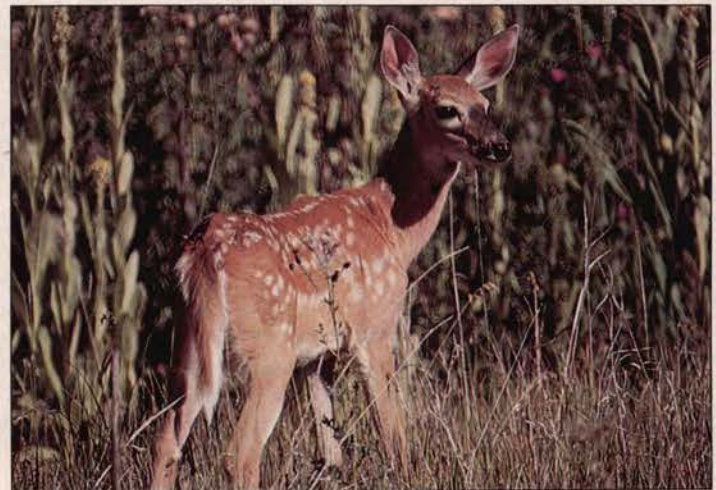
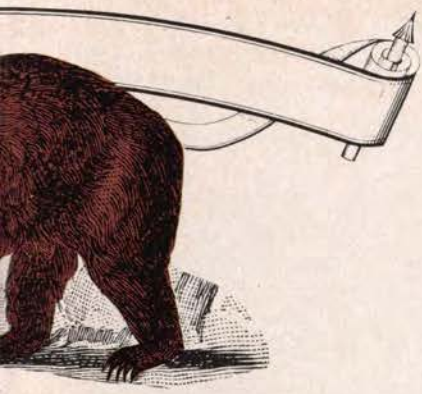
Within the area there are many small tributary streams, beaver ponds and spruce bogs, alpine lakes, a live glacier, mountain meadows, and, on its steep slopes, lodgepole pine and occasionally larch, spruce, Douglas and alpine fir. Huckleberry brush is found throughout the area, and in the stream bottoms, the ever-present willow and mountain alder. The variety of terrain also yields a multitude of wildflower species—beargrass is the most common.

Always, whatever the season, there is the wildlife. The grizzly and wolf share the land with elk, moose, deer, wolverine, fisher, mink, otter, eagle, osprey, black bear, ptarmigan, three species of grouse, water ouzel, bighorn sheep, mountain goats, marmot, squirrels, chipmunks, Columbian ground squirrels, ducks that use the tributary streams to rear their young, porcupine, coyote and many others.

There is also the imposing wild river, which threads its northwesterly way through the center of the Great Bear. Every canyon wall, every tributary, every valley in the Great Bear—from the Continental Divide on the east and the Bob Marshall Wilderness to the south—focuses on the Middle Fork River. For 46.6 miles before it leaves the Great Bear, the river dominates the landscape.

It is a booming, roaring wild river, slowed at intervals by the many pools that hold its Dolly Varden and cutthroat trout. As it





cascades out of the wilderness it drops an average of 35 feet per mile. The watershed produces an annual runoff of 941,000 acre-feet of water.

White-water enthusiasts find the Middle Fork to their liking; 43% of the river is in rapids or riffles, 57% in pools. Trout fishermen consider the upper Middle Fork one of the finest wilderness fisheries in the United States.

In fact, it was the fishery that first led conservationists in the Flathead area to seek some sort of protective designation for the upper Middle Fork in the early 1950s. The two major fish species—the cutthroat and Dolly Varden—depend on the cool, clear, naturally regulated streamflow of the Middle Fork's tributaries for survival. These headwater tributaries are essential spawning grounds for the cutthroat in June and the Dolly Varden in September.

According to the Montana Fish and Game Department, 45%

of these two species that migrate the 100 miles or more from Flathead Lake to the headwaters of the Flathead River system depend on the Middle Fork tributaries for spawning.

The fish also spawn in tributaries of the North Fork of the Flathead, but a proposed open-pit coal mine at Cabin Creek in British Columbia poses a future threat to that tributary, and the spawning fish were denied passage to the headwaters of the third major component of the Flathead system, the South Fork, when Hungry Horse Dam was built. So critical is the balance of life for these fish that Otis Robbins of the Fish and Game Department has said, "any development of the Middle Fork would directly reflect on the fish population in Flathead Lake."

In this light, the Forest Service recommendation to deny wilderness designation to 23% of the proposed Great Bear Wilderness could have disastrous results. Understandably, traditional wilderness opponents in the timber, energy and mining indus-

tries have seized on the Forest Service recommendation as a means of limiting the size of the Great Bear—which from its inception has had overwhelming local support.

Specifically, the Forest Service recommends that 298,971 acres of the Great Bear be given wilderness designation, that a 6,240-acre utility corridor be established on an east-west route right through the proposed area and that 81,320 acres be withdrawn from the wilderness proposal.

The utility corridor and the other Forest Service “exclusions” can only be major threats to the integrity—the wholeness—of the Great Bear Wilderness. Besides attracting development, the corridor would chop the Bear in two and slice away key grizzly habitat in the high mountain basins on the west side of the area. And, certainly, it would disrupt the Great Bear’s watershed.

The agency’s utility corridor concept was developed at the behest of the Bonneville Power Administration, even though there is no demonstrated need for such a corridor—and other established routes are available. The corridor would bisect the Great Bear at Logan Creek and Dirty Face Creek, effectively cutting off the area’s northern peninsula.

Actually, the Forest Service hedged its bet on the transmission corridor, knowing it would be unpopular with Great Bear proponents. The agency suggested the exclusion be written into law but promised that if no transmission line or coal slurry pipeline is built by 2020, the 6,240-acre unit would automatically be designated part of the surrounding wilderness.

The most significant exclusion would be at the heart of the Great Bear at Twenty-five Mile, Granite, Lodgepole and Morrison creeks—all critical spawning streams. Some 52,440 acres are involved—14% of the Great Bear. The Forest Service wants to log the area, manipulate habitat for wildlife even though there is no established need for such manipulation, and promote oil and gas exploration even though there is less than a two-month supply for the nation in that specific area.

Other Forest Service recommendations for exclusions involved agency application of “suitability” and “manageability”—criteria that conservationists have long insisted are contrary to the intent of the Wilderness Act. These exclusions consist of:

- 16,880 acres of critical grizzly habitat on the west side of the Great Bear because of alleged “manageability” problems.

- 3,140 acres in Dirty Face, Unawah, and Twenty-five Mile drainages where past timber cutting occurred, but which conservationists included in the wilderness proposal in order to restore these small units to the general wilderness character of the surrounding area.

- 9,600 acres on the West Fork and the lower North Fork of the Teton because of “availability” and manageability factors, even though the agency admits that this area meets all wilderness requirements.

These exclusions, naturally, were challenged as misinterpretations of the Wilderness Act. Criticism focused on two key points: that the use of the so-called “purity concept” and the application of the extralegal “manageability” criterion are contrary to the law and contrary to new directives issued by the Forest Service since the Carter Administration took over the executive branch.

M. Rupert Cutler, assistant secretary of agriculture for conservation, research and education, had ordered the Forest Service to scrap its “purity” argument during discussion of the RARE II areas. Last summer he said in an interview in Missoula, Montana, that purity criteria would not be used in drafting the Great Bear proposal. However, the Forest Service has per-

sisted in basing its entire Great Bear recommendation on these factors, and some political observers consider the proposal a test case as to whether Cutler’s will or that of the Forest Service will prevail.

The specious “manageability” criterion was roundly scored by Senator Lee Metcalf last September. Metcalf called it “a strain on the wording of the Wilderness Act.” He noted that the act never refers to manageability as a legitimate criterion for wilderness classification. “If it qualifies for wilderness it should be made wilderness,” Metcalf said, terming manageability a total invention of the Forest Service. “If it’s your job to find a way of managing it, then do it,” he told the agency.

According to the Forest Service, 20,000 acres of the Great Bear “would be very difficult to identify and manage as wilderness.” Essentially, this means the Forest Service feels that without selective burning in order to maintain open pastures, the area will deteriorate as an important winter range for elk. The elk will disappear, the Service argues, and that will have an adverse effect on the grizzly and the wolf. (Biologists in the Bob Marshall Wilderness have no evidence, however, that grizzly and wolf depend on elk for survival as they do in Yellowstone.) In the past, winter range for elk has resulted from natural fires. Only recently, as any and all fires have been extinguished, have winter ranges declined. Proper management would once again allow spontaneous fires to burn themselves out.

Reaction to the Forest Service proposal—which will go to Congress sometime early in 1978—indicates that the issue now centers on the ultimate size of the wilderness. Most former opponents of the Great Bear are acceding to the inevitability of a wilderness in the area.

Even the timber industry-dominated Kalispell (Montana) Chamber of Commerce, long an adversary of wilderness proposals in the area, went on record supporting the Forest Service proposal. So did Plum Creek Lumber Company, formerly an opponent of the Great Bear.

But there is still some opposition to designating any part of the Great Bear as wilderness. The Western Environmental Trades Association, an industry front group, opposed establishment of the Great Bear “because there’s enough wilderness in Montana.” The Western Forest Industries Association wants “zero acres” added to the wilderness until planning work on every acre of national forest land is complete.

Oil and gas interests want the eastern portion of the Great Bear left unclassified. The Montana Petroleum Association believes the area east of the Continental Divide has high potential for natural gas, but pro-wilderness experts note that vast areas adjacent to the Great Bear would remain open for exploration.

Which view will prevail when Congress wrestles with the Great Bear question? There is overwhelming public support for establishing a wilderness in the area, but local and national support will be needed to prevent the loss of the portions the Forest Service would like to exclude.

With those parcels removed, the integrity of the area as a habitat bridge along the Continental Divide would be seriously impaired and the future of its many interrelated resources threatened. Consequently, local conservationists—led by a group called Citizens for the Great Bear—have mounted efforts to gain support and to advise Congress that the original Great Bear boundary is not only defensible but necessary if the land and its wildlife are to endure. □

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*Dale Burk writes a column for The Missoulian, a Montana newspaper, and is author of Great Bear, Wild River (Stoneydale Press).*



Bernie Liebier

# Westway - Worst Way?

NEIL GOLDSTEIN

*Environmentalists won a double victory on December 16 that may well put an end to the Westway project: New York State Environmental Commissioner Peter Berle ruled that Westway's proponents had not proven the project would comply with the state's air-quality regulations. He therefore denied Westway the "indirect source" permit required for construction. Simultaneously, Environmental Protection Agency Administrator Eckhardt C. Beck recommended to the Army Corps of Engineers that a "Section 404" dredge and fill permit be denied. He said Westway landfilling would be hazardous to Hudson River marine life.*

*Yet the fight is not over. While environmentalists think these actions will eventually stop the project, Westway's proponents have vowed to fight on. As a first step, they are expected to reapply for an "indirect source" permit with additional data to bolster their case. Although the Club's continued fight to stop Westway will require additional human and financial resources, they will be well spent—victory is in sight.*

**I**N LIGHT OF the current emphasis on conserving energy and reducing air pollution, national and local politicians and transportation agencies have been taking a curious stand regarding Westway, a proposal to build a ludicrously expensive (more than \$4,000 per linear inch) multilane highway through the lower West Side of New York City—traditionally the most mass-transit-oriented city in the country. Under the aegis of the Highway Trust Fund, a gasoline-tax-supported trust created in 1956 primarily to fund the nation's interstate highway system, the federal gov-

ernment would pay 90% of Westway's total construction cost.

This money could, on the other hand, be transferred to fund the construction of local roads or to construct and rehabilitate mass transit—if the proposed interstate is deemed "nonessential." The Trust Fund has long been the bane of railroads and mass-transit systems in many of our major cities. It has indirectly subsidized auto travel and promoted truck drayage, to the detriment of interstate railroads. To make matters worse, the virtually limitless pool of highway money available from the Trust Fund has distorted local transportation

planning. A "child" of the Fund, Westway exemplifies the manner in which this distortion can occur and illustrates why we must "bust" the Highway Trust in 1978.

Westway originated in a series of studies begun in 1956, which recommended that steps be taken to rebuild the City's decaying West Side Highway. Constructed in the 1930s, the West Side Highway had served, until the city was forced to close certain dilapidated sections entirely, as a conduit for traffic bound for the West Side from points north and—to a lesser extent—south of Manhattan. By 1966 this modest proposal to refurbish the old highway was

replaced by the far more ambitious plans of the Tri-State Transportation Commission: "The city is unique in its need for highway renewal as well as urban renewal, for it has many early facilities which have undergone long and heavy usage. The prime candidate for replacement is the West Side Highway, whose tortuous curves and constricting width are far below modern design standards required for better speeds and higher volumes. The changed face of the city's waterfront also provides the opportunity to coordinate this highway reconstruction with potentially new and more appropriate uses of adjacent land. In such a case, highway renewal coupled with new land uses provides an unparalleled opportunity for civic improvements."

As part of its planning process, the staff of the West Side Highway Project (established in 1972) isolated six problems to be addressed by any proposals. Only two of these were directly related to transportation; the remaining four underscored the broader development goals of the project:

- Obsolescence and under-utilization of the waterfront area
- Insufficient land area available for critical land uses
- Insufficient employment opportunities
- Continuing degradation of the physical environment
- Excessive cost of goods movement and distribution
- Inadequate transportation systems.

The Highway Project's report led to a proposal for a new multilane highway (much bigger than the original West Side Highway) that would have annexed large portions of Manhattan's Riverside Park. Reaction to this proposal was vigorous, as local legislators and community leaders banded together to stop the project; they lobbied successfully for a law to prevent destruction of the parklands. Out of the parks fight emerged a large, permanent and vocal constituency opposed to any expansion of the West Side Highway. In response, highway boosters devised still another plan—Westway—which they touted as environmentally, sociologically and economically beneficial to the City.

Officially designated "Interstate Connector Route 478," Westway would run 4.2 miles from the lower West Side to just beyond 42nd Street, where it would join the existing West Side Highway. It would be a restricted access road consisting of eight lanes, two of which would be shoulder lanes; Westway's 2.6 miles of tunnels would require five seven-story ventilating towers. The plans call for 181 acres of landfill in the Hudson River, a four-lane

service road running parallel to the expressway at street level and a rebuilt, six-lane West Street. Designed to carry approximately 20,000 vehicles during rush hour, Westway's total cost is estimated at \$1.156 billion.

Much more than a highway, Westway is at heart an economic development scheme that relies on transportation funds for financing. It is a gargantuan plan to develop housing along the river, to create inexpensive new land near Wall Street and the World Trade Center (as well as near the proposed Battery Park City Housing Complex), to create construction industry employment and to open up the now moribund riverfront for recreation, parks, sightseeing and tourism. According to its supporters, Westway promises a renaissance of the entire West Side. Westway supporters are only incidentally concerned with Westway's impact on New York's transportation needs.

Given the existing structure of the Highway Trust Fund, it is not surprising

that government officials and the West Side Highway Project staff should be tempted to choose Westway over economically and environmentally better mass-transit alternatives. The Fund demands that an interstate highway be fully planned, approved and funded before interstate transfer can take place—that is, before highway money can be released for other modes of transportation. New York City was therefore forced to promise that it seriously intended to build Westway before money could be allocated. Only then could that money, 90% of the total cost, be transferred to aid mass transit. Even then, the city would normally be asked to pay more than it was required to pay for highway construction. These hard-to-come-by extra millions aside, the sizable investment in planning (\$16 million), coupled with the personal and political energy such an effort involves and the expectations it raises, gave the Westway project momentum difficult to derail in favor of mass transit. In fact, although a recent federal deci-

## The Federal Highway Trust Fund

DAVID ALLEN

**S**INCE ITS CREATION in 1956, the federal Highway Trust Fund has been the main federal source of money for highway construction in the United States. The money in the fund comes from federal gasoline excise taxes—\$6-\$7 billion per year.

The fund was originally created primarily to finance the construction of the interstate highway network. Interstate highways are limited-access roads that must fulfill various federal requirements; they must, for example, carry trucks and meet certain safety standards. The Federal Highway Trust Fund will pay 90% of the construction cost of interstate highways. The remaining 10% is paid by local governments.

In recent years the Highway Trust Fund has come under heavy attack from environmentalists and mass-transit advocates. The nation's interstate highway network is now more than 85% completed. Opponents of the fund argue that it has outgrown its purpose, and the nation's transportation construction priorities should shift to more energy-efficient mass transit.

Efforts to "bust the trust" have met with some success. In 1976 the federal highway aid act was modified to allow funds allocated for "nonessential" interstate highways in urban areas to be

transferred to mass transit and also to cover the construction cost of local roads. The federal government's 90% share of the highway cost may be transferred, but the local government must match this sum with a 20% payment instead of the 10% which would be required if an interstate highway were constructed.

These modifications are at best a partial victory for environmentalists. The money can be "traded in" for mass transit only in urban areas. The amount of matching funds that must be supplied by city and state governments is higher than if a highway were constructed. Most importantly, transfer to mass transit can only be requested after a highway project is already "on the books." In spite of these and other obstacles, interstate highway projects have been transferred to mass transit in a number of urban areas. As of March 1977, a total of \$2.1 billion had been traded in for mass transit in several cities, including Boston, Hartford, Portland and Washington, D.C.

The Highway Trust Fund will come up for renewal in Congress this year. A major battle appears to be brewing between mass-transit advocates and highway lobbyists over the future of the fund. □

*David Allen formerly chaired the New York City Group's Transportation Committee.*

sion to reduce Westway assistance by \$319 million means that New York City and New York State will have to spend \$104 million *more* for Westway than for mass transit, transportation planners and politicians have refused to switch. Once Westway was proposed, many special interest groups rushed to support it, including real estate developers (imagine the value of 181 new acres of land on Manhattan Island), construction labor unions, contractors and bankers, as well as politicians who rely on these various groups for financial and political support. So, even though interstate transfer would be better for the entire city, support for Westway remains considerable.

Opponents of Westway argue that to characterize the project as a catalyst for urban revitalization seriously underplays what should be the dominant issue: transportation. Would the highway significantly reduce traffic congestion on West Side streets? Would it prove cost-efficient? Would it create jobs? Who would benefit? Most importantly, what are the alternatives?

In September, Congress adopted an official cost estimate for Westway of \$837 million, although New York State had requested a cost estimate of \$1.156 billion. Congress disallowed several costs as ineligible for federal funding and also deducted \$191.6 million—the anticipated sale value of the landfill that Westway would create—since New York State would gain this valuable new land. Unfortunately, since most of this land will be used for parks and recreation facilities, it is unlikely that New York State will ever collect this \$191.6 million for its new real estate. Adjusted to reflect inflation, \$798 million in federal funds would be available for Westway.

The major alternative, of course, is mass transit. The West Side Highway Project staff tacitly recognized this when they proposed that lanes would be designated for exclusive bus and car-pool use during rush hour. But this is merely a sop to environmentalists. The Institute for Public Transportation, headed by Dr. Robert N. Rickles, studied mass-transit alternatives to Westway when it realized that, among other things, the highway's transportation function was totally undefined in the EIS. Since New Jersey commuters would benefit most from Westway, Rickles proposed that a mass-transit rail connection be built across the lower deck of the George Washington Bridge (following the original plans for the structure) to New Jersey. On the New York City side, a connection would be built to

the Penn Central Hudson line. This would cost approximately \$120 million. Rickles also pointed out that the 8th Avenue IND line was originally designed for precisely such a connection and that the connecting tracks to the bridge approaches already exist north of 168th Street. This would provide yet another possible option: comfortable, high seating-capacity cars operating from New Jersey over the IND 8th Avenue tracks, which are currently under-utilized. Finally, the Institute report demonstrated the ease with which mass transit could accommodate the amount of traffic handled by the West Side Highway. At most, approximately 7,000 people use the highway per hour. These could be carried, *all seated*, in twelve subway trains, far below the per-hour capacity of a single track. Twelve trains of the latest-type, quiet, air-conditioned cars cost \$28 million. MTA could purchase 400 such trains for what Westway will cost!

Westway itself was chosen from among several alternatives during the West Side Highway Project's environmental impact review process. These alternatives included one proposal which most New York City environmentalists wholeheartedly prefer to Westway—interstate transfer. This proposal would spend approximately \$38 million of the \$798 million Trust Fund share of Westway for a smaller road similar to the original West Side Highway. The remaining funds—to be matched by 20% local funding—would be freed to aid mass transit: new construction, rehabilitation of existing lines and improvements in rolling stock and support facilities.

No matter what labor and other Westway supporters say to the contrary, this transfer alternative would create more and longer-lasting jobs than the highway project. A study just completed by the Sierra Club and the Open Space Institute confirms this fact. Michael Gerrard, the study's author, calculated that 32% more jobs could be created through mass-transit rehabilitation. Westway, on the other hand, would displace more workers than it would reemploy—including 4,500 workers at the West Side's Gansevoort Meat Market. The Project designers seem willing to gamble that these jobs will be replaced by future economic development—a questionable supposition, given the general employment picture in New York City.

Despite its historic and current dependence on mass transit—93% of New York City workers use some form of public transportation daily—New York City mass-transit ridership has declined steadily during the past two decades. In part this



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is the result of the flight of millions to the suburbs and their subsequent need to commute by car. For the most part, however, this steady attrition can be directly related to the increasing discomfort—the noise and crowding—one faces on public transportation. The Metropolitan Transit Authority has estimated that it will require \$17.3 billion for mass-transit capital projects in New York City over the next ten years. Westway money would be a significant contribution to this need.

The first and foremost charge made against Westway, then, remains that the project would deny desperately needed money to New York City's beleaguered mass-transit system. Since mass transit saves energy and pollutes less than automobiles, this deprivation has serious environmental ramifications. According to "Where Transit Works," a study by the Regional Planning Association, New York's mass-transit system uses roughly half the energy per passenger mile of highway commuting. Furthermore, mass transit promotes residential and commercial development along its urban routes, while urban commuter-highway construction fosters suburban sprawl. Westway would serve primarily as a corridor for suburban traffic to and from the central business district and would continue to encourage such energy-wasteful development.

Depriving MTA of money it needs to improve mass-transit conditions can only ensure a further decline in ridership. These commuters must then reach work by car, and additional automobile traffic will increase air pollution in an area that already fails to meet federal standards and probably won't meet them during this century. Westway itself would significantly add to this pollution—its five exhaust towers are merely sophisticated smokestacks that would emit 24-hour streams of carbon monoxide, nitrogen dioxide and various hydrocarbons. Furthermore, the planned development around Westway could create air and water pollution problems as well. Certainly the 181 acres of landfill would change the configuration of the Hudson River and could lead directly to both water pollution and damage to the migration and spawning waters of Hudson River fish. Finally, the traffic congestion and noise pollution on local streets will surely increase, refuting Westway's stated purpose of reducing current transportation problems in the area. □

Neil Goldstein is the Club's New York Representative.

## Club Transportation Activists Focus on Highway Trust Fund

Club members concerned about transportation issues are preparing once again to join in the battle to "Bust the Highway Trust Fund." The fund is up for renewal in 1978. According to Jo Jones, who chairs the Club's Subcommittee on Highways and Mass Transit, an opportunity now exists to try to influence the distribution and allocation of funds and to shift the balance from highway building to mass transit and railroad construction, maintenance and rehabilitation.

The Sierra Club's National Transportation Committee has prepared a questionnaire to identify individuals and groups who want to work on this issue. If you wish to join in this effort, please contact Jo Jones, 10 River Court Parkway, N.W., Atlanta, GA 30328, (404) 393-3008.

## A Report on Public Works and Employment

The Sierra Club Atlantic Chapter and the Open Space Institute have released a major new report on the jobs/environment issue, "How Public Works Projects Affect Employment." Michael Gerrard, the report's author, has studied the various methods used to measure the impact of government programs on jobs. He applies his findings to what has been called "one of the most important urban planning issues in the country"—the question whether to build the \$1.156 billion "Westway" interstate highway in Manhattan, or to apply the Federal funds to mass transit instead. Though Westway has been billed as an economic boon for New York City, this six-month study concludes that the mass transit option would create 32% more jobs, and create them faster, than the highway project, chiefly because most of Westway's expense is for energy and raw materials. This report is the most detailed study of the Westway issue to date, and it is also one of the most exhaustive ever made of the whole jobs/environment controversy. Copies are available for \$4 from the Sierra Club, 800 Second Avenue, 6th Floor, New York, New York 10017.

# Residential Energy Use

## How Much Can We Save?

ERIC HIRST and LINDA PEARLSTEIN

**C**AN ENERGY CONSERVATION measures, even if they are widely adopted, significantly reduce the growth of energy use in the United States? Won't these conservation measures force us to change our life styles and simultaneously cause severe financial hardships for most families?

Our answers to these questions—for those who can't wait until the end of the article—are: yes, energy conservation can substantially reduce growth of energy use in homes during the rest of this century. And no, practicing energy conservation will not require more than such modest changes in behavior as setting the thermostat lower by a few degrees at night. What's more, energy conservation will save households money because savings in fuel bills will outweigh the extra cost of more efficient appliances and of more energy-efficient homes.

We base our answers on more than a personal belief that energy conservation is the most environmentally benign substitute for fuels. In a computer-model study conducted at the Oak Ridge National Laboratory, we simulated what household energy use might be like between now and the year 2000. We used the computer model to test the energy and economic effects of three different kinds of "futures" concerning home energy use. These futures differ from each other in the degree and strictness of projected federal programs intended to conserve energy.

### *Future One: Business As Usual*

Our first projected future assumes no improvements in the efficiency of home appliances or homes. Future One does assume, however, that fuel prices and household incomes will increase between now and the year 2000. Given these assumptions, household energy use will grow only modestly during the rest of this century. We calculate an average growth rate of 1.7% per year, compared with a growth rate of 3.6% per year between 1950 and 1975. Thus, even without government conservation programs, growth in household energy use will be cut by one-third in the coming 23 years—relative to an extrapolation of historical demand.

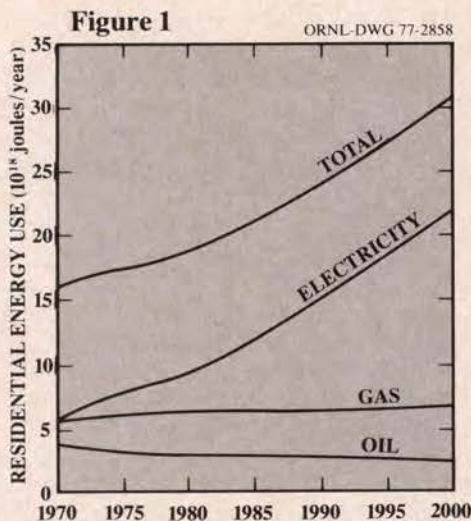
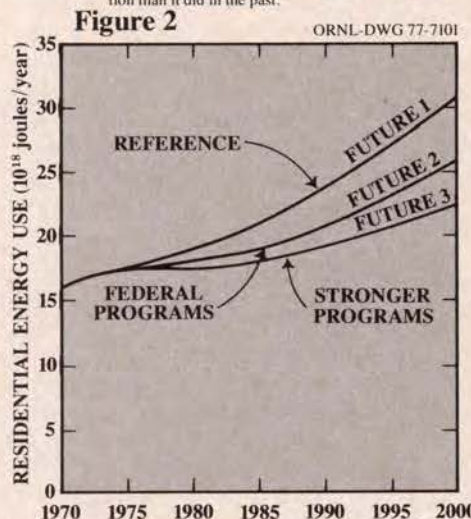


Fig. 1. Reference projection of residential energy use to 2000. Energy use grows more slowly in this projection than it did in the past.



This figure shows three different projections of residential energy use to the year 2000. The top curve Future 1 assumes that no federal conservation programs are implemented. The middle curve Future 2 assumes that the programs legislated by the 94th Congress are fully implemented. The bottom curve Future 3 assumes that a stronger set of conservation measures are adopted.

This slowdown will occur because of slower growth in population (women are now having an historically low 1.7 children each); a reverse in fuel price trends (until 1970 fuel prices actually declined); and the approaching saturation of existing households with various household appliances. How many refrigerators can one house use?

### *Future Two: Federal Programs*

Our second future assumes that the energy conservation programs authorized by

the Ninety-fourth Congress in 1975 and 1976 and proposed in the President's National Energy Plan will be fully implemented by the new Department of Energy (DOE). These conservation measures include appliance efficiency, insulation standards for new homes, and a national program to "retrofit" existing homes by adding attic insulation, storm windows and other devices to cut energy use.

Congress told FEA to require an increase of at least 20% in the average efficiency of new appliances by 1980—that's 20% above the average efficiency of appliances in 1972. FEA wants to reduce the amount of energy used in refrigerators by one-third. We found that this goal can be met, using available technology, by increasing the insulation thickness in refrigerator walls, moving the fan motor away from the refrigerated area, adding an anti-sweat heater switch, and increasing the condenser surface area. These improvements would add only \$10 to the price of a new refrigerator. But the annual saving in electricity bills would be \$20—the improvements would pay for themselves within six months.

Another FEA goal is to reduce energy use in gas water heaters by 20%. Again, using available technology, this goal can be met by adding urethane foam to the water-heater jacket, insulating the distribution pipe, and reducing air flow through the flue. These improvements would add \$40 to the cost of a new water heater. But gas bills would be cut by \$13 a year; the investment would be paid off in only three years. These two examples suggest that investment in efficient household equipment is very cost-effective. Put another way, saving energy saves money. Savings accounts pay from 5 to 6% interest, but these investments pay from 30 to 200%.

Congress similarly directed HUD to develop insulation standards for new buildings within three years. The standards must then be enforced by the states, but only if Congress first approves.

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By Eric Emmet

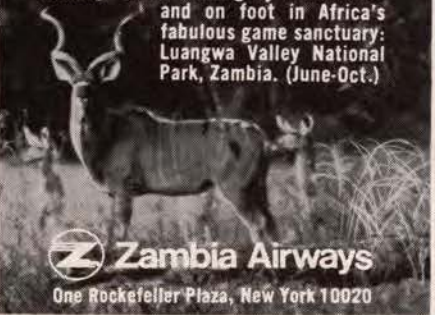
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dows and storm doors called for by these standards would cut energy use for space-heating by 40% and would cut energy required for air-conditioning by 30%. The annual savings in fuel bills would be about \$125. This investment would pay for itself in four years.

The final element in the national residential energy conservation program involves changes in existing houses. Congress authorized (and the President proposed additional) financial incentives such as tax-credit programs to encourage homeowners to "weatherize" their homes. Our study assumes that these programs will encourage owners to retrofit forty million single-family homes and seven million apartments during the next several years, resulting in an average saving of 35% for a typical heating season.

What would happen to energy use and to household costs if all three federal programs were adopted? We calculate that these technical improvements would cut residential energy growth to only 1.2% per year—a great savings over the 1.7% energy growth in Future One. Furthermore, the amount of energy saved would increase each year as more and more efficient equipment and structures replaced existing inefficient systems. In the year 2000, these programs would have cut United States energy use by an amount equal to that produced by 61 large electric power plants plus 400 billion cubic feet of natural gas plus 44 million barrels of oil. Hence one of the primary axioms of energy planning: the cheapest source of fuel is conservation.

Adopting these federal conservation programs would also save money for individual homes. Overall, household fuel bills would be cut by \$56 billion between now and the end of the century. These savings would be partially offset by increases in the costs of equipment and buildings, but the net saving would still be \$27 billion—about \$300 for each American household.

Pessimists have predicted that any significant savings in energy use must involve drastic changes in our lifestyle. But these savings would require virtually no change in the typical lifestyle of Americans—unless paying lower utility bills is unwelcome.

### Future Three: Stronger Programs

Until now, we've been talking about energy savings that would result from implementing federal programs within the next three years. Even without additional improvements in technical efficiency, these savings are both possible and considerable. But why assume that appliances

will not continue to grow more efficient?

Fuel prices will increase between 1980 and 2000. DOE estimates that natural gas prices will rise 50%; oil prices will go up 25%, and electricity prices will grow by 15%. It seems obvious that there will be ample incentive for homes, appliances and other equipment to be made even more efficient than required by current federal programs.

In addition, federal and private research is sure to develop more efficient equipment and structures than those available today. For example, the ACES (Annual Cycle Energy System) house constructed by the Oak Ridge National Laboratory in Knoxville, Tennessee, will require only 20% as much electricity for heating, cooling and water heating as would a conventional house.

To get a feel for the energy and economic savings from additional improvements, we posited a third future that assumes that homes and appliances will continue to increase in energy efficiency after 1980. Using a computer model, we developed a future with efficiencies higher than those in the federal programs—but attainable with present-day technologies. The results suggest a 20% reduction in energy use by the year 2000 compared with Future One and a 10% cut in energy use over Future Two. Energy growth would be cut to 1% a year.

Future Three would provide economic benefits of \$34 billion to households compared with Future One (and \$7 billion more than Future Two). These final results suggest that continuing federal efforts to further improve energy efficiency would yield large financial savings. Again, these savings assume only slight—and positive—changes in lifestyle by American families, no change in government fuel-pricing policies and no use of such emerging technologies as solar heating. Very conservative assumptions—but very promising results. □

### Notes

E. Hirst, et al., *An Improved Engineering-Economic Model of Residential Energy Use*, Oak Ridge National Laboratory, ORNL/CON-8, March 1977.

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*Eric Hirst is a research engineer at the Oak Ridge National Laboratory. Linda Pearlstein is a science reporter for the Tennessee newspaper Oak Ridger.*



# Waiting for a Philosopher King

## Making Cancer Policy Until Certainty Arrives

GUS SPETH

**I**n *The Republic*, in which Plato outlines his view of the ideal society, he also ranks various forms of government, from best to worst. Out of five possibilities, democracy comes in an abysmal fourth. Plato believed that only tyranny—rule by the man of criminal intent—was worse than rule by the man who has no special qualifications whatever: no distinctive wisdom, no exemplary record of military or public service and no property.

In view of the honored place our society has always accorded Plato—in our rhetoric, at least—his is a depressing opinion to carry into our third century. From his perspective, in fact, we are getting worse: since the creation of our own republic, we have steadily expanded the franchise, removing earlier barriers to voting.

We are 200 years old now, and set in our ways. It appears doubtful, to say the least, that we shall retrace our steps to realize Plato's ideal of a society ruled by a philosopher king and governed only by an elite of the best and brightest. As a guard against tyrants we have chosen democracy, and we must make it work.

But the very fact that we do extend the vote to every citizen of eighteen years and more heightens our need to make public debate on important questions as intelligent, as precise and as widely understandable as possible. Our world is incredibly more complicated than Plato's was—not only in the nature of the decisions that face us, but in the scope of the results if we are wrong.

This is certainly true with regard to environmental cancer. This is a subject which the "experts" do not fully understand, yet it is one that should be of concern to everyone. In 1900, cancer was eighth on the list of causes of death among Americans, accounting for 64 deaths in every 100,000 members of the population; by 1970, cancer was second only to heart disease, and accounted for 163 deaths for every 100,000 people. An estimated 900,000 new cancers will be diagnosed this year and 360,000 people will die of cancer. Eventually, according to the American Cancer Society, one in every four of us will develop cancer; and about two-thirds of those of us who get it will very possibly die of it.

One can take a cynical view of such statistics and attribute the rise in cancer mortality to our success in conquering other forms of disease. We have to die of something, in this view; now that diphtheria and TB are no longer killing us in large numbers, we have to expect an increase in deaths from other causes, such as cancer. But by 1960 cancer mortality in the U.S. was already about double that which might have been predicted on the basis of the increasing age and size of the population. It is clear, from statistics in other countries as well as our own, that something new is loose in the world.

By comparing various cancer rates, scientists now estimate that as much as 60% to 90% of cancer is related to environmental as opposed to hereditary factors. Examples of such environmental factors include smoking habits, alcohol consump-

tion, dietary habits, exposure to various forms of radiation, such as x-rays, radioactive materials and ultra-violet radiation from the sun, and exposure to a wide range of industrial chemicals and minerals and certain naturally occurring compounds, such as aflatoxins, which are secreted by certain molds.

No one knows for certain the relative importance of these various factors. Today our suspicion is focused increasingly on chemical compounds as the most prevalent cause of cancer. An estimated 30,000 chemicals are in commercial production in the U.S., and a few hundred are introduced every year into commercial production and distribution. Old and new chemicals are ubiquitous in our environment—as by-products of manufacturing processes, as constituents of packaging, as additives in our food and wastes in our air, land and water.

How do we know which ones are harmful? Of all the chemicals that have been released into the human environment, we *know* that a small number cause cancer in humans. We know this for the best and most tragic of reasons: they *have* caused cancer in people, and we have taken steps to prevent or reduce their further introduction into our environment.

But we cannot patiently wait for other carcinogens to make themselves known in this manner. Cancer has a typical latency period of 15 to 40 years; by the time a carcinogen has been positively identified, many thousands of our population may already have contracted cancer. Hence we have to figure out some way to spot a cancer-causing agent before we expose humans to it.

This latency period—the long delay between exposure and disease—points up another complication. The cancer patterns of today reflect stimuli present in the environment decades ago. We have thus only just begun to experience the results of the surge of new chemicals which began after World War II. The Federation of American Scientists has called attention to one ominous implication of this fact:

*"In principle it is only too possible to imagine the cancer rate suddenly rising 2%, 3%, or 4% a year—rather than the 1% now being experienced. At these rates, cancer would quickly become far more serious even than it is today. Suddenly, it might be belatedly realized that one or more of many chemicals introduced into the environment decades ago was highly carcinogenic and was, after a twenty or thirty year lag, beginning to show its effects. With the present inability to cure substantial numbers of cancers, Americans would be defenseless—with alarm bells ringing much too late. It is obviously insupportable to continue to run these risks."*

We are now spending about \$500 per capita annually for medical research and health care—some tens of billions for cancer alone. Despite this investment, we have made only modest progress since the 1950s toward arresting diagnosed cancers and prolonging life. We continue to seek cures and hope they will be found—but it is obvious that the cure is not just around the corner, and we must turn to other strategies for dealing with cancer.

*Our chance for making wise public policy is additionally diminished when apparent absurdities are used to discredit sound regulatory policy.*

The lack of a major breakthrough in finding a cancer cure and the belief that a major and increasing portion of human cancer is due to exposure to chemicals in the environment have combined to focus public and governmental attention on preventing cancer by seeking out and eradicating its causes. We should remember, as John Cairns has pointed out, "It was largely preventive medicine that eradicated the infectious diseases."

If prevention is our best cancer strategy, what do we prevent? This brings me, finally, to what are known as "cancer principles"—the principles to be employed in determining if a chemical does cause cancer and in assessing the risks. It also brings me back to the difficult business of making wise social policy on complex matters. Although only a tiny percentage of our people understand the scientific concepts underlying the identification of potential cancer-causing agents, all of us—no matter what our expertise or lack of it—have a voice in determining how extensively these principles are to be applied and what actions are to be taken on the basis of the best available scientific findings.

Public debate on cancer prevention is further complicated because the specialists themselves do not agree. And our chance for making wise public policy is also diminished when apparent absurdities are used to discredit sound regulatory policy.

I refer here to the debate concerning the proposed ban on saccharin by the Food and Drug Administration. Much of the publicity surrounding the proposed ban has tended to make present regulatory policy seem ridiculous. We have been treated—in letters to the editor, in cartoons, in speeches—to the vision of rats so stuffed with diet colas that they cannot walk, and to a dangerous amount of hilarity about the dosage levels used in animal tests. The ridicule arising from the saccharin episode may stimulate contempt about our regulation of other widely used but potentially hazardous chemicals—and we may find ourselves, some years from now, laughing all the way to the hospital. Whatever the fate of the saccharin ban, we must try now to seek as informed a public debate as possible on a cancer-prevention policy that will ultimately be decided not by scientists, but by the voter. We can, in short, put the public attention aroused by the saccharin ban to excellent social use in dealing with *all* chemicals.

Let me begin by examining some of the disputed scientific procedures used in testing substances such as saccharin.

First, the use of laboratory animals to predict the effect of a chemical on humans—how valid is that? A recent Congressional Office of Technology Assessment panel examined this question and concluded that animal testing provides "valid, reliable prediction that a substance will produce cancer in humans."

Animals are admittedly not perfect as predictors of cancer in humans. Animal susceptibility to cancer varies from species to species. Thus, for example, dermal exposure to polynuclear hydrocarbons under certain conditions will produce skin tumors in mice or hamsters, but not in guinea pigs. Further, just as humans seem to contract "spontaneous" cancers for which we have no explanation, so do animals; a certain percentage of

both, it seems, are simply fated to contract cancer. Hence laboratory tests cannot merely look for *any* amount of cancer in test animals, but must look for an *excess* of cancers in those subjected to a suspect chemical. Furthermore, we do not know if every chemical that causes cancer in animals also causes it in humans; it would be a form of homicide to test all known carcinogens on humans just to satisfy our scientific curiosity. Moreover, because of cancer's latency period, we would have to wait decades for the answer.

But we do know the reverse: with the single possible exception of arsenic, every chemical known to cause cancer in humans also causes it in animals. And we *do* know that many compounds were first shown to be carcinogenic in animals before their carcinogenic effects on people were detected.

Despite the differences between animals and humans, then, there is sufficient resemblance in their reaction to cancer-causing agents for us to heed the results of animal tests. Such testing is not perfect, but the validity of applying animal test results to humans is firmly based on empirical evidence. A chemical that causes cancer in one species is likely to do so in most others.

A second criticism of current procedures for detecting cancer is the extraordinary doses of chemicals given test animals. Some people believe that a sufficiently large dose of any substance will cause cancer; this is flatly not true. Sufficiently large doses of some useful substances will cause death through poisoning; ordinary table salt, for example, killed a number of newborn infants about fifteen years ago when it was mistakenly mixed in their formulas in place of sugar. But no amount of a non-carcinogen will cause cancer. To date less than 20% of the chemicals *suspected* of and tested for carcinogenicity have been found to cause cancer. In short, testing at high doses does not produce false positive results.

Why, however, are test animals exposed to abnormal doses of suspect chemicals—dosages that far exceed the exposure normal in human life?

The reasons are practical ones with scientific validity. A direct dose-response relationship typically exists for carcinogens: the higher the dose, the earlier tumors appear, and the larger the number of tumors in any given group of test animals. The animals favored for large-scale laboratory testing are rodents; they are relatively cheap, they are small, and they are comparatively easy to manage under controlled laboratory conditions. Such animals have a life-span of only two or three years. Humans, however, may have a latency period of 50 years or more before the onset of cancer. Hence the test must accelerate the operation of a suspect chemical in order to test its carcinogenicity within two or three years. This is done by increasing the dose.

Further, the tester must try to replicate a human population within the bounds of economic possibility. The minimum number of animals accepted for test-validity is 50; 100 are preferred, 50 of each sex. For each group of animals subjected to a suspect chemical, an experiment must have an identical number of control animals that are *not* exposed; this permits the tester to distinguish cancers induced by a chemical from the "spontaneous" or "odd" ones that would normally occur without chemi-

*In my judgment the FDA's proposed ban on  
the use of saccharin as a food additive deserves  
our strong, articulate support.*

cal exposure. Also, preferred laboratory procedure is to test a chemical at three different doses. Thus a good test, typical of those used to pronounce on carcinogenicity, involves about 600 animals. Performing the required tests on such animals, under conditions of rigorous observation by highly skilled personnel, currently costs about \$150,000.

In the laboratory, if a chemical is administered at a dosage that poses only a 1-2% risk of inducing cancer, it is quite possible that there would be no sign whatsoever of cancer in any of 50 test animals. A 1-2% risk of cancer is unacceptable for human exposure—in the United States it would correspond statistically to 1-2 million cases of cancer. Because of the economic and physical constraints on the number of animals that may be used in a study, therefore, the investigator must increase the dosage to produce an effect or, alternatively, to indicate that there are no important effects. Thus use of high dosage levels is a scientifically valid procedure.

A third issue is whether there exists what is known as a "no-effect" or "threshold" level for carcinogens—that is, a safe level of exposure below which no cancer will be induced.

There are competent scientists on both sides of the issue of whether a no-effect threshold exists for carcinogens. Some believe that even an infinitesimal dose of a carcinogen entails some risk. Despite this difference of opinion, there is broad agreement on this: so far, we have no *scientific* basis for setting a safe threshold dose for a carcinogen, nor do we have scientific *proof* that a threshold level exists. Until such a scientific basis is demonstrated, *if* we have to make a mistake, we should make a mistake in the direction of prudence. And prudence recommends that we assume for the present that there is no "no-effect" level for a carcinogen.

In making public policy for dealing with carcinogens that are intended for use as food additives such as saccharin, we must reckon with one more characteristic of chemical carcinogens: evidence that their carcinogenic effect may be additive or even synergistic. According to one calculation, a cigarette smoker who works with asbestos has eight times the risk of dying of lung cancer as similar smokers of the same age who do not work with asbestos and 92 times the risk of those who neither work with asbestos nor smoke. Such evidence of the additive or multiplying effect of known carcinogens can be cited for other chemicals. One significant conclusion for public policy is this: we know that our population is subject daily to low levels of carcinogens from a variety of sources.

It would seem to me, therefore, because of our routine exposure to environmental carcinogens and our inability to set a no-effect level for even one substance, that we should insist on a flat prohibition against the intentional addition of carcinogens into our food supply. As a matter of fact, we have such a flat prohibition in the Delaney Clause, inserted in the Food, Drug and Cosmetic Act in 1958.

Today that clause is under attack, largely as a result of the saccharin controversy. Some people urge its removal or modification on the ground that "flexibility" is needed in dealing with carcinogens and that the Delaney Clause does not permit such flexibility.

In my opinion the Delaney Clause rests on a sound social value judgment. Given our present inability to specify a safe level of a carcinogenic food additive or to assess the societal health impact of using the additive, given the possibility of wide individual variations in response, given the fact that food is a necessity of life and that societies have fed themselves for quite some time without intentionally adding carcinogens to their food, and given the devastating and almost irreversible nature of carcinogenesis, the Delaney Clause seems to me eminently reasonable public health policy. Moreover, it should be recalled that FDA law requires generally that all food additives be safe under intended conditions of use. The Delaney Clause merely recognizes that for carcinogens we are currently unable to set safe levels. For this reason, as FDA Commissioner Donald Kennedy recently testified, "the general provisions of our food safety laws would have occasioned the withdrawal (of saccharin as a food additive) on the same evidence even without the Delaney Clause."

In my judgment the FDA's proposed ban on the use of saccharin as a food additive deserves our strong, articulate support. I urge this not merely because saccharin is a significant public health risk—a fact recently further supported by epidemiological results linking saccharin directly to human cancer—but also because we have a duty to set a precedent in public understanding. The arguments made against the FDA position simply do not deserve to carry the day, and we should point out why they do not. Perhaps saccharin is a rare case—a "weak" carcinogen, already widely used and oversold by sophisticated ads in a diet-conscious culture. Let's hope these factors made the reaction in this instance unique. But certainly the saccharin experience suggests that we should take every available opportunity in the months ahead to build greater public confidence in, and understanding of, regulatory actions such as that involving saccharin.

The entire field of carcinogenesis is shrouded in uncertainties. There are substantial areas of agreement among our technically qualified people, but also major issues on which they differ. And then there are difficult value choices that would exist even if the technical issues were resolved. At this point we might wish for the modern equivalent of Plato's philosopher king—one person whose superior wisdom and preeminent virtue made his authority acceptable to all.

Such fellows may have abounded in ancient Greece, but they seem to be rare today—and we cannot defer our choices until one of them arrives. Recognizing that we are faced with uncertainty, we must decide for ourselves—and we must decide *soon*. Having learned all we can from our technicians, we are forced to realize that in this, as in so many complex matters, social value judgments frequently exceed the decision-making prerogatives of any profession or discipline. It is both the glory and the burden of democracy that lay citizens must make the final choice. □

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*Gus Speth is a member of the Council on Environmental Quality. These remarks were made last October before the League of Women Voters of Texas Conference on Environmental Cancer.*

# Advise and Dissent

## Warren Olney and the Club

JAMES KEOUGH

WARREN OLNEY was drawn to California by reports of spectacular mountain scenery. Born in Iowa, he had fought in the Civil War and studied law at the University of Michigan before journeying west in 1868, the year John Muir arrived in San Francisco. Unlike his future friend and colleague (who looked askance at the city and immediately asked a passerby for the quickest route to the mountains), Olney had a wife and child to support. He settled down to practice law. But he was an avid hiker and fisherman, and by the time he met Muir in 1889, he had seen much of the Sierra and the Coast Range.

They met through a mutual friend, William Keith, the well-known landscape and portrait painter who was also an enthusiastic outdoorsman. When Muir visited San Francisco from his fruit ranch at Martinez, Keith was apt to send Olney word, and the three would meet in Keith's studio to talk about "the mountains." Soon the number of people drawn to these conversations (and, one suspects, to Muir's presence) grew beyond the capacity of Keith's rather cramped and cluttered studio, and the meetings were moved to Olney's more spacious law office in the nearby First National Bank Building at 101 Sansome Street. Among those attending were Joseph LeConte, J. H. Senger, William Dallam Armes, Cornelius Beach Bradley and John C. Branner, all faculty members at Stanford or Berkeley.

On Saturday, May 28, 1892, a formal meeting was held in Olney's office to organize a "Sierra Club." A week later there was another meeting at the same site. Twenty-seven charter members signed the articles of incorporation that Olney had drawn up. Muir was elected president, Olney vice-president.

Olney's office continued to serve as headquarters during the first year of the Club's existence. Its first conservation effort, a successful campaign to remove Yosemite Valley from state control and add it to the newly created national park surrounding the valley, was mounted there.

These were years of intense activism prophetic of the Club's work today. Meetings and conferences were held and attended in San Francisco, Sacramento and



California Historical Society

Washington. "I have a letter from Senator Perkins [U.S. Senator George C. Perkins, a charter member of the Club]," Olney wrote Muir, "saying there is no money to make proper surveys of the proposed boundaries [of the Tahoe National Forest]. When President Jordan [David Starr Jordan, president of Stanford, also a charter member] was in Washington he did what he could in the way of establishing boundaries. He found the Secretary of Interior and the Commissioner of the Land Office in hearty accord with our scheme."

Olney and Muir established a close personal relationship on family hiking and camping trips and Club outings.

Olney's tenure with the Sierra Club culminated in one of the most dramatic conservation conflicts in the Club's and the nation's history: the struggle for Hetch Hetchy Valley. As mayor of Oakland (he had agreed to run only if he received both the Republican and the Democratic nominations), Olney had fought the private interests controlling the Bay Area's water supply. He believed that the best way to remove that supply from private hands and place it in municipal ownership was for the city of San Francisco to acquire rights to

the water of the Tuolumne River and to dam it where it passed through Hetch Hetchy—a miniature Yosemite Valley—in the upper reaches of Yosemite National Park. Olney admitted the natural beauty of the site, but argued: "Any other source will cost the taxpayers of San Francisco, already heavily burdened as a result of the recent earthquake and fire, ten to twenty million dollars more than this one." He pointed out that only the Tuolumne, of all major Sierra streams, had no significant claims on its water, though private interests were moving to make such claims. He noted that those interests were also opposing acquisition of Hetch Hetchy and felt they were "using" Club members who opposed the project.

The Hetch Hetchy Project was approved by a majority of San Francisco voters and by such national figures as Theodore Roosevelt and Gifford Pinchot. But it was strongly opposed by John Muir, Will Colby and others of Olney's friends in the Club. They believed it would not only sacrifice a site of great natural beauty but would establish a precedent for invading the integrity of the national parks in the name of utilitarian necessity. When a poll of the members resulted in a vote of 589 to 161 against his position, Olney resigned after seventeen years of dedicated service.

The ultimate victory of his Hetch Hetchy views hardly compensated for the painful loss of intimacy with Muir, Colby and others of whom he was deeply fond. There was one consolation. He'd helped establish the principle of forthright dissent among Club members—and had been instrumental in creating an organization that was to expand in significance far beyond his most hopeful dreams.

A group of Club members have established a fund to commemorate the contribution of Warren Olney to the founding of the Club. Checks should be made to the Sierra Club. Each gift will be divided equally between the Sierra Club, the Sierra Club Foundation and the Sierra Club Legal Defense Fund, thus ensuring that two-thirds of the amount of any gift received will be deductible. The proceeds will be used for general conservation activities of the three affiliated organizations. □

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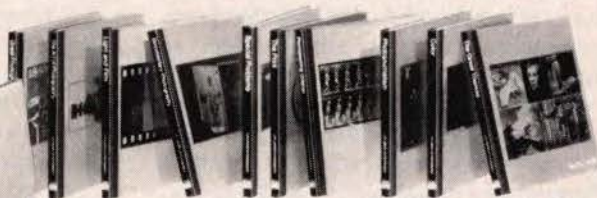
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# Counterfeit Wolves and Lonely Islands

MARY ANNE T. NEVILLE

ONE OF the most endangered mammals in North America is the southern red wolf. Once, three subspecies of red wolves ranged across eastern Texas, along the southeastern coast and up the Mississippi River valley as far as Illinois and Indiana. Now only one subspecies remains: *Canis rufus gregoryi* barely clings to survival on the coastal prairies and marshes of eastern Texas and southwestern Louisiana—1% of its former range.

Humans have killed off the red wolf and limited its habitat, and coyotes have largely taken its place. The coyotes are hardier and much more adaptable. Coyotes also readily interbreed with the red wolf, producing a hybrid species often hard to distinguish from the red wolf itself. Biologists believe the pure red wolf will inevitably become genetically extinct in its present range as a result of coyote-wolf crossbreeding. An experimental translocation program is currently trying to save the red wolf—both as a genetically separate species and as an animal at home in the wild. This program, based at Beaumont, Texas, is conducted by federal personnel; it is headed by wildlife biologist Curtis Carley.

Scientists don't know very much about red wolves; they have not been studied as extensively as timber wolves or coyotes. However, we do know that red wolves are probably not as socially organized as timber wolves, although they are more ordered than coyotes. In its present habitat, the red wolf hunts on rodents and rabbits and may feed on carrion. With this kind of prey, red wolves do not organize in packs to hunt. One of the problems faced in attempting to save the red wolf involves determining what is actually a red wolf. According to project leader Carley, "We have no difficulty distinguishing between red wolves and coyotes, or even between red wolves and most hybrids. Our problem lies in separating those hybrids which are very wolf-like in appearance from true wolves." True red wolves are larger than coyotes and have broader heads and longer ears. Adult wolves may weigh from 40 to 80 pounds, but mature coyotes seldom exceed 35 pounds.

When the efforts to save the red wolf began in 1975, wild canids were captured only when ranchers complained about

their presence. But now, all animals that could possibly be red wolves are being captured and removed from the field in order to prevent any further crossbreeding with coyotes. The animals are captured in modified steel traps to which tranquilizer tabs have been attached. Captured animals tend to gnaw at the traps and thus become sedated before they can injure themselves seriously.

The captured animals are routinely examined in the field and then taken to a holding facility where they are thoroughly examined by a veterinarian. Next, several criteria are applied to determine whether the animal is a red wolf or a wolf-like hybrid. These include body measurement standards, weight standards and brain volume-skull ratios. X-rays of the skulls are compared to known wolf skulls.

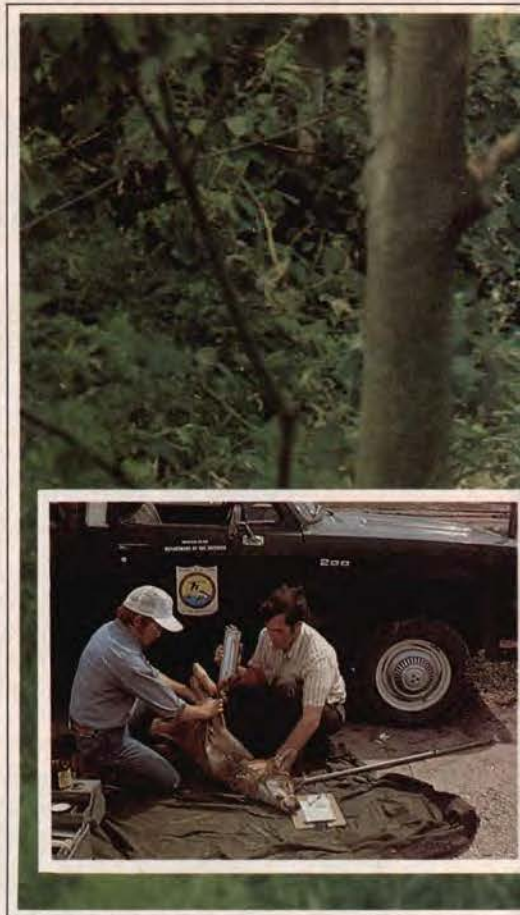
Animals determined to be hybrids are used to best serve the recovery of the red wolf. Some animals are maintained in captivity, while others are sacrificed. The remains of the sacrificed animals are examined for parasites, the tissues studied for pesticide residues and the taxonomic structures indexed for future reference.

Genetically pure red wolves are inoculated and treated for disease—they are often badly infested with various parasites and with sarcoptic mange.

Early in the recovery effort, some of the wolves were radio-collared and released where they were captured, if the landowners permitted. These animals taught the recovery personnel much about the extent of the wolf's range and the movement of individual animals.

Healthy wolves were sent to the official red wolf captive-breeding center at Point Defiance Zoo in Tacoma, Washington. At present 26 wild-caught red wolves are in captivity; 21 are at Tacoma. Last spring, four pairs of wolves produced fourteen pups. These animals will be closely observed as they mature.

Although captive breeding will maintain the gene pool, the behavior and biology of the species will not truly be understood except by studying wild populations. Project leader Carley feels that the only hope for the red wolf in the wild is the establishment of red wolves in new areas. "We estimate that only 50 or so red wolves remain in Texas and Louisiana," says Car-



A captured canid is examined by federal biologists

ley, "and these will be hybridized out within a year or two."

A translocation experiment was therefore designed to test the feasibility of introducing red wolves into canine-free areas within their historic range. If the wolves could adjust to a new environment, then the concept could be extended to ensure the survival of the species in the wild. The ideal location would be an island, since an island would offer both geographic and genetic isolation.

The location chosen for the translocation was Bull Island, South Carolina, part of the 61,000-acre Cape Romain National Wildlife Refuge. Bull Island, lying offshore between Charleston and Georgetown, South Carolina, is a 7,600-acre barrier island with a coastal environment that would be familiar to the relocated animals.

Public access to the island is limited; visitors hike, beachcomb and birdwatch. In the fall, a carefully controlled archery deer hunt is allowed, but no firearms are ever permitted. Prey species are numerous on the island: deer, raccoon, fox squirrels, marsh rabbits and various avian species. Evidence of overbrowsing suggests a sizable deer herd; the addition of a large predator might prove beneficial to the herd.



C. J. Carley

*Canis rufus, the red wolf, is nearly extinct. Humans have already taken over its habitat, and it is losing its genetic identity through crossbreeding.*

In November 1976, two wolves were flown to the refuge from the captive breeding center. The pair had been captured near Beaumont, Texas, in January 1976. The animals were fitted with radio collars, taken to Bull Island and placed in a 50-by-50 foot pen equipped with a den box. They were fed a diet of native prey and kept in the pen for a month while they adjusted to the new surroundings. It was hoped that the acclimating period would dull their homing instincts, always strong in canids.

When the wolves were released, in December 1976, they were tracked by biologists in a jeep equipped with telemetry apparatus. For the first week following their release, the wolves remained together, and a behavioral pattern began to develop. The pair usually explored the island together, with the male sometimes leaving the female at rest and hunting on his own, then returning to her. Since wolves are highly mobile animals, it surprised no one that one week after their release they extended their explorations by swimming a short distance to Caper's Island, south of Bull Island. It was both surprising and disturbing however, when the female abruptly left her resting place on Caper's Island and traversed the three-

mile-wide tidal marsh to the mainland. She must have been frightened into the move, the scientists speculated, for the wolf, a nocturnal animal, made the laborious trek in broad daylight.

Early efforts to trap the animal on the mainland failed, but on December 20 a helicopter rigged with telemetry equipment located the female and immobilized her with a tranquilizer from a dart gun. The male was soon located on Bull Island, where he had returned, presumably to search for his mate. He was also recaptured. Within a few hours after the helicopter took off, both animals were back in their holding pens on Bull Island.

The recovery officials decided that the pair should remain confined through the late-winter breeding season, in the hope that mating might yet occur. A second release was planned for the spring, but the translocation effort was set back in April when the female wolf died of a uterine infection.

At this point, federal and state officials seriously examined the merits of continuing with the translocation experiment. They decided to continue the Bull Island experiment with another pair of wolves, and the surviving male wolf was returned to the captive breeding center in Tacoma.

In July 1977, another mated pair of wolves arrived on Bull Island. They were released on January 5 and, as of this writing, are roaming the island—so far, so good. Much has been learned; it is hoped that a longer acclimating period has subdued the wolves' homing instinct to a greater extent. And, this time, the released animals will not be tracked by jeep—as this may have frightened the female in the first relocation attempt.

Other possible sites for future translocations are now being examined by Fish and Wildlife Service and state officials. Such sites would have to be on the mainland within the species' historic range, free of wild canids, and offer an abundance of prey as well as suitable areas for dens and for resting. As project leader Carley says, "We are about the urgent business of attempting to prevent the extinction of our most endangered mammal. For some reason, everything seems to have worked against the red wolf in the wild. If we can find desirable translocation sites, we may yet reverse that trend." □

*Mary Anne T. Neville is a biologist with Georgia's Department of Natural Resources and works with endangered species for the National Audubon Society.*

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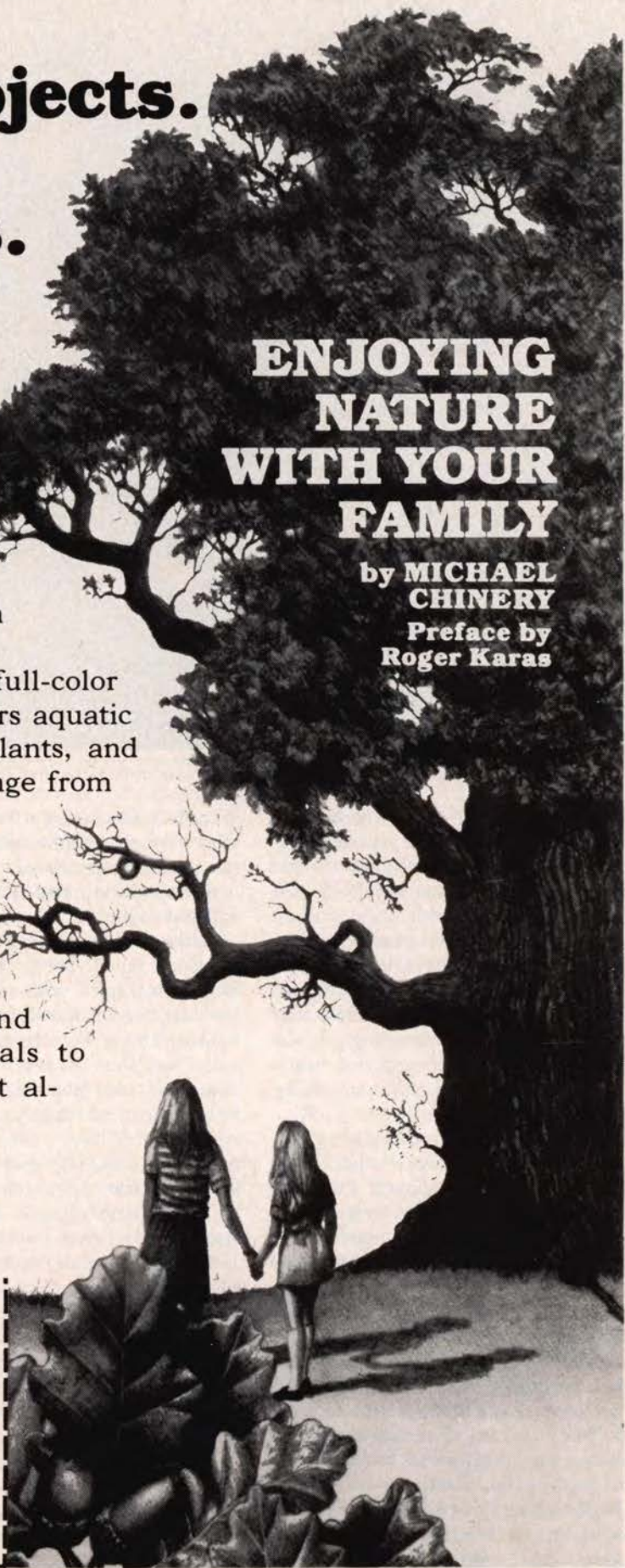
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# The Sierra Club's 1977

## I. The 95th Congress' First Session

BROCK EVANS

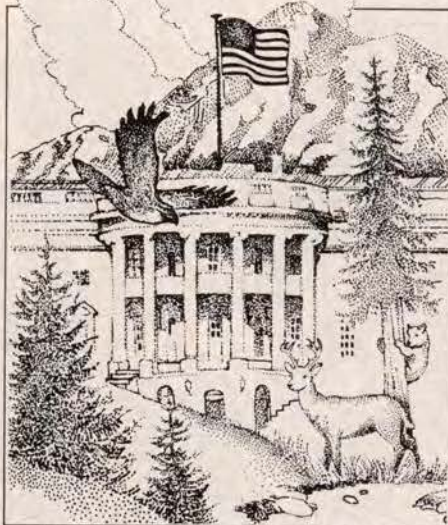
As the 95th Congress sputtered through the dying days of its first session in early December, we looked back at an eventful year and forward to a crucial one.

How did we do? Not too badly. Of these issues, stripmining, Clean Air, Clean Water, energy conservation, the Alaska gas pipeline, wilderness and urban public

Carter's first critical task was to fill the more than 200 political appointments in the various agencies and departments involved with environmental concerns. Most of Carter's appointees are excellent: people sensitive to and concerned about the environment. This new breed of appointees is receptive to environmentalists. But more importantly, the new Administration has come out with positive policies. The contrast to previous Administrations is inevitable—and striking.

The Administration's environmental attitude is an important political reality because far more is involved than the actions of the executive branch. The Administration has a powerful effect on Congress. The two previous Administrations' positions on important environmental matters were generally poor; they were obstacles to be overcome. But the Carter Administration's position has been a source of support in lobbying Congress for environmentally sound measures. The Administration has done much to ensure victory in several very difficult environmental battles.

In January 1977 the Sierra Club Board of Directors met and selected nine "major priorities" to be worked on—the most urgent environmental legislative issues. The Board was aware that there would be dozens of other issues to be addressed. But to avoid spreading our efforts too thin, it was necessary to concentrate major efforts on only a few areas. These were Alaska public lands, the Alaska gas pipeline, additions to the Wilderness System (the Endangered American Wilderness Act), energy conservation, stripmining, the Clean Air Act, the Clean Water Act, the outer continental shelf and urban public works. works have all been resolved reasonably



satisfactorily. Although the oil excise tax and gas-pricing provisions of the Carter energy package are unresolved in conference committee at press time, the resolved parts of the energy bills have some important gains for energy conservation—notably in the form of loans and credits for insulation and reform of utility rates. That's a pretty fair record.

There isn't enough room for all the details, but environmentalists are very happy that despite intense industry lobbying the Clean Air Act ended up stronger than ever, with special provisions to protect clean air in parks and wilderness areas. The auto industry made off with another unwarranted extension in their deadlines for cleaning up new cars, but the timing of the new deadline makes it clear that Detroit at last has a timetable it will have to meet. Many of the regulatory and enforcement provisions of the old law which had not worked were substantially improved, with the important effect that the progress towards clean air promised the public in 1970 is now likely to become a reality.

The Clean Water Act survived even more intense industry pressure and kept all its important provisions intact. Although there were some major setbacks with the new revisions, notably the extension of industrial cleanup deadlines and the exemption of federal projects from dredge and fill permit requirements, we were successful in protecting the basic framework of the act and in promoting the adoption of better amendments. In addition to authorizing new federal funding for construction of municipal sewage treatment works, the

new amendments set generally tighter curbs over toxic discharges and provide new incentives for development of alternative sewage treatment technologies.

The stripmining bill was slightly weakened, but it is still a vast improvement over previous laws and policy. And it provides a basis for future stripmining regulation.

The Alaska gas pipeline issue ended in a major victory: Congress selected the least damaging route, one that will avoid both the critical Arctic National Wildlife Range in Alaska and the need for the controversial proposed liquefied natural gas plants on California's coast.

Congress passed two wilderness protection measures: the first, the Montana Wilderness Study Act, will protect nearly one million acres. The second, the Endangered American Wilderness Act, passed the House and Senate in 1977 and was enacted early in 1978. This bill is a major success for one of the Club's legislative priorities. It adds some million and a quarter acres of *de facto* national forest wilderness to the National Wilderness Preservation System, including such long-fought-for areas as French Pete, Oregon (45,400 acres), Golden Trout, California (306,000 acres) and Utah's first statutory wilderness, Lone Peak (29,567 acres). Equally important, hearings and debate on this bill provided the fulcrum for reform of the Forest Service "purity" policy on wilderness qualification, which had been severely criticized by Congress and conservationists and was then formally abandoned by policy orders from the Department of Agriculture.

Congress did enact a major public works program, and Club members and lobbyists secured crucial amendments designed to protect the environment while providing jobs.

There are, however, a number of unfinished tasks. The outer continental shelf legislation was stalled in the House Rules Committee in 1977, as was the Redwood National Park expansion bill. The President's energy program is faltering in Congress as of this writing—particularly key sections on tax credits and subsidies. The Alaska public lands questions remain unresolved.

But this session was still just the beginning. Pressure always seems to build in the

# Washington Wrap-Up

second session of any Congress; this year will be no exception. The Sierra Club Washington staff recently put together a list of 45 specific issues that might turn up in legislation. These range from issues that have never been Club priorities—such as nationwide bottle-deposit legislation—to the traditional areas of Sierra Club concern: implementation of the Clean Water and Clean Air acts, mining law reform and beefing up the Wilderness System. And, of course, Alaska.

Many of the upcoming battles may be difficult ones. The environmental climate in Washington has warmed up, but so has special-interest lobbying. Examples: the National Forest Products Association now has a \$4.5-million annual budget just to lobby for the timber industry, mostly against wilderness proposals; the National Chamber of Commerce has a \$3-million annual budget to lobby against virtually every environmental issue; the American Petroleum Institute has 500 employees in Washington, all working on oil issues. The list goes on and on, and the figures add up to thousands of high-priced lobbyists and millions of dollars.

Ranged against this armada, the environmental movement in general and the Sierra Club in particular have only small staffs and even tighter budgets.

The most important issue—perhaps the issue of the century—remains the question of Alaska public lands. We have the opportunity to preserve forever some of the most magnificent remaining scenery and wilderness on the planet. It's a chance that will not come again. The timber, mining and oil interests know this too, and they are pouring their vast resources into an effort to stop us. New "front" organizations are being formed, money is rolling into lobbyists' coffers; the heavy guns are being rolled out.

But we have some powerful friends too. The Administration is on our side. And, even more importantly, so are the American people. We believe that most Americans understand what is at stake in Alaska and believe that Alaska's wilderness should be preserved. It's up to us to mobilize that understanding and belief if we are to succeed. We think we can do it. □

*Brock Evans is director of the Club's Washington Office.*



*All in all, it was a year of courage for President Carter. He took bold—and often unpopular—stands on unnecessary dam projects and energy policy. His environmental appointees were, for the most part, excellent. His intentions are excellent—but can he deliver?*

## II. Carter's First Year

MICHAEL McCLOSKEY

**D**URING the 1976 Presidential campaign, most environmentalists were persuaded that Jimmy Carter was a committed conservationist. Now that he has been President for a year, he has a record of dealing with national issues. What does it look like?

It looks amazingly good. Naturally, not every appointment has turned out well, nor has every problem yet been addressed. There are a few disappointments, but the overall record is good enough to cause environmentalists to regard the future with relish, instead of the gloom of previous years. Will the Administration stand by its convictions over the next three years and develop new initiatives—or will its commitments fade as the pressure mounts?

Regardless of what the future holds, this firm first-year record has already been profoundly useful in confirming environmental policies as durable facts of American politics. The hostility of the executive branch, so palpable in the closing days of the Ford Administration, has ended. The course of policy has completely shifted.

The kinds of people who have been brought into the Carter Administration reveal much about where the Administration wants to head. All of those appointed to top environmental posts have strong environmental credentials: Cecil Andrus at Interior, Douglas Costle at EPA, Charles Warren at CEQ and Richard Frank at NOAA. Their appointments were supported—even applauded—by the environmental community. Most of the second-level appointments were also good; Rupert Cutler, for example, took over as assistant secretary of agriculture, overseeing the Forest Service, and James Moorman was appointed head of the natural resources division of the Justice Department. More than twenty people who had been active in the environmental movement were appointed to key posts, many as deputy assistant secretaries.

There have, however, been some lapses, particularly in the field of energy. Few public-interest activists have been appointed to the new Department of Energy, and most feel the department is too pro-nuclear from top to bottom—far more so than the President himself. Moreover, two out of three appointees to the Nuclear Regulatory Commission appear to be pro-nuclear, puncturing hopes that the President would reform the NRC.

The Office of Management and Budget remains a center of skepticism about environmental thinking; new appointees have not removed holdover employees who harbor a fundamental distaste for environmentalism. Finally, the Administration has been slow to fill some key positions: director of the Bureau of Land Management, assistant secretary of the army for civil works, assistant secretary of energy for the environment and the administrator of the Bonneville Power Administration.

The main thrusts of the Carter Administration's environmental programs emerged quickly last spring. The President called for a halt to funding for nineteen water projects of dubious value, including some long opposed by environmentalists. Congress eventually cancelled funding for nine of the projects on this "hit list." The President also called for termination of two large nuclear projects: the breeder reactor experiment at Clinch River, Tennessee, and the spent-fuel reprocessing facility at

Barnwell, North Carolina. Even though the President vetoed the authorization for the breeder, the battle over both projects is probably not yet over. Carter's opposition to both projects reflects a determination to slow the proliferation of nuclear weapons.

The President's "environmental message" was the first such speech in four years and underscored his interest in environmental issues. It included executive orders restricting the importation of exotic species and curbing ORV use on public lands. In addition, Carter ordered the BLM to initiate a vigorous program to protect wilderness.

The most important legislative initiative of the new Administration was a courageous attempt to deal with the sprawling and controversial energy issues. Instead of calling for subsidies to spur more production (as his predecessors had), President Carter called for more conservation, to be achieved by means of taxes on gas-guzzling autos and "old" domestic oil, tax incentives for more insulation, and reform of utility rate structures. Because the President's legislative energy program could have been taken directly from the pages of environmental handbooks, it has met emphatic resistance in Congress, though it appears that the final compromise will still contain measures to encourage insulation.

The new Administration also adopted a conservationist position on pending legislation involving revision of the laws controlling air and water pollution, federal leasing on the outer continental shelf and mining on public lands. The Administration developed helpful bills, too, on Alaska and the redwoods, though they did not go as far as environmentalists urged. Interior Secretary Cecil Andrus, however, has been particularly staunch on both issues: he supported wilderness designation for the Arctic National Wildlife Range and, at one point, ordered the federal government to exercise its power of eminent domain to acquire threatened redwood groves near Skunk Cabbage Creek so they could be bought through donations to the Save-the-Redwoods League.

Assistant Agriculture Secretary Rupert Cutler also lent Administration support to the exciting Endangered American Wilderness bill, which has since moved through Congress; he also backed reform of the law governing the beleaguered Boundary Waters Canoe Area in Minnesota.

Transportation Secretary Brock Adams made it clear that the Administration supports a user's tax on barges that rely on public waterway improvements. In fact, the President said he will veto any legisla-

tion affecting Lock and Dam 26 in Illinois that does not include such a tax.

Not all of the proposed legislation delights environmentalists, however. A sour note has been sounded in preliminary skirmishes in the Energy Department over possible legislation to speed up licensing of nuclear plants. Early versions would have weakened NEPA.

Yet legislation is only part of the story. An Administration must enforce existing laws as well as propose new ones. Carter's Administration has generally moved well under existing laws to protect the environment. The Interior Department has shelved the old EMARS system for leasing more federal coal in the West; instead, the whole approach is being revamped. Meanwhile, no more coal has been leased, though the Interior Department has been slow to drop its resistance to the increased short-term leasing restrictions that resulted from an NRDC lawsuit. The Interior Department has stretched out the schedule for leasing potentially dangerous sites in new offshore frontier areas, but the disputed Baltimore Canyon drilling was allowed to proceed. Other controversial sales are moving ahead as well, including sites on Georges Bank and the Georgia Embayment. The department wants to maintain the volume of sales but so far has given little attention to correcting imbalances in federal offshore work planning. Environmentalists had urged a halt to sales of new leases until legislation to reform the leasing process clears Congress.

Concerned about oil tanker safety, the President ordered the Department of Transportation to adopt tougher standards for the design of new oil tankers, including double bottoms and separate ballast tanks. Transportation Secretary Brock Adams also stood by previous decisions to protect Memphis' Overton Park from a freeway, though he disappointed environmentalists early on by letting I-66 in Virginia proceed. Environmentalists were also disappointed that he gave the go-ahead for the Concorde to land wherever local officials approve.

On other fronts, Insurance Commissioner Robert Hunter in HUD deserves credit for his spirited fight against efforts to weaken the federal floodplain protection program, and we note with satisfaction that the AID program is being reformed to reduce indiscriminate use of dangerous pesticides abroad. In the Interior Department, Secretary Andrus has worked hard to find a better site for the hotly debated Intermountain Power Plant in Utah, and he took the needed steps at the right time to protect the air quality in Capitol Reef Na-

tional Park. Andrus has also been forthright in moving to enforce the long-neglected 160-acre limitation on furnishing federally subsidized irrigation water; this controversial move will reduce pressures for other ill-considered western water projects by reinforcing the Administration's environmental positions. Andrus' department also issued a report, required by the BLM Organic Act, recommending that fees for grazing use of public lands reflect fair market value.

The Interior Department has launched two important new studies that may culminate in legislation. The Bureau of Outdoor Recreation (BOR) is developing a new program under the title "Heritage Trust" to encourage states to protect scattered sites of historical and natural values. The second study, by the Water Resources Council, is trying to rewrite the federal ground rules for evaluating water projects in order to eliminate the kind of projects that drew the President's fire earlier. BOR has been conducting another study on urban National Recreation Areas, a concept strongly endorsed by environmentalists. But those who have seen recent drafts of this study say that BOR may not support urban NRAs.

The most important new review now underway is the RARE II program in the Forest Service, which Assistant Secretary Cutler launched. It is designed to correct earlier deficiencies in roadless-area inventories and will lead to legislation to identify new areas for wilderness designation. The areas that have strong public support will be among the first to be designated as wilderness. RARE II is a major effort to speed up the process of adding Forest Service units to the National Wilderness Preservation System. Efforts have also been made to speed up the designation of wild and scenic rivers, within both the Department of Agriculture and the Department of the Interior. The main disappointment to date with efforts to redirect Forest Service policy has been Mineral King: the long-pending Mineral King ski project has not been scrapped. Assistant Secretary Cutler has talked about scaling it down, but he has not cooperated with efforts to place the disputed land in Sequoia National Park where it belongs.

While it is easy to conclude that the Carter Administration has made a good start, it is harder to foresee how well they will be able to finish what they have started. However, we are dealing largely with people who understand and share our point of view and who are trying to surmount the obstacles they face. They need and deserve our help and encouragement. □

# Fending Off the Tree Farms

EDWARD EASTON III



Ted Borg

*Most of the forests of the Southeast are pine plantations, but the wildlife finds the creeks, sloughs and swamps more attractive.*

**I**N 1975 a federal appeals court handed down the "Monongahela Decision." This landmark ruling basically outlawed clearcutting in National Forests by permitting the Forest Service to mark *only* fully mature or dead trees for sale to timber companies. In 1976 Congress passed the National Forest Management Act, which replaced the Monongahela Decision. The Forest Service was asked to develop a series of guidelines regarding clearcutting on National Forests; the new act also required that Forest Service Management Plans reflect the "multiple-use" concept of land management.

The Service was given a great deal of administrative latitude in managing forests until clear guidelines could be established.

Perhaps too much. This, at least, was the opinion of the Joseph LeConte Chapter last fall when it read the Management Plan for the Francis Marion National Forest. The plan calls for almost complete even-age management and heavy clearcutting. According to the Forest Service, "Our objective now is to optimize timber production given due consideration to wildlife management and to other resources."

Citing the recent decision of the U.S. District Court for the Eastern District of Texas, which outlawed clearcutting in a similar national forest, as well as NEPA, the Endangered Species Act, the New Forest Management Act and the Multiple Use-Sustained Yield Act, the LeConte Chapter filed an administrative appeal last November 1, requesting that the Man-

agement Plan for the Francis Marion be redrawn.

The Francis Marion National Forest includes almost 250,000 acres northeast of Charleston, South Carolina. Established in 1936, it was created by purchase of over-used farmland and cut-over forests. The forest is 75% longleaf and loblolly pine and 25% upland and swamp hardwoods.

The coastal plain of the Southeast has long been considered the home of the pine plantation, endless rows of pines grown and harvested as a crop. Almost all the private forestland in the area is managed this way. The casual visitor will see only sandy pine forests shimmering under the hot South Carolina sun. But there is more in the Francis Marion. The pine forest conceals the creeks, sloughs and swamps that



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are the Marion's glory. These lowlands and their forests once sheltered Francis Marion in his forays against the British troops occupying Charleston during the Revolutionary War. Now they shelter many of the former occupants of the rest of the Southeast—the black bear, eastern cougar, swallow-tailed kite, peregrine falcon, bald eagle, bachman and prothonotary warblers, not to mention the large old hardwoods formerly common in much of the South.

The specific question posed by the LeConte Chapter's administrative appeal is whether national forests should be extensions of the corporate tree farms or alternatives to them. In his comments on the Forest Service plan, noted environmental forester Leon Minckler stated, "This small bit of land is *public* land and serves many interests. Foresters are responsible for values from existing [living] forests and waters as well as producing wood and fiber. There will be quite enough 'tree farms' all over South Carolina."

An even larger question raised by the plan concerns national forest management under the Forest Management Act. Even before the Act's regulations have been written, the Francis Marion Management Plan clearly indicates a Forest Service bias toward timber production and a willingness to use exactly those practices the Sierra Club hoped to see curbed by the Monongahela Decision and the ensuing Management Act. In the East, controversy surrounding forest management is sharply drawn.

John Cely, veteran South Carolina conservationist, phrased it almost perfectly in a letter to the state's national forest supervisor: "Simply by a process of elimination, the Francis Marion National Forest has become an outstanding forest community of the coastal plain. Because of its variety of unusual plant and animal life it could just as well be called the Francis Marion National Wildlife Refuge or the Francis Marion National Preserve. At any rate, as the South Carolina low country continues to grow and more woodlands are destroyed or turned into tree farms, the uniqueness of the Francis Marion will become even more apparent."

For many of us in the East, the issue is a basic one. Can we expect the new Forest Management Act to direct the Forest Service to treat forests as unique and special environments, or did the plan just furnish them with a license to focus on timber production? Given the limited acreages of public forest land in the East, the Forest Service must realize that "multiple use" need not always include timber production. □

## Call For Club Committee Nominations

To develop wider membership participation in the work of the club committees and to make greater use of the expertise of the club membership, I am asking members to consider the committees listed below and, if they, or someone they know, would be capable and desirous of serving the club as a committee member, to send name, address and relevant background information to me, care of the Board/Council Office, Sierra Club, 530 Bush Street, San Francisco, CA 94108. The executive committee of the board will be reviewing and evaluating the club committees at its next meeting. Since part of the evaluation must be, "Do we have the interest and expertise for this committee to be viable and make a positive contribution?" we would like to hear of your interest promptly.

The currently active internal committees are budget; *Bulletin*; Clair Tappaan Lodge; history; honors and awards; judges of election; membership; mountaineering; nominations; outing; publications. The currently active conservation (issue) committees are economics; energy; environmental education; international; land use; public lands; water resources; population; wilderness; wildlife; forest practices; labor liaison; transportation and urban environment.

William Futrell  
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# An Archaic Quirk of Western Water Law

BRANT CALKIN

**A**N ANTIQUATED QUIRK of Western water law has been given special meaning by recent drought conditions. In many Rocky Mountain states, the use or consumption of water is a property right. Individuals may lease, sell or trade the water rights they own, and the water need not be used on lands adjacent to the stream or lake from which it is taken. Owners of water rights have no responsibility or obligation to keep streams flowing or lakes filled; each owner may consume whatever amount of water is in his particular "right" and can legally dry up the natural source while doing so.

One responsibility the water owner bears, however, is to put his water to "beneficial use," at least once in several years. That means he must consume it in the legitimate pursuit of some economic goal. Failure to put water to beneficial use can result in the loss of the right itself, just as someone would lose a house by failing to make a mortgage payment. "Beneficial uses" include agriculture, mining, municipal needs, etc. Beneficial uses also include the maintenance and propagation of fish and wildlife, and water use for recreation purposes. It is in this area that the quirk of the law comes into play.

The courts have ruled that "beneficial use" must involve *physical removal of the water from the stream* (for example, in the New Mexico case of *State Engineer v. Miranda* 83NM443). Under this definition, it is acceptable to pump or divert the water from a stream into a lake or pond that will benefit wildlife. But if a water owner allows his water to flow naturally in the stream bed for the same purpose, he violates this definition of beneficial use and thereby risks losing his water right entirely!

Take, for example, the case of a farmer who decides that he wishes to retire some of his agricultural land from production. He owns sufficient water rights from a nearby stream to irrigate all his land, and for years he has been diverting water from

the stream for that purpose. Concerned about the decline of wildlife habitat and the lack of good fishing in the stream, he decides to stop farming his land along the stream. He also decides to reduce the amount of water he diverts upstream for irrigation purposes, thus freeing some water to run down the stream to benefit the fish. In this example, the farmer could lose the use of the water that he hadn't diverted. Under western states water law, even though he owns the water rights, and even though he owns the land along the river, and even though the maintenance of fish is a legitimate use of water, the failure to physically divert the water from the stream can be sufficient cause to terminate his water rights.

With the increasing pressure on aquatic and riparian habitat caused by the recent drought, individuals and state agencies have been frustrated by this archaic diversion requirement. Regardless of how much they are willing to pay to purchase water rights in order to maintain stream flow, the law will not permit them to use any rights they purchase for this purpose.

Some states have made tentative attempts to overcome these legal barriers, but these attempts are being challenged in court or are so dependent upon unlikely legislative actions that they are ineffective.

Perhaps the time has come for federal action that will allow owners of water rights to use them in a more enlightened fashion. Federal funds should be made available to those states that change their laws to allow the purchase of water rights for in-stream uses. Federal legislation should legitimize in-stream uses so that state agencies and concerned individuals could purchase water for the benefit of fish and wildlife. Until then, however, fish and other aquatic life are at the mercy of this legal anachronism. □

*Brant Calkin is the Club's Southwest representative.*



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# The Case Mountain Grove Sequoias or Fenceposts?

MARY ANN ERIKSEN

CASE MOUNTAIN Sequoia Grove is one of the few remaining stands of giant sequoia not in public ownership. It grows on a privately owned tract completely surrounded by Bureau of Land Management lands just outside the western boundary of Sequoia National Park near Mineral King in the Southern Sierra. The grove is located on a ridge above the park—and it is part of the park's watershed, that is, within the park's natural biological boundary.

Regardless of the grove's ownership, California's Public Resources Code is clear—it is the state's policy to protect the giant sequoia. Trees larger than sixteen feet in diameter may not be cut, and groves of suitable size and location are to be preserved. A few trees in the Case Mountain Grove are at least sixteen feet across, and many others are nearly as large. Visitors to the grove agree these magnificent sequoias deserve protection.

Yet on December 2, State Forester Lewis Moran unconditionally approved a timber harvest plan that would allow a developer to fell nearly 100 magnificent old-growth sequoias.

Mrs. Ollie Craig, the present owner of the land on which these trees have grown for 1,500 to 3,000 years, has stated that she "doesn't want to see her grove of sequoia trees cut down, but it may have to be" so she can meet large family medical bills. Yet she broke off negotiations with the Trust for Public Land, which had been trying to buy the property. Mrs. Craig has instead accepted an offer from logger Bill Pollard to buy the tract for approximately a million dollars once the harvest plan is approved and the BLM grants an access permit.

In the 1960s the BLM itself tried unsuccessfully to acquire the grove through a land exchange. Since then, the BLM has repeatedly identified this inholding for acquisition in all of its management plans. Anticipating that it would eventually ac-

quire the grove, the BLM has purchased rights-of-way and maintained roads into the area. Those public funds will have been wasted unless the Department of the Interior can act quickly to buy the grove. The land will have little public value as a logged-over place where giant sequoias once grew.

Logging this grove would also affect the park itself. Visitors would see and hear the

questions about where and how the sequoias will be marketed.

Yet the trees will come thundering down so that Pollard can "tree farm" the area, unless the land is quickly acquired in the public interest.

Although the government agencies involved in the issue agree that the grove is significant and worthy of preservation, each expects another agency to save the grove. The superintendent of Sequoia National Park has said the grove is of national significance and should be studied for inclusion in the park. Meanwhile, the regional office of the Park Service has recommended that the grove be acquired by the state and managed as a state forest subject to timber sales.

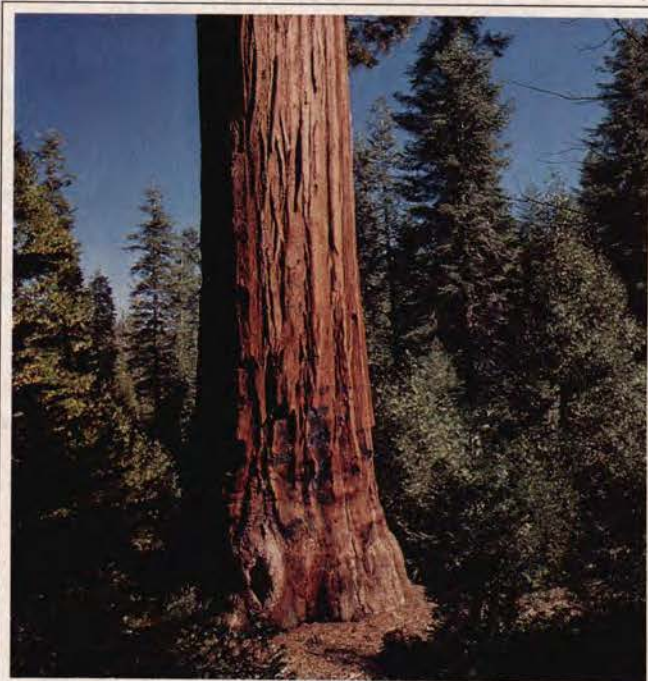
The State Department of Parks and Recreation, on the other hand, agrees that the grove should be preserved and recommends preservation, but says that it does not appear "suitable" for a state park and does not appear "appropriate" for a state forest, both judgments made hastily after a cursory look. There is little evidence that the BLM is actively working to acquire the grove.

Snowfall and lack of an access permit will probably delay the cutting until spring, but if the an-

cient Case Mountain Grove is to endure more than a few months, bureaucrats must be awakened from their indifference and goaded into action. The Sierra Club is pursuing possible legal action, but only a public furor will trigger a serious attempt at federal or state acquisition, the only dependable long-term protection for these regal trees.

Address your letters to Governor Edmund G. Brown, Jr., State Capitol, Sacramento, California 95814, and to Secretary of the Interior Cecil Andrus, Interior Building, Washington, D.C. 20240. □

Mary Ann Eriksen is the Club's Southern California Representative.



This sequoia is nearly twenty feet in diameter and close to 3,000 years old.

Martin Litton

logging. More importantly, the scars of logging and any erosion caused by the cutting could affect the park directly. The harmful impact of logging on the park might be especially intense; logger Pollard is known as a "heavy cutter."

Ironically, the sequoias have a very low market value. Unlike the coastal redwood, the giant sequoia is not a prime lumber tree. In fact, *Sequoiadendron giganteum* is extremely brittle and tends to shatter when it falls. When cut at all, it ends up as "split products"—shingles, fence posts and stakes for grape vines. There is no local mill capable of handling this giant of trees, and state foresters have raised unanswered

# Inner City Outings

ELLY MILES



Trudi Edelman

**Y**OUNG PEOPLE FROM the inner cities are learning to backpack; blind people follow trails with their canes; and community agencies are developing outings of their own as a result of Inner-City Outings (ICO), the Sierra Club's community outreach program. Designed to bring outdoor experiences to people who might not otherwise have them, the program's dual purpose is to provide enjoyable wilderness activities and to further the Club's goals of environmental awareness. Through ICO, the knowledge, skills and leadership of the Club's chapter leaders have arranged for more than 1,500 youths and some 300 adults to experience the wilderness each year.

Children of many racial and ethnic backgrounds are Inner-City Outings participants, and cultural contributions to the wilderness experience are encouraged. Backpacking with a wok is not uncommon, and the group that was taught to make its own tortillas near the Indian petroglyphs in Death Valley thought it was great—"Why not? The first people here

cooked this way," someone said. One of the most ambitious outings took twenty children, resembling a junior delegation from the United Nations, to the national forests, where they worked for eight weeks on a variety of service projects.

When the Campfire Girls of three San Francisco Bay Area counties requested backpacking instruction, six ICO leaders, two for each county group, organized a weekend outing. To create a sense of community, a single base camp was established on a Friday night at a Forest Service group campground. The following day, each of the three fifteen-member groups hiked into different areas of the Ventana Wilderness, where they set up camp and practiced a number of wilderness activities, from a simulated river crossing to nature studies.

Begun in 1971, Inner-City Outings is currently taking hold across the country; there are active sections in the Loma Prieta, Lone Star, Potomac, San Diego, San Francisco Bay and San Geronio chapters. (Incidentally, the Tahquitz Group ICO of the San Geronio Chapter,

led by Pam Johnson, is evidence that a large urban center is not requisite for a successful ICO program.) Based on the experience derived from the self-initiated programs of five of these chapters, the Board of Directors established a format and policy for chapter and group ICOs in February 1976. The policy includes a statement of objectives, of administrative and financial relationship to the Club, and of leadership, participant, activity and insurance standards. ICO programs are locally sponsored and controlled, but they coordinate their activities through the ICO Subcommittee of the national Outing Committee. The subcommittee monitors standards, assists in developing local programs and leadership training, provides insurance and facilitates an exchange of information. *On The Loose*, the recently developed ICO newsletter, will serve as a forum for trip stories, questions and answers, techniques and environmental education materials.

Although ICO works primarily with youth-serving community agencies such as church and neighborhood groups,

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schools, the "Ys" and the juvenile justice system, ICO leaders have also run outings for adults from various rehabilitation programs and halfway houses. Outings visit nearby city, county and state parks and federal public lands. Pre-trip orientation meetings are held, and the ICO slide show, "The Backpacker," is often presented—many first-timers have never been out of the city before, let alone camping. Agency staff, who accompany the outings, and trip participants are involved in the planning, which includes itinerary, equipment, menus, financing, wilderness manners and safety.

According to Sandy Knapp, ICO Subcommittee Chairman, "The demand for ICO instruction and outings is more than we can supply and, consequently, we try to help the agencies run their own trips. In some cases, we have worked with agencies for up to two years until they were capable of running their own programs. This has resulted in an interchange: agency personnel qualify as ICO leaders, become members of the Sierra Club and, as a result, bring Club resources and conservation values to their agency outing programs."

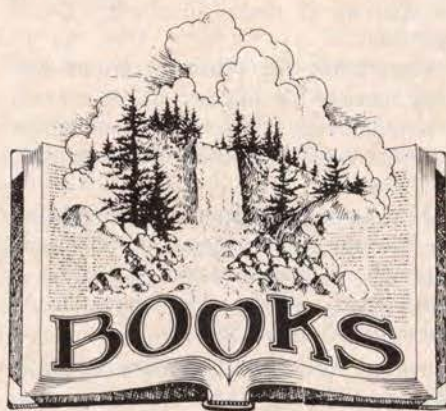
The agencies contribute whatever they can toward trip expenses. (One YWCA runs a recycling program which completely covers the cost of their ICO-led camping trips.) Usually, however ICO subsidizes the outings, supplying equipment and, in some cases, covering costs. ICO groups raise funds through special programs and publications, and some money is available through the Sierra Club Foundation. Other contributions come from community organizations, businesses and interested individuals.

Club President Bill Futrell's 1977 Annual Fund Appeal and Report states that "with proper funding, the Sierra Club can expand its Inner-City Outing Program . . . in which we will work closely with urban . . . groups to develop fundamental mutual understandings that lead to real progress in protecting and enhancing this nation's physical environment." Any contributions to ICO should be made payable to The Sierra Club Foundation in order to qualify as tax-deductible. Donations of backpacking equipment are also welcome. Anyone interested in starting a chapter or group ICO section should contact Sandy Knapp, ICO Subcommittee Chairman, c/o Outing Department, 530 Bush Street, San Francisco, CA 94108. □

*Elly Miles is the Outing Department's Administrative and Editorial Assistant.*

# Books on Energy: A Current Checklist

COMPILED BY  
ROBERT DAHLIN and  
DAISY MARYLES



Publishers Weekly, a magazine for the book trade, recently sent publishers a questionnaire about books on energy that had been published in 1977 or that were forthcoming. Sixty publishers responded with more than 90 titles. These are briefly annotated in the checklist below. While some books and publishers are obviously missing, we think this is by far the most complete listing yet produced, and we are pleased to have PW's permission to reprint it for Sierra readers. All the books are in print, except those for which the publication date is indicated. Books are listed by category and, within categories, alphabetically by publisher.

## General

*Ballinger Publishing.* **The National Energy Plan—1977.** Executive Office of the President of the U.S. A durable, indexed edition of the Administration's energy policy proposal. \$10.95, paper \$6.95.

**Nuclear Power Issues and Choices.** The Nuclear Energy Policy Study Group, Spurgeon M. Keeny, Jr., chairman. The underlying rationale for President Carter's nuclear energy policy. \$16.50, paper \$6.95.

**Families in the Energy Crisis: Impacts and Implication for Theory and Policy.** Robert Perlman and Roland L. Warren. Shows how the poor, the old and the non-white suffer most. \$16.50.

*Bantam Books.* **The Poverty of Power: Energy and the Economic Crisis.** Barry Commoner. Notes similarities of pollution, economic stagnation and America's vanishing energy reserves. \$2.75 paper.

*Columbia University Press.* **The Soviet Union and International Oil Politics.** Arthur Jay Klinghoffer. An assessment of

Soviet oil policies throughout the world, including their role in the Arab oil embargo. \$15.

**China, Oil, and Asia: Conflict Ahead?** Selig S. Harrison. Explores the diplomatic and strategic impact of China's probable future emergence as a major oil producer. \$10.95.

*T. Y. Crowell.* **Let There Be Energy: A Program for Today and Tomorrow.** William M. Brown and Herman Kahn. Develops a nine-point program to reconcile the imperatives of energy supply with the mandates of conservation. \$8.95, paper \$3.95.

**The Unfinished Agenda: The Citizen's Policy Guide to Environmental Issues—A Task Force Report Sponsored by the Rockefeller Brothers Fund.** Edited by Gerald O. Barney. The thinking of 63 leading environmentalists. \$7.95, paper \$3.95.

**Energy: The Continuing Crisis.** Norman Metzger. An illustrated examination of the gap in energy supplies and an evaluation of the alternative methods of closing it. \$9.95.

*Friends of the Earth.* **The Energy and Environment Bibliography.** Compiled by Betty Warren. A listing of some 500 books, pamphlets, periodicals and films on energy matters. \$2 paper.

*Gulf Publishing.* **The Cost of Energy and a Clean Environment.** Edited by R. G.

Thompson, J. A. Calloway and L. A. Nawalanic. Studies the impact of government energy policies on environment, energy independence and cost of living. \$27.50.

**Energy Economics.** Helmut A. Merklein and W. Carey Hardy. A look at implications of the oil shortage and the differing perceptions Arabs and Americans have about oil. \$12.95.

**The Cost of Electricity: Cheap Power vs. a Clean Environment.** Edited by R. G. Thompson, J. A. Calloway and L. A. Nawalanic. Explains the conundrum of the subtitle to the public. \$9.95.

*McGraw-Hill.* **Energy: Global Prospects, 1985-2000.** The general report of the Workshop on Alternative Energy Strategies, an ad hoc, international project sponsored by MIT and prepared over a two-year period by some 75 experts from fifteen countries. \$14.95, paper \$6.95.

**Energy Technology Handbook.** Prepared by 130 scientists and engineers under the editorial direction of Douglas M. Consideine. Fundamentals and basic data on today's major energy sources—their availability, utilization and future prospects. \$49.50.

*Matrix/International Scholarly Book Services.* **Energy: A Crisis, a Dilemma, or Just Another Problem?** Jesse S. Doolittle. A study showing our energy situation is poor and getting worse. \$12.95 paper.

*Seabury Press.* **Consequences of Growth: The Prospects for a Limitless Future.** Gerald Feinberg. Applying known science to energy resource allocation. \$9.95.

*University Press of Kentucky.* **The Economics of Kentucky Coal.** Curtis E. Harvey. Analyzes Kentucky's coal industry which accounts for more than a fifth of the nation's supply. \$9.95.

# Oil

*Celestial Arts. Inside the Alaska Pipeline.* Ed McGrath. A firsthand account depicting the effects of the pipeline on the state and its people. \$4.95 paper.

*Harcourt Brace Jovanovich. Oil and Gas: From Fossils to Fuels.* Hershell H. Nixon and Joan Lowery Nixon. A Let-Me-Read book for ages seven to ten which describes how fossil fuels are created and utilized. \$5.95.

*Norton. Lost Frontier: The Marketing of Alaska.* John D. Hanrahan and Peter Gruenstein. How America's last frontier is withstanding the "oil rush." \$10.95.

*Pantheon. The Control of Oil.* John M. Blair. A study of the world oil business with attention to both foreign and domestic oil and an evaluation of alternative sources of fuel. \$15.

*Prentice-Hall. 800 Miles to Valdez: The Building of the Alaska Pipeline.* James P. Roscow. The life story of the pipeline, from inception to completion. \$10.

*Seabury Press. The Power of Oil, Economic, Social, Political.* Richard J. Walton. Chronicles the uses and misuses of petroleum since its discovery as a resource. \$7.95.

*Sheed Andrews and McMeel. The Big Breakup.* John R. Coyne, Jr., and Patricia S. Coyne. Two journalists set out to show that the oil companies are not a monopolistic industry and that divestiture would be disastrous to our economy and counter-productive to research into alternative sources of energy. \$10.

*University of Chicago Press. The Brotherhood of Oil: Energy Policy and the Public Interest.* Robert Engler. A study of the political economy of oil and the challenges it poses for the American political system. \$12.50.

## Alternative Sources General

*David & Charles. Make Your Own Electricity.* Terence McLaughlin. Practical instructions for selecting an electrical system, installing and maintaining it; equipment covered includes windmills, solar panels and engine-run generators. Illustrated. \$7.50.

*Dutton. The Book of New Alchemists.* Edited by Nancy Todd. Low-energy, low-polluting alternatives to modern technology. \$6.95 paper.

*Friends of the Earth. Soft Energy Paths: Toward a Durable Peace.* Amory Lovins. An environmentalist alternative to prevailing energy planning to avoid dangers of nuclear power and pollution of fossil fuel. \$6.95 paper.

*Garden Way Publishing. Harnessing Water Power for Home Energy.* Dermot McGuigan. Information on dams, waterwheels, turbines and other devices, with an analysis of costs. Illustrated. \$4.95 paper.

*Harnessing the Wind for Home Energy.* Dermot McGuigan. How to select a system to fit each reader's need, with data on costs of each type of wind machine. \$4.95 paper.

*New Low-Cost Sources of Energy for the Home.* Peter Clegg. An illustrated overview of alternative energy systems—solar, wind, wood, water and methane waste. \$9.95, paper \$6.95.

*Harper & Row. Earth, Water, Wind & Sun.* D. S. Halacy, Jr. Includes information on the costs, risks and benefits of exploiting the major non-fossil fuels or non-nuclear sources of power. \$8.95.

*Rodale Press. Pedal Power.* Edited by James C. McCullagh. Includes building instructions for the Rodale Energy Cycle which performs many household chores without using electric or fuel-powered motors. \$5.95.

*Running Press. EnergyBook #2: More Natural Sources and Backyard Applications.* John Prenis. Examines recent developments in solar and wind energy. Definitions of basic energy concepts and sources and manufacturers for materials are included. \$5.

*Schocken. Methane: Planning a Digestor.* Peter-John Meynell. How to produce methane for use in home energy needs. \$4.50 paper. March 1978.

*Van Nostrand Reinhold. Power from the Wind.* Palmer C. Putnam. This study of wind-powered energy was first published in 1948. \$10.95.

*Zebra Books. Alternate Forms of Energy.* Jeffrey Feinman. How to insulate, buy the right air conditioner, reduce car costs, save on refrigeration, etc. Illustrated. \$1.95 paper.

## Nuclear

*Aurora Publishers. Critical Mass: Nuclear Power. The Alternative to Energy*

*Famine.* Jacque Srouji. Billed as the non-expert's guide to nuclear power. \$11.95.

*Dell. Nuclear Power: The Unviable Option.* John J. Berger. The former project director of Friends of the Earth discusses the dangers of nuclear power as an energy source. \$2.50 paper.

*Norton. The Menace of Atomic Energy.* Ralph Nader and John Abbotts. An analysis of the atomic energy industry and its impact on our economy, institutions and freedoms, and a discussion of alternative energy sources. \$10.95.

*Pergamon Press. Nuclear Power Safety.* J. H. Rust and L. E. Weaver. Covers all aspects of nuclear safety. \$22.50, paper \$15.

*Random House. The Silent Bomb. A Guide to the Nuclear Energy Controversy.* Peter Faulkner. Sponsored by Friends of the Earth, and culled from data provided by people with firsthand experience with the Atomic Industrial Complex. \$10.95, paper \$3.95.

## Solar

*Bantam Books/Hudson. Practical Guide to Solar Homes.* Includes cost analysis, solar homes portfolio and private and government source references. \$6.95 paper.

*Butterworths. Solar Electricity: An Approach to Solar Energy.* Wolfgang Palz. Written for the non-specialist, this contains previously unpublished findings from UNESCO. Illustrated. \$24.95.

*The Solar House: Practical Ways of Using Solar Radiation for Domestic Energy Storage.* P. R. Sabady. Solar energy from an architectural standpoint, with practical illustrated information on utilizing the sun's power. \$11.95 paper.

*Cheshire Books. The Solar Home Book.* Bruce Anderson with Michael Riordan. Shows and tells how to heat, cool and design with the sun. \$12.95, paper \$8.50.

*Solar Age Catalog.* Published by Solar Vision and distributed by Cheshire. A resource guide to the theories and products applicable to solar energy. \$8.50.

*Solar Heated Buildings: A Brief Survey.* William Shurcliff. A tour through current installations of solar devices, giving specifications.

*Dodd, Mead. The Complete Solar House.* Bruce Cassiday. An introductory overview of how solar energy operates in the house including a description and explanation of solar collectors, storage units and distribution systems and solar heating applications. \$8.95.

*Garden Way Publishing. Designing and Building a Solar House: Your Place in the Sun.* Donald Watson. How to do it, with 400 illustrations showing the way. \$12.95, paper \$8.95.

*Building and Using Our Sun-Heated Greenhouse.* Helen and Scott Nearing. Tells how to construct a greenhouse requiring no artificial heat at all, even in winter. Illustrated. \$5.95 paper.

*Lerner Publications. Solar Energy.* Steve Gadler and Wendy Adamson. A basic introduction to the concept of solar energy. \$5.95. May 1978.

*Morrow. The High Frontier: Human Colonies in Space.* Dr. Gerald K. O'Neill. The originator of the space colonization concept explains how space colonies of the future will be energy-sufficient through satellite solar power. \$8.95.

*NAL. How to Build a Solar Heater.* Ted Lucas. Guide to building and buying solar panels, water heaters, power plants, etc., complete with illustrated hows and whys. \$2.25 Mentor paperback.

*Norton. Rays of Hope: The Transition to a Post Petroleum World.* Denis Hayes. Delineates social, economic and political advantages in a solar energy world. \$10.95, paper \$3.95.

*Pergamon Press. Sun Power: An Introduction to the Applications of Solar Energy.* J. C. McVeigh. The history, developments and current applications of solar energy. \$10.50, paper \$4.95.

*Rawson Associates. The Whole Energy and Solar Living Book.* Stuart Diamond and Paul Lorris. All about solar energy, from heating a house to growing vegetables. \$9.95. March 1978.

*Renewable Energy Publications/Vermont Crossroads Press. The Nicholson Solar Energy Catalogue and Building Manual.* Nick Nicholson and Bruce Davidson. Applying solar energy to domestic purposes. \$9.50.

*Ward Ritchie Press. How to Use Solar Energy in Your Home and Business.* Ted Lucas. How to reduce utility bills up to 90% with devices and solar heating equipment. Illustrated. \$7.95 paper.

*Stackpole. Colonies in Space.* T. A. Hепенheimer. About the virtues of solar power and how it can be realized more fully with space colonies. Photos and drawings. \$12.95.

*Tab Books. Build-It Book of Solar Heating Projects.* William Foster. Contains basics for solar energy concepts, mechanics and specifications. \$7.95, paper \$4.95.

*John Wiley. Solar Heating Design—By the F-Chart Method.* William A. Beckman, Sanford A. Klein and John A. Duffie. The F-Chart computer program relates the solar collector's orientation and performance for optimal design. \$14.95.

## Wood

*Alaska Northwest Publishing Co. Wood Stoves: How to Make and Use Them.* Ole Wik. The author, who lives 35 miles above the Arctic Circle, describes the various wood stoves on the market and provides a manual on how to build one. \$5.95 paper.

*Garden Way Publishing. Woodstove Cookery: At Home on the Range.* Jane Cooper. Everything about wood stoves, whether old or new, with information on conserving fuel, care and cleaning, installation. Illustrated. \$5.95 paper.

*Macmillan. The Wood-Burning Stove Book.* Geri Harrington. Sales of wood stoves jumped 210% between 1972 and 1975, says the author, as she explains how to make the most of this heater. \$12.95, Collier paper \$6.95.

*Overlook Press. Modern and Classic Woodburning Stoves—And the Grass Roots Energy Revival: A Complete Guide.* Bob and Carol Ross. Everything from the mechanics of combustion to stove selection, with information on installation, maintenance, etc. \$10 cloth already published, \$4.95 paper edition due March 1978.

*St. Martin's Press. Stove Book.* Jo Reid and John Peck. A pictorial presentation of antique stoves. \$5.95.

*Tab Books. Wood Heating Handbook.* Charles Self. How to save up to 50% on heating costs with fireplaces and wood stoves. \$8.95, paper \$5.95.

*Vermont Crossroads Press. The Woodburner's Encyclopedia: Wood as Energy.* Jay Shelton and Andrew Shapiro. The feasibility of wood heating, discussing safety, cost, installation and operation. \$6.95 paper.

## Conservation General

*AMACOM. Managing Industrial Energy Conservation.* Explains how to monitor energy and plan action to remedy problems. \$10 paper.

*Anchor Press/Doubleday. 99 Ways to a Simple Lifestyle.* The Center for Science in the Public Interest. Practical advice for conserving energy, time, etc. \$3.50 paper.

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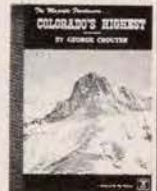
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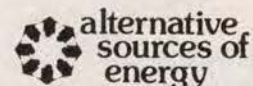
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*Augsburg.* **Enough is Enough.** John V. Taylor. A British bishop discusses extravagance and waste in our consumer-oriented society. \$3.50 paper.

*Dial Press.* **Land Use Controls in the United States: A Handbook on the Legal Rights of Citizens.** The Natural Resource Defense Council, edited by Elaine Moss. A James Wade book discussing land resource conservation. \$15.95, paper \$7.95.

*Johns Hopkins University Press.* **In Command of Tomorrow: Resource and Environmental Strategies for Americans.** Sterling Brubaker. Topics covered include energy alternatives, pollution abatement, land-use policy and mineral supply. \$3.95 paper.

*Putnam.* **Energy Savers Catalog.** By the editors of *Consumer Guide*. Includes ideas and products designed to help conserve energy and money. Sections on heating systems and automobiles. \$14.95, paper \$6.95.

*Schocken.* **Rainbook: Resources for Appropriate Technology.** Editors of *Rain*. Illustrated resource catalogue concerned with energy, transportation, community building and other subjects, which is designed to decrease wastefulness while improving the quality of life. \$15, paper \$7.95.

*Taplinger.* **The Control of the Sea-Bed: An Updated Report.** Evan Luard. A revised edition of the book exploring the sea's resources and who owns them. \$16.50.

*University of Texas Press.* **Killing the Hidden Waters.** Charles Bowden. A call for Americans to reduce appetites for water and energy, or life in the Southwest will not survive. \$9.95.

## The Home

*Arco.* **The Complete Energy-Saving Home Improvement Guide.** Compiled and edited by the Educational Research and Services Corporation. \$5.95, paper \$2.95.

*Butterick Publishing.* **The Home Energy Saver: All the Facts You Need to Save Energy Dollars.** Irene Cumming Kleeberg. How to modify existing energy

systems and choose new ones. \$3.95 paper.

*T. Y. Crowell.* **The Homeowner's Energy Guide: How to Beat the Heating Game.** John A. Murphy. How to reduce energy usage and how to calculate heat loss in the home. Illustrated. \$9.95, paper \$6.95.

*Dover.* **How to Insulate Your Home and Save Fuel.** Prepared by the U.S. Department of Housing and Urban Development. An illustrated, nontechnical guide, virtually identical with Grosset & Dunlap's "Your Guide to Energy-Saving Home Improvements." \$2 paper.

*Drake.* **Energy-Saving Home Improvements.** U.S. Department of Housing and Urban Development. A government-prepared report with the same content as the titles from Dover and Grosset & Dunlap. \$3.95 paper.

*Grosset & Dunlap.* **Your Guide to Energy-Saving Home Improvements.** Prepared by the U.S. Department of Housing and Urban Development. An illustrated, nontechnical guide, virtually identical with Dover's "How to Insulate Your Home and Save Fuel" and Drake's "Energy-Saving Home Improvements." \$1.95 paper.

*Harper & Row.* **Home Energy How-To.** A. J. Hand. Explains how to cut home operating costs and ways in which the energies of sun, wind, water and bio-fuels can be harnessed. Illustrated. \$9.95.

*Rodale Press.* **Goodbye to the Flush Toilet.** Edited by Carol Hopping Stoner. Presents workable alternatives to the conventional flush toilet, considered to be one of the greatest wasters and polluters of water in the home. \$6.95.

*Tab Books.* **Do-It-Yourself's Guide to Modern Energy-Efficient Heating and Cooling Systems.** John E. Traister. How to select, install and maintain the best appropriate system. \$9.95, paper \$5.95.

*University Press of Hawaii.* **Hawaii Home Energy Book.** James Pearson with the assistance of Cliff Terry and Carl Bovil. Demonstrates how to reduce home energy consumption by half in mild climate regions and includes a "yellow pages" section of energy-saving products and materials. Paper \$7.50.

## Transportation

*Dutton.* **The War Against the Automobile.** B. Bruce Briggs. Offers alternatives to existing anti-auto policies. \$10.95.

*Peace Press.* **Electric Vehicles: Design and Build Your Own.** Michael Hackelman. \$6.95.

*University of California Press.* **Pollution**

**and Policy: A Case Essay on California and Federal Experience with Motor Vehicle Air Pollution, 1940-1975.** James E. Krier and Edmund Ursin. A study of air pollution in the Los Angeles area. \$15.95.

## Architecture

*Anchor Press/Doubleday.* **Architecture and Energy.** Richard G. Stein. An illustrated critique of current architecture and a survey of energy-wise plans from past and future. \$12.95 paper.

**The Double E.** Percival Goodman. An architect's principles of economy and ecology in designing energy-conscious communities. Illustrated. \$3.50 paper.

*CBI Publishing.* **Graphic Standards of Solar Energy.** Spruille Braden III. A reference guide with specific information for the design and maintenance of energy-saving and solar-energized buildings. \$19.95, paper \$10.95.

*Craftsman Book Company.* **Building and Remodeling for Energy Savings.** James D. Higson. Both practical tips and pages of reference data. \$15 paper.

**The Minimum Energy Dwelling.** Kirk Williams. How to build a conventional residence that will cut gas, oil and electric costs by half. \$8 paper.

*Prentice-Hall/Reston.* **Your Guide to Good Shelter: How to Plan, Build or Convert for Energy.** Brownlee Waschek and Carmen Waschek. Planning and building an energy-efficient home. \$12.95.

*Princeton University Press.* **Solar Control and Shading Devices.** Aladar Olgay and Victor Olgay. Solar energy and shading devices as they relate to contemporary architecture. \$7.50 paper.

*Rodale Press.* **30 Energy-Efficient Houses . . . You Can Build.** Alex Wade. Includes plans and photographs. \$10.95, paper \$8.95.

*Sierra Club Books.* **The Urban Integral House.** Helga Olkowski, Tom Javits and Bill Olkowski. The emphasis is on individual and small-group self-sufficiency and alternative technology. \$9.95. Fall 1978.

*Van Nostrand Reinhold.* **Alternative Natural Energy Sources in Building Design.** Albert J. Davis and Robert P. Schubert. Deals with the problems of incorporating natural energy sources in the basic design of buildings. \$6.95. □

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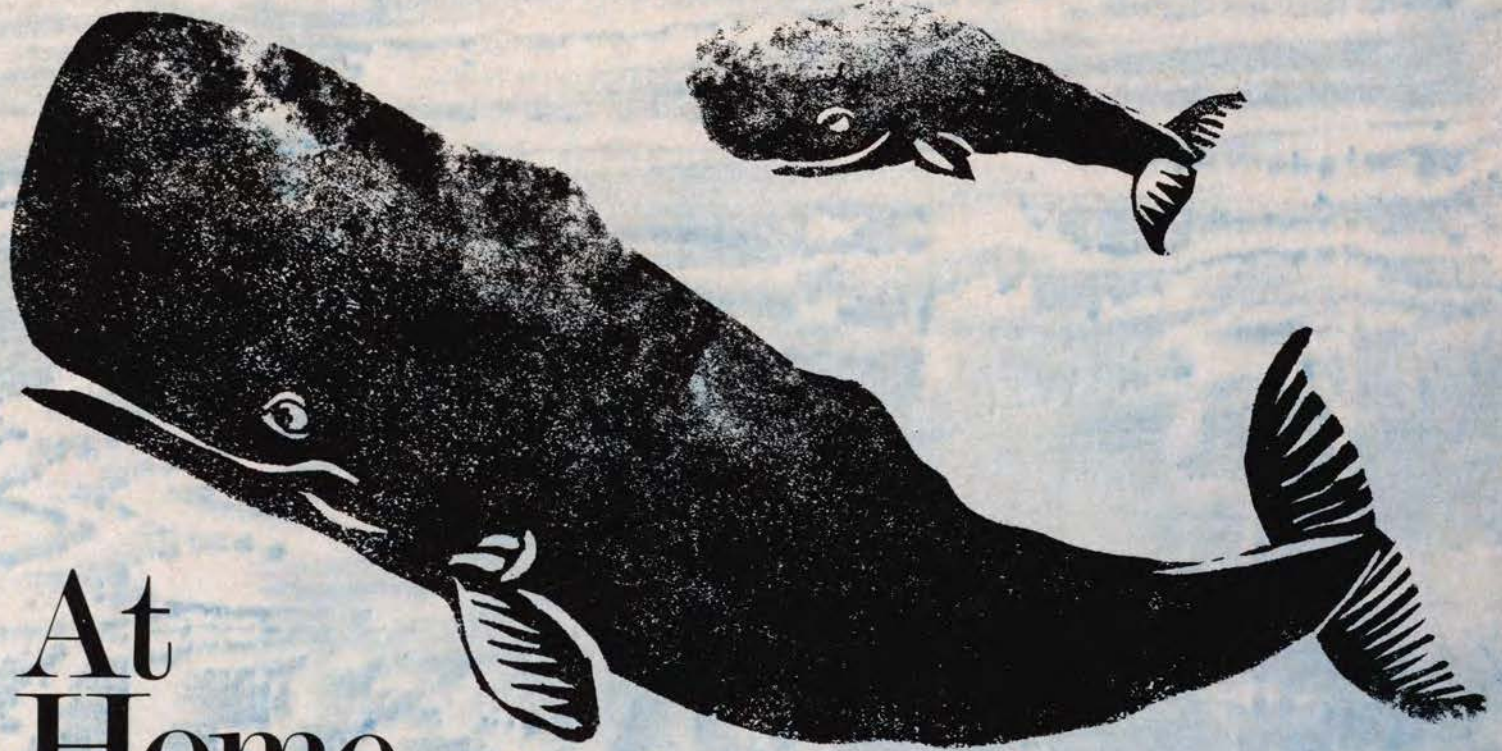
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# At Home in the Sea

*Have you seen signs or bumper stickers saying “Save the Whale”? We need to save the whales because there aren’t very many left. People have killed most of the big ones, and some kinds are almost extinct. Here are some facts about whales.*

JOSEPH A. CONNOR  
*Illustrations by Clement Hurd*



**W**HAT IS A WHALE? Some people might say whales are big fish. But whales should never be called fish. Fish are cold-blooded and are not as smart as whales. They also breathe under water and usually have vertical tails. Whales, on the other hand, are mammals like we are; they are warm-blooded, breathe air and nurse their babies. Along with dolphins and porpoises (which are small whales), whales have distinctly horizontal tails.

Some whales have larger brains than people do. Not just in actual size, either. A whale’s brain has four lobes while we have only three. The fourth lobe is like a computer that instantly sorts out and combines all the information that the whale’s body sends it.

Whales have had this fourth brain lobe for at least 60 million years. Recent discoveries in Africa tell us that humans have had a three-lobe brain for only four million years. Compared to whales, we’re what you’d call late bloomers. With their extra brain lobe, whales are able to communicate ten times faster than people. People have

recorded whales making 300 trills per second. That’s about 12,000 “words” a minute. Can you imagine? They could speak a whole thick book full of words in an hour or so, that is, if whales could speak!

What do whales do with this wonderful brain of theirs? Well, they take care of each other, and they build better whales. For example, their “twin sonar,” which is what they have developed to steer their way through the watery depths without relying on their eyes, is so sensitive that whales can feel the presence of all whales nearby—without looking. Whales openly care for the members of their pod. That’s what their community is called—a pod.

**W**hales give birth to live babies, just like humans do. Like humans, too, dolphins do stretching exercises and practice breathing in rhythm to make giving birth easier. Usually, a dolphin midwife “fins” by to help at the birth,

since the baby, which is born under water, must get to the surface immediately for fresh air if it is to live. The babies of the larger species of whales can grow at the rate of ten pounds an hour, or a ton every nine days, on milk ten times richer than what you put on your cereal in the morning.

Since whales are family oriented, they are careful to protect nursing mothers and babies. Whalers learned to use this to their advantage. They would fire a 250-pound explosive harpoon into a baby whale in order to make the distressed mother whale an easier target. Fortunately, killing baby whales is no longer permitted under rules set by the International Whaling Commission.

If a pod of blue whales is attacked by its only natural predator, the Orcas or "killer whales," often the oldest blue whale will turn back to be eaten by the Orcas, rather than allow them free pick of his companions. In this completely selfless, heroic act, the oldest whale sacrifices its life for the safety of its society.

The *Orcinus Orcas*, the killer whales, are the only whales with a reputation almost as bad as that of sharks, even though they have attacked humans less than a dozen times that we know of, and then only under extreme provocation. For example, there is a story about a Canadian logger who once seriously injured an Orca when he dropped a tree down onto the whale as it rested in the bay below him. That night, when the logger and his buddy were rowing back across the bay to camp, other members of the pod tipped the boat over and killed the logger. But they let his friend escape unharmed.

Since Orcas are very smart, very adaptable and reasonably small whales, they are preferred for use in zoos and marine shows, where they are friendly enough to let their trainers ride their backs.

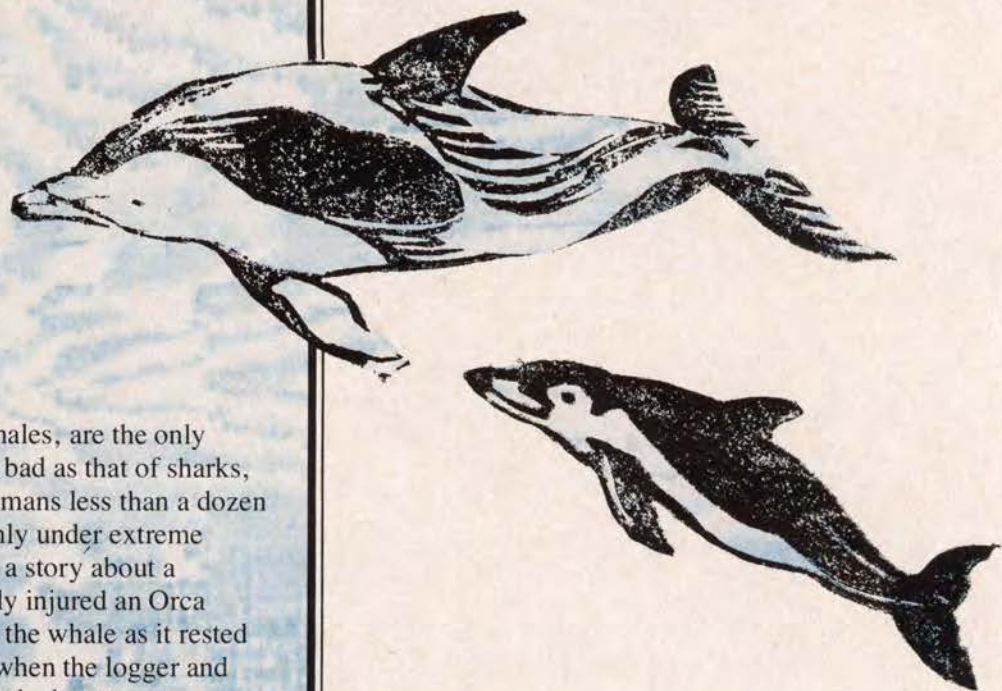
Although human beings have killed whales for thousands of years for meat and oil, the whales have remained friendly and will even swim (carefully) with people. Dolphins have often saved human lives. An outstanding example, because many people saw it happen, took place in Florida. A woman trapped in an ocean undertow with a shark nearby was pushed to shore by a dolphin, who even flipped her up onto the beach to get her legs out of the water. Dolphins have also guided ships through dangerous reefs. One such guide, known as Pelorous Jack, was protected by a special Australian law. And one

## Why Do They Kill Whales?

During the nineteenth century, whales were killed mostly for the oil that could be melted down from their blubber, which is fat. Whale oil is light and fine; it burns clean and bright in lamps (this was before electricity was used). It was also used to lubricate machinery.

But then people started using petroleum products—oil and gas for automobiles—and burning kerosene and natural gas to light their homes. Kerosene was much cheaper than whale oil and just as good. Besides, so many whales had been killed that the whalers had trouble finding and killing the big ones.

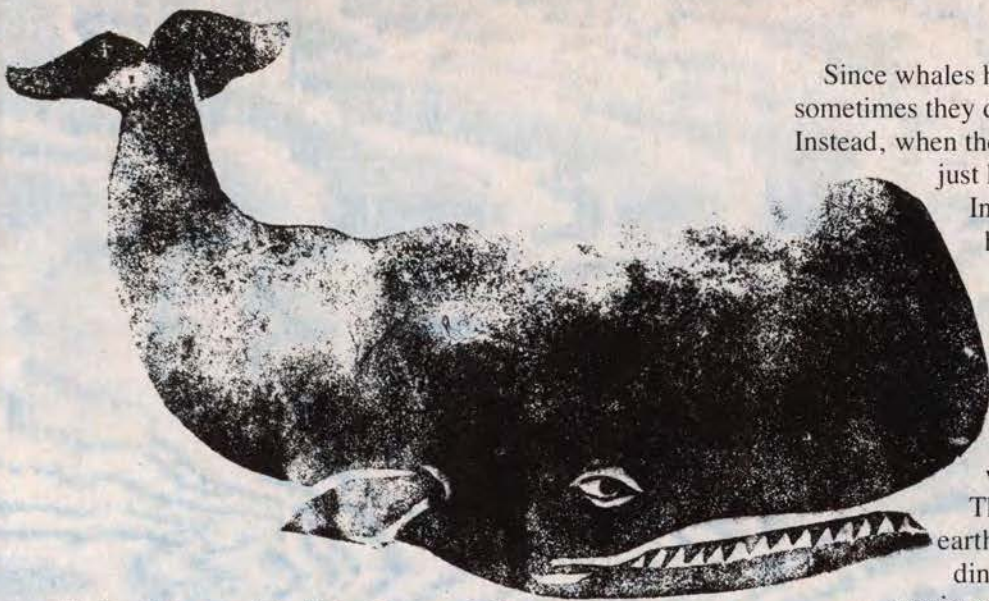
Yet outdated and unnecessary whaling has continued. The Japanese and Russians still hunt whales with big factory ships and smaller hunting ships. Whale oil is still used to lubricate machines. In addition, the Japanese eat whale



meat (so do some Eskimos), and whale meat is even used for pet food. One whale is worth about \$45,000 to a Japanese whaling company.

Scientists have recently discovered a substitute for many uses of whale oil. The oil from the seeds of the jojoba plant, which grows wild in the deserts of Arizona, California and Mexico, is very similar to whale oil, but it's even better because it's easier to process and doesn't have the strong smell of whale oil. And there are lots of jojoba plants—they could produce as much as 100 million tons of seeds a year! They're easy to grow, too.

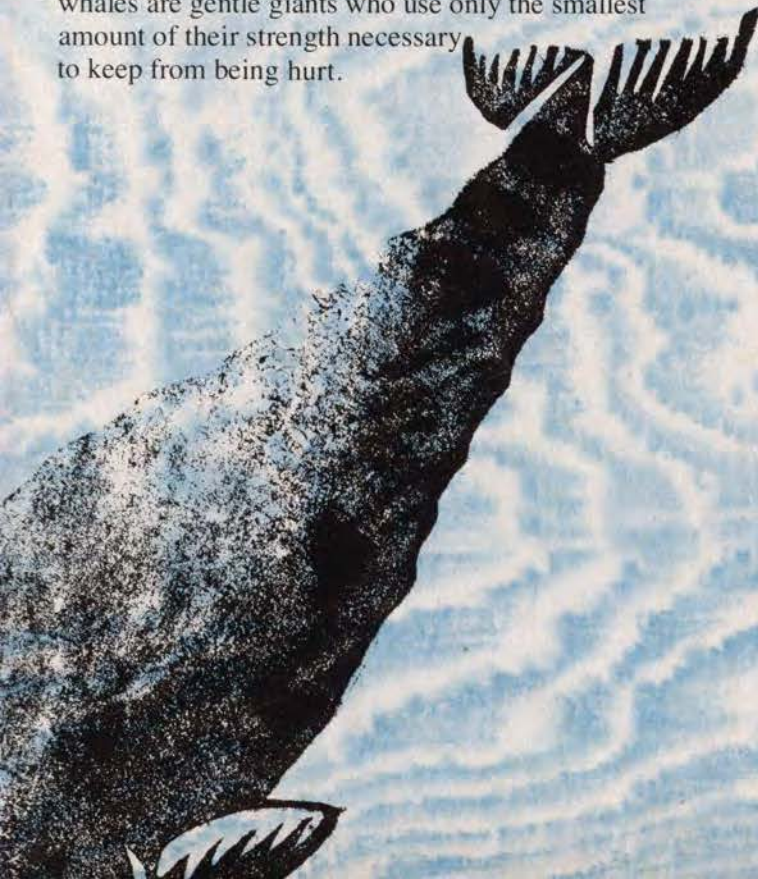
The truth is that people now have no good reason to kill whales. We have found substitutes—like jojoba oil—for the substances we can get from whales, and the food value of whales is minimal. We have lots of good reasons to save them, though, and we'd like to have the chance to discover even more.



ship he did not guide (it had bumped him) struck a reef and sank with the loss of hundreds of lives.

**I**f whales are so smart and have such big brains and talk so fast and are so big, why are they in danger? Can't they protect themselves from human beings who kill them for profit? Well, they are in danger, and there are two main reasons why. First of all, whales are very peaceful animals. They spend most of their time raising their families and helping other members of their pod. As a result, whales don't usually fight one another or other sea animals.

The second reason is actually part of the first. Whales have never needed tools or weapons to dominate other animals: they are able to destroy an attacker (and small boats, too) with one blow of their powerful tails. Yet whales are gentle giants who use only the smallest amount of their strength necessary to keep from being hurt.



Since whales have no natural predators to speak of, sometimes they don't even run away from whalers. Instead, when they sense danger, they may form a circle, just like a wagon train under attack by Indians. This and their natural curiosity have made them easy targets for whalers. But even when they run, they have no chance; whalers catch them in high-speed boats.

The most important handicap in protecting whales is that no one knows for sure how many whales there are, or what their birth and growth rates are.

The blue whales, mightiest life form on earth, four times as big as the largest dinosaur, might be down to 6,000

survivors, but no one knows if there are even that many. When an animal population dips below a certain level, it becomes impossible for the species to avoid extinction. As it stands now, some whales must search the oceans wide for a mate, and after they meet they cannot produce more than one baby every two years. We really don't know much about the different kinds of whales, either. Our scientists have never had a chance to study them closely when they're living—they're too hard to keep up with! And while they have studied dead whales, that's not the same thing at all. Many scientists would like to save whales so we can learn more about them.

This is why it is important to stop killing whales immediately, before the more endangered species get below their critical survival levels. The United States added the eight largest species of whales to its endangered species list way back in 1970. We no longer import or sell anything made from whales. It's against the law. In 1972 and 1973, the United States also presented a proposal to the International Whaling Commission that called for a ten-year ban on commercial whaling, but the commission failed to adopt it.

**W**hat can you do? Well, you can write letters to your senators and congressman and to Andrew Young at the United Nations, asking them to work to have all nations stop commercial whaling. You can start a Save the Whales petition at your school to send to the President, or you can help raise money for groups that are working to protect the whales. Most of all, you can help people learn about whales and what's being done to them. Surely the more people know about the whale's plight, the sooner the whales will be saved.

From the beginning, whales have been our friends. After killing most of them, isn't it about time we acted like friends, too? □

*Joseph A. Connor has recently retired as an advertising copywriter.*

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# News

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## ■ Club Directors Adopt Policies

The Club's board of directors met in late 1977 and adopted a number of policies on conservation issues:

**Energy** — The board voted to commend President Carter for his veto of the ERDA Authorization Act that would have permitted construction of the Clinch River Breeder Reactor. The board announced the Club's opposition to permitting foreign nuclear spent-fuel rods to be returned to the U.S. for "temporary" storage. In addition, the board called on the President to delay additional offshore oil and gas lease sales until the amendments to the Outer Continental Shelf Lands Act are law and fully implemented. The board also concluded that "it is premature to site large-scale liquefied natural gas plants because of the unresolved questions concerning their safety, reliability and economics."

**Wildlife** — The board recognized a set of principles for managing bowhead whale populations: overriding priority must be given to the continued survival of the species; quotas should be based on the number of whales struck — not the number actually landed. Most importantly, if bowheads are to be taken at all, they should only be killed for subsistence use by native peoples. The Club also withdrew from the boycott on Japanese products in order to "pursue measures that will prove more effective in stopping the killing of whales." Because of uncertainties about the possibility of success and the known risks of a captive propagation program for the California condor, the board opposed such a program at this time.

**Wilderness** — The board approved a statement calling for removal of airplane wreckage on public lands, but stipulated that when the wreckage is located in wilderness areas, "removal should be done in conformity with the Wilderness Act and in a manner least damaging to the wilderness resource and experience."

**Urban Parks** — In order to promote the preservation of open space and natural areas near cities for the benefit of urban residents, the board adopted a policy calling for the establishment of new units of the national park system near cities, and it approved criteria for their establishment and management.

The full text of these resolutions may be obtained from the Club's Board/Council Office in San Francisco.

## ■ OCS Developments

Interior Secretary Cecil Andrus has issued permits to several oil companies to drill the first exploratory wells off the central Atlantic Coast. The exploration, which environmentalists unsuccessfully contested in federal court, is slated to take place in the underwater Baltimore Canyon.

In California, the department has issued a "call for nominations" off the central and northern California coast, a first step which could lead to sales in 1981.

The Club's Northern California Regional Conservation Committee, in a letter to Andrus, urged him to abandon the rushed schedule in favor of a more unhurried and environmentally sound plan.

A recent suit filed in federal court by the Western Oil and Gas Association and 25 oil companies threatens to hold up certification of California's coastal-zone management program. The companies, worried that the program will stifle OCS oil and gas development, charge that the coastal plan does not adequately consider national energy needs. The Club has joined the court battle on behalf of the coastal plan. The outcome of this suit could affect similar coastal programs throughout the nation.

## ■ Finally — Hearings on Mineral King

Long-awaited hearings on H.R. 1771, the bill to add Mineral King to Sequoia National Park, were held before the House of Representatives National Parks Subcommittee. Representative John Krebs (D-California), author of the legislation, was the first of many witnesses who spoke in favor of the bill. Others who testified for it included Representative Jerry Patterson (D-California), some San Joaquin Valley farmers, local and national conservation groups and the chairman of the Fresno County Board of Supervisors. The opposition was represented by Walt Disney Productions and several ski organizations, although one ski group, Skiers to Keep Mineral King Natural, supported the bill. Speaking for the Club, Southern California Representative Mary Ann Eriksen stressed the severe environmental impact that a ski area and associated development would have on Mineral King and Sequoia National Park.

## ■ Club Protests Timber Cuts in Florida Wildlife Refuges

In a letter to Interior Secretary Cecil Andrus, the Club expressed its concern about commercial timber production in the St. Mark's National Wildlife Refuge in north-central Florida. Sierra Club Legal Defense Fund Attorney Michael Sherwood said in the letter that harvesting pine and hardwoods was a threat to the very wildlife the refuge was established to protect.

The administrators of the 64,000-acre refuge recently adopted a formal "Timber Management Plan." Under the plan, some 6,000 acres of longleaf pine forest are being clearcut in blocks, and some 5,500 acres of hardwood forest are being "intensively managed," including the use of herbicides. No public hearings were held on the plan, and no environmental impact statement was prepared. The Club's letter called for a halt to logging in the refuge until an impact statement is prepared.

## ■ Efforts to Halt Tocks Island Dam

Legislation recently introduced in Congress could save the middle Delaware River Valley from the

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# News

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Tocks Island Dam Project. The bill, H.R. 6403, would include the threatened 37-mile stretch of the river in the National Wild and Scenic River System. About 75 miles of the upper Delaware are already under consideration for inclusion in the System. This massive Army Corps of Engineers project is one of a few around the country on which the government has an official "no build" position. Yet legislation to deauthorize Tocks Island, introduced three times since 1975, has met consistent opposition in the House. Environmentalists hope this new legislation, which will fall under the jurisdiction of the Interior Subcommittee on Parks, chaired by Representative Phillip Burton (D-California), will have better luck.

In Maine, it appears the tide of public opinion may be turning against the Dickey-Lincoln Hydroelectric Project. While both of the state's senators still support the project, Representative William Cohen has joined the state's other representative in opposing it. The *Sunday Telegram* and the *Press Herald* of Portland, Maine, recently retracted their support, and a recent poll showed 55% of Maine's residents opposed to the project, 21% in support, and 24% undecided. The key undecided politician remains the governor, James Longley.

## ■ New Clean Water Act Amendments

Congress has approved a major set of amendments to the 1972 Federal Water Pollution Control Act. Although the new amendments extend clean-up deadlines and also weaken controls over dredge and fill activities, environmentalists are pleased that the more important provisions of the act were preserved.

The new bill provides for more extensive control over toxic pollutants; it lists 65 classes of toxic substances (totalling hundreds of chemicals) for which the Environmental Protection Agency (EPA) must set discharge-control standards by 1984. On the other hand, the bill also weakens some other pollution-control standards by providing for waivers and extensions of the 1983 clean-up deadlines for industries discharging other types of pollutants.

There was a major battle in Congress over whether the federal government would retain control over the national dredge and fill permit program — known in the jargon as "Section 404." Environmentalists are pleased that the federal Section 404 program will retain comprehensive jurisdiction over all waters — including small streams and wetlands. But provisions were adopted that will enable certain states to administer portions of the program. This, in turn, means that some permits granted by individual states will no longer be subject to the National Environmental Policy Act.

The national dredge and fill permit affects a wide range of interests — private developers, farmers, ranchers, miners, among others — but the federal program exempts the federal government itself!

Federal agency projects need not comply with the program, as long as an adequate environmental impact statement has been filed.

Congress authorized more than \$26 billion in federal grants for construction of municipal sewage-treatment facilities over the next five years. Congress also adopted new measures to promote development of "alternative" sewage-treatment technologies that will save water, energy and soil nutrients.

Two new provisions worry environmentalists: one gives individual states authority over funding priorities, another allows coastal cities to discharge sewage into "the marine environment."

If you're interested in a detailed analysis of the new amendments (and what to do about them), write to Sierra Club Clean Water Task Force, 530 Bush Street, San Francisco, CA 94108.

## ■ International Whaling Commission Meets

The special meeting of the International Whaling Commission (IWC) held in Tokyo in early December was a whaler's dream come true. The quotas for North Pacific sperm whales were increased 850% over those set in June. The old quotas: zero for males and 763 for females. The new quotas, assigned by sex and region, total 6,444 whales.

Conservationists who attended the meetings were outraged by the increase recommended by the IWC Scientific Committee. U.S. Commissioner Richard Frank said he had little choice but to vote for the new quotas for sperm whales because U.S. scientists did not object to new Japanese data that were used as a basis for the new quotas. But knowledgeable observers speculated that the U.S. position on the sperm whale was a trade-off. The U.S. wanted support for its own proposal to allow its (Eskimo) Inupiat to continue to hunt bowhead whales. (In June the Scientific Committee had recommended a total ban on killing bowhead whales, but native groups — and some conservationists as well — raised an uproar and demanded that the Inupiat be allowed to continue to take a very limited number of bowhead whales.) The IWC eventually ruled that the Inupiat could take twelve whales struck and landed, or eighteen struck but not landed — whichever came first.

The U.S. was put in an odd position; it was willing to accept the Scientific Committee's recommendation on sperm whales, but not its recommendations on bowhead whales. The Scientific Committee states that it still does not have enough data on the sperm whales and that the whole matter would be dealt with again next June. Had the June sperm whale quotas survived, commercial whaling would have been dealt a serious blow. But the quotas are high enough to enable the whalers to continue for yet another year.

## Outings—Local Style

**I**N THEIR VARIETY and settings the near-to-home outings offered by the Sierra Club's 50 chapters and 250 groups closely resemble those of the Club's national outings. There are some differences, though. First of all, in their duration—usually a long weekend at the most, as opposed to a week or longer for national outings. Local outings are usually free, or the fees are only nominal. Usually, too, chapter and group outings have no central commissary and are more loosely planned.

The frequency and variety of outings differ as much as the chapters and groups that run them. Chapters in sparsely populated regions with memberships in the low hundreds may schedule only three or four day-hikes a month. One of the Club's largest chapters, the Angeles, with 22,000 members, has scheduled more than 200 outings for this month alone (this works out to one outing every 103 minutes!). So extensive and specialized is its outings program that the chapter prints a 100-page schedule three times a year. The chapter's outings are sponsored and conducted by its eleven special activity committees, twelve special activity sections and sixteen regional groups in the Los Angeles metropolitan area.

The rich variety of the Angeles offerings is characteristic of the outings of other chapters around the country. All, of course, include hiking, backpacking and car camping. Many chapters also run outings for bicyclists, canoeists, rock and peak climbers, skiers, photographers and natural science buffs. Most of these same types of outings also are organized for families with children, or for youths, singles or inner-city youngsters. There are some outings, too, that are peculiar to certain regions. A winter backpack in the Sylvania Tract of Michigan's Upper Peninsula, where the temperature falls to  $-20^{\circ}\text{F}$  or lower, is quite a different experience from a winter backpack in Texas' Big Bend country. Geography also puts limits on spelunking, or cave exploring, a type of outing enjoyed mostly by members of the Chattahoochee, Ozark, Tennessee and Cumberland chapters. Among other specialized outings (and their chapters) are undersea diving and exploration (Loma Prieta), whale watching (Los Padres and San Diego), bayou and river float trips (Delta and Lone Star), and history-oriented outings such as a walk around Walden Pond (New England) and a Battle of Trenton hike (New Jersey).



ROBERT A. IRWIN

### Bike and Ski Fund-Raisers

FOR THE PAST several years a small Sierra Club group in southeastern Minnesota has been staging two popular, outing-oriented events and making money doing it. Last year most of its nearly \$1,000 net earnings were shared by Project Environment, the North Star Chapter's lobbying arm in the state capital, by Friends of the Boundary Waters Canoe Area and by the group on local issues. In late January the 175-member Wasioja Group ran its Fifth Annual Wasioja Ski Tour/Race. And early in the summer—the tentative date is July 9th—a host of eager bicyclists will be starting off in the tenth Annual Rochester Centurion Bike Ride.

The older and larger of the two events is the Centurion Bike Ride. Last July a total of 334 bicyclists, having paid \$4 (senior) or \$3 (junior) entry fees, took part in the 100-mile ride. And it was just that for most of them—a ride, a test of endurance perhaps, but not a race. The spread in finishing times bore that out: from 4 hours, 48 minutes to 11 hours, 4 minutes. A 1977 Centurion shoulder patch commemorated the ride for the 84% who finished. Almost the entire community of Rochester became involved. Local businesses helped with refreshments, which were provided free to the bicyclists every 25 miles. The city, county and state park people and the police all cooperated in making the ride a success. Dick Bhend, one of the Centurion's organizers, put the ride's net at \$600.

The Wasioja Ski Tour/Race, like the bike ride, is more tour than race. Last winter, on February 6th, more than 165 skiers completed the hilly seven-mile course. Their times ranged from 47 minutes to 2 hours, 53 minutes. Registration fees were \$1 for boys and girls 14 or younger and \$3 for all others, bringing a net profit of more than \$300 to the Wasioja

Group. Both old and new members took part, as did a large part of the community. Strong support came from the press, radio, and television, as well as from business, private landowners and Rochester's park department.

### Sun Day

**O**N MAY 3, 1978, there will be a national celebration of the world's only inexhaustible, predictable, egalitarian, non-polluting, safe and free energy source. It will be called Sun Day. Planned by a coalition of environmentalists, Sun Day will fall on a Wednesday and will feature a wide variety of local celebrations. When the sun first hits the U.S. mainland, Sun Day activists will be there—a group is planning a celebration on top of Cadillac Mountain in Maine. Later in the morning, New Yorkers can enjoy a sunrise concert at the United Nations. Some people in Martinsburg, West Virginia, are planning a tour of solar homes, and if you find yourself in Princeton, New Jersey, you can see some spectacular movies of the sun itself. In Chicago, plans are underway to build a huge community greenhouse. And so it goes, from coast to coast. Californians will be hosting appropriate technology fairs, sun art shows, poetry readings and street theater.

But Sun Day can be whatever kind of celebration you want it to be. One enthusiast has even suggested rigging up a coast-to-coast clothesline on May 3. The new holiday is loosely but well organized; the Board of Directors for this successor to Earth Day includes such luminaries as Hubert Humphrey, Tom Bradley (L.A.'s mayor), Congressman Dick Ottinger and Sierra Club Executive Director Mike McCloskey. Denis Hayes, of the Worldwatch Institute, chairs the group.

Why are we telling you this in February? So that you can get involved. Have some fun with the sun. For details on activities, write to Sun Day, Suite 1100, 1028 Connecticut Avenue, N.W., Washington, D.C. 20036. Or phone (202) 466-6880.

### Sierra Club Election

THE ANNUAL ELECTION of the Club is held on the second Saturday of April as prescribed by the bylaws. On April 8, 1978, five directorships, several bylaw amendments and questions regarding regional representation on the Board of Directors,

smoking at Sierra Club functions and California's proposed Peripheral Canal will be at issue. A ballot, information brochure and return envelope (not postpaid) will be mailed by February 24 to each eligible member. Packets for members living within the 48 contiguous states will be sent by third-class mail; for members living in Alaska, Hawaii, Canada and Mexico, packets will be sent first class. Packets will be sent airmail to members overseas. With the exception of junior members (under 15 years), all those listed in the Club records as members in good standing as of January 31 will be eligible to vote.

The ten candidates for directors are, in order of appearance on the ballot, Nicholas Robinson, Samuel Sage, Marlene Fluharty, Thaddeus Trzyna, Phillip Berry, Shirley Taylor, Robert Howard, Richard Fiddler, Denny Shaffer and Charles Kopman. Vote for no more than five candidates.

The information brochure will contain a statement from each candidate regarding pertinent background and his or her views as to the direction the Club should take, together with a photograph. The brochure will also contain the texts and arguments regarding the proposed bylaw amendments and issues on the ballot.

If you do not receive a ballot by mid-March, or you mismark it, write a note of explanation (enclose the voided or mutilated ballot if you have it) and send it to Sierra Club, Department E, 530 Bush Street, San Francisco, CA 94108. We'll try to send you a replacement ballot in time for it to be returned by the date of the election. This procedure is under the control of the Judges of Election. Ballots are to be mailed back to the Elections Committee, Sierra Club, PO Box 2178, Oakland, CA 94621. They will not be opened until the time for counting.

Lewis F. Clark  
Chairman, Judges of Election

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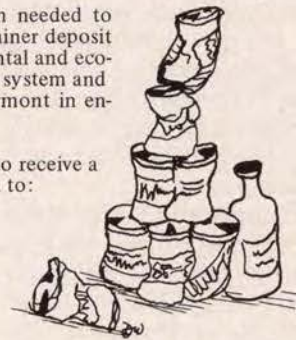
**Disposing of Non-Returnables: A Guide to Minimum Deposit Legislation** (1976). 132 pages. \$3.95

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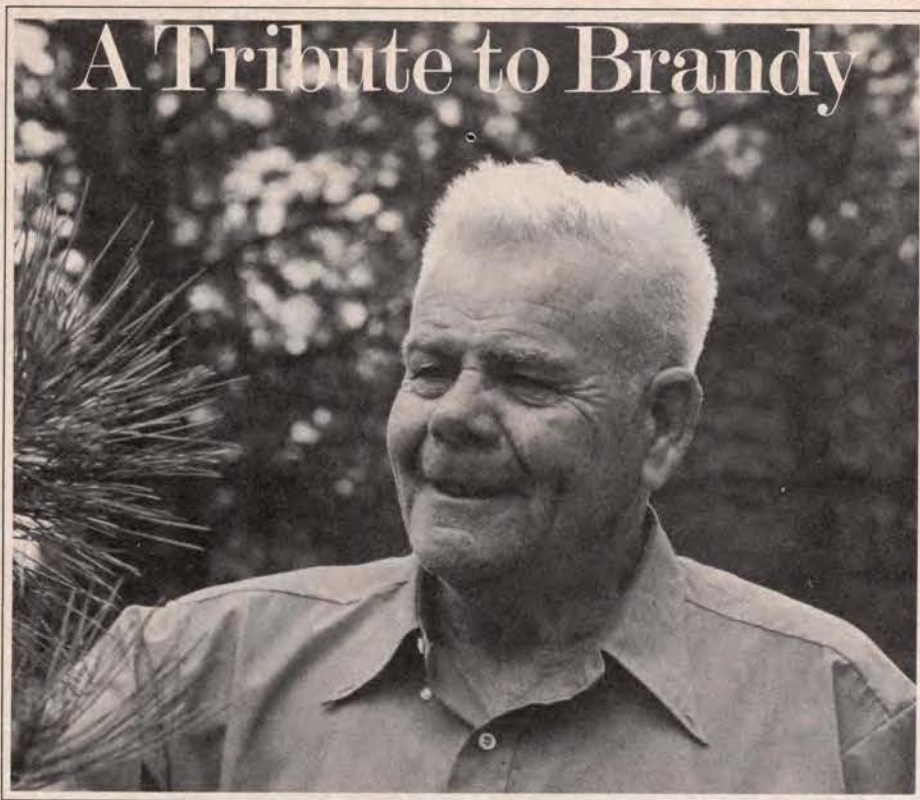
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# A Tribute to Brandy



MICHAEL FROME

**Y**OU MAY FIND it hard to believe, based on present performance, but sound forestry began in America as part of the muckraking, trust-busting social crusade of the early years of this century. Gifford Pinchot, pioneer forester and close ally of Theodore Roosevelt, foresaw conservation as the foundation of a national destiny of freedom and brotherhood. Sound forestry was to be not a technical end in itself, but a wedge in the fight "against the control of government by Big Money."

This kind of life was made for Guy M. Brandborg, a two-fisted populist if ever there was one. In 1914, at the age of 21, he joined the Forest Service. At that time the fledgling outfit was loaded with Pinchot's disciples, a breed of idealists determined to halt destruction of the forests by free-wheeling timber barons and to rescue the grasslands from cattlemen's anarchy. Imbued with the idea that all wealth comes from the earth, Brandborg committed himself through 40 years in the Forest Service and retirement thereafter to leaving the land and its resources in better condition than he found them.

"Brandy" departed this world in March 1977 with little baggage. His body he willed to medical research; his ideals which he had drawn from Pinchot, to disciples of his own. He was an absolute original among foresters and grass-roots ac-

tivists, and his kind of inspiration never dies.

For twenty years Brandy was supervisor of the Bitterroot National Forest, and when he retired in Hamilton, in the heart of the valley, he could view the results of his work with pride—that is, until the Forest Service shifted gears from resource protection with conservative use to intensive exploitation without protection. Nowadays a supervisor spends only two or three years in charge of a forest, so he doesn't have the sense of belonging or of lasting responsibility for his actions.

Brandy exercised amazingly wide influence from his own country corner. He raised a son, Stewart, who became executive director of The Wilderness Society and is now an official of the Interior Department in Washington. Sierra Club staffers such as Gordon Robinson, Brock Evans and Doug Scott came to western Montana to counsel with the old sage as well as to see the Bitterroot through his eyes. Folks in his own state—in the Montana Wilderness Association, the Wildlife Federation, faculty and students at the University (50 miles north at Missoula), public officials and thoughtful people all over Montana—looked up to Brandy with admiration and warmth.

Brandy also had an uncanny touch with writers. Among these were Bernard DeVoto, who first visited in the late 1940s for his "Easy Chair" column in *Harper's*, correspondents for *The New York Times*,

*Washington Post* and CBS, who came twenty years later for Brandy's views on clearcutting in the Bitterroot.

In my own case, his ideas run like a thread through columns I wrote in *American Forests* and *Field & Stream*. From one end of the country to the other, everywhere I looked in the 1960s and early 1970s, the Forest Service was on the wrong side of environmental issues—from Admiralty Island in Alaska, down through the redwoods and Mineral King in California, Big Thicket in Texas, Bitterroot in Montana, to the Monongahela in West Virginia. Brandy helped me to evoke forceful protest against squandering the heritage of our forests for greed and gain. Though I lost my columns one after another, it was well worth the fight.

Brandy had a way of linking little issues to big ones and particular controversies to principles of social and economic consequence. He was a mover who got things done. The fight he sparked over the Bitterroot led to an investigation by a committee of the University of Montana Forestry School (at the request of Senator Lee Metcalf) and subsequently to the 1971 Washington Senate hearings on clearcutting. Even near the end he was brewing a new plan to bring President Carter face to face with the continued mismanagement of our public forests.

He was never vindictive, never personal, never (to my knowledge) pessimistic. Despite harsh treatment by the Forest Service leadership—which tried to dismiss him as "a disgruntled ex-employee"—workers in the ranks cheered him, hoping he could get the old outfit back on course.

Like Pinchot, he believed that exhaustion of resources leads nations to poverty and war—and that protection of the land and its resources makes for peace and begins with the forests. Both saw forestry as the leading activist edge of social reform.

Brandy was a born-again evangelist of our time, preaching that society too must be born again, out of an economy based on exploitation into an economy of conservation.

Pinchot said: "There is no reason why the American people should not take into their hands again the full political power which is theirs by right and which they exercised before the special interests began to nullify the will of the majority." G. M. Brandborg believed in power to the people. He had lofty visions and left us challenges that give purpose and meaning to life. □

*Michael Frome has written extensively on forestry.*





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.....It is said that these technically advanced bags of the future make everything that has come before obsolete..... It has been reported that a new conceptual approach is responsible for these phenomenal sleeping bags..... Members of the team which tested these products have been overheard to utter strange and inexplicable phrases such as Sequential Differential Cut and Variable Layering System..... Rare, ethereal fabrics are said to adorn these bags..... Most unfathomable of all, witnesses attest that the height and thickness of these sleeping bags are of such great proportions in relation to total weight that observers have been struck dumb in awe..... It is not surprising to experts that the name Snow Lion has been mentioned in connection with this new **generation of Polarguard bags.** After all, it is widely known that Snow Lion gave birth to the Polarguard revolution, that Snow Lion developed most of the standards and terminology now commonplace throughout the industry, that Snow Lion Polarguard-filled products have been purchased by over fifty major expeditions during the past three years, and that the energetic and innovative spirit of Snow Lion is without limit..... When queried about these new bags, the people at Snow Lion were evasive and somewhat secretive. However, when pressed, they suggested that the curious enquire at their local mountaineering shop or dispatch a postcard requesting a catalogue to P.O. Box 9051, Berkeley, California 94701.

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