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

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



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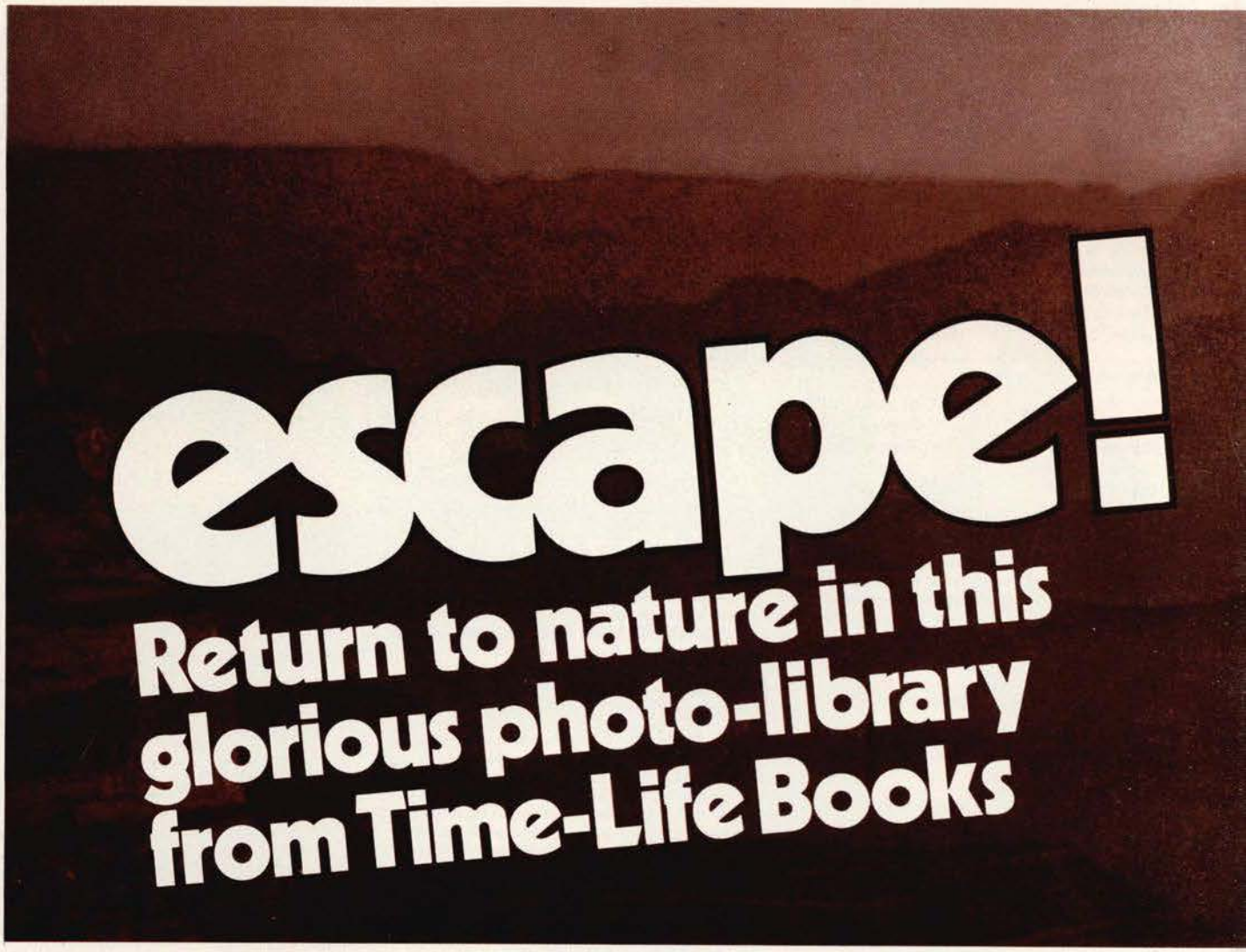


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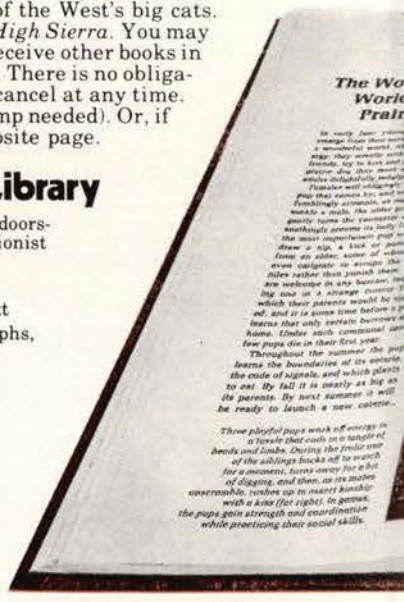

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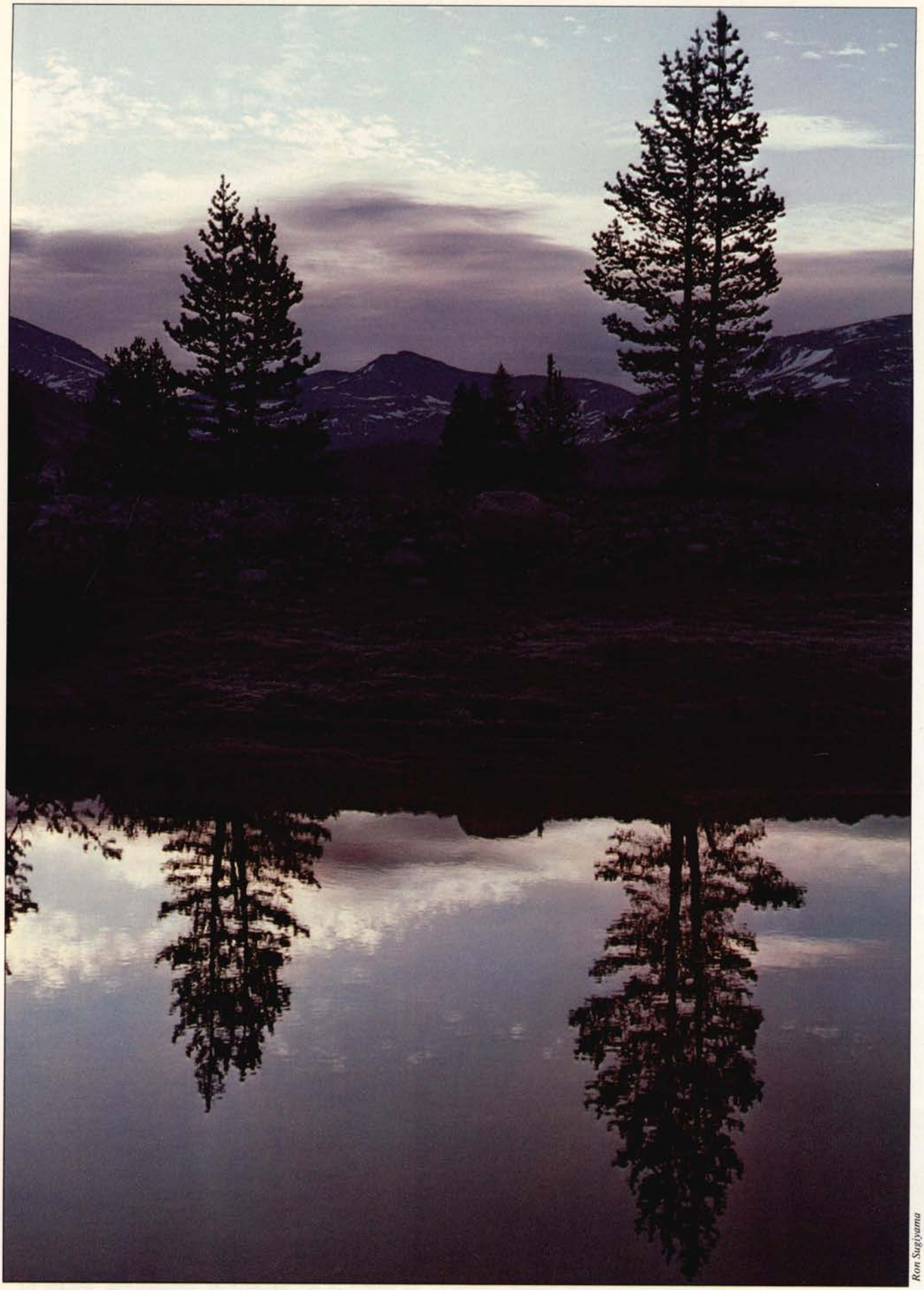


*Ron Sugiyama*

# Picking Up the Pieces of the Tuolumne

RODERICK NASH and ROBERT HACKAMACK

Protecting wilderness values and natural beauty does not always involve saving large expanses of virgin land. Increasingly it means picking up the remains after the developers have had their innings. The landscape that results is a patchwork: some development, some wildness—satisfaction of man's material needs and recognition that he cannot live by bread alone.

The 158-mile long Tuolumne River drains the western Sierra north of the Merced River and its Yosemite Valley. In 1913 Congress authorized a dam on the Tuolumne at the lower end of the spectacular Hetch Hetchy Valley within Yosemite National Park. With his last energy, an aged John Muir fought savagely to keep the developers out of his "temple." But Muir lost, and the Tuolumne began supplying drinking water and electricity, largely to San Francisco. Today five major dams and powerhouses squeeze still more from the river. Yet, unbelievably, the Tuolumne remains alive, if not altogether well, as a wild river. In fact, a twenty-six-mile section downstream from Hetch Hetchy is, mile for mile, the most formidable whitewater river run in the American West.

The developed portions of the Tuolumne now serve civilization. The undeveloped sections serve man's need to escape, periodically, from that civilization. Today's Tuolumne is a realistic compromise; tomorrow's is the subject of an intensifying local, state, and national controversy. The same vertical drop of fifty-four feet per mile (seven times that of the Colorado in the Grand Canyon) that makes the twenty-six-mile reach of the middle Tuolumne a mecca for trout fishermen, whitewater boaters and connoisseurs of river scenery also attracts dam builders. Both contingents have specific agendas for the Tuolumne. Developers propose three more dams and two more powerhouses on the middle river. Preservationists argue that this same stretch of the Tuolumne should be protected in the National Wild and Scenic Rivers System. There is no more room for compromise. The Tuolumne's future hangs squarely in the balance of America's values.

The unusual name of this unusual river originated in Miwok Indian dialect. "Talmalamne" meant a cluster of stone wigwams. Given the multipurpose functions of aboriginal language, the word might also have referred to the circle of teepee-shaped granite peaks that constitute the main crest of the Sierra Nevada at the Tuolumne's origins. Mount Lyell, at 13,114 feet, is one such landmark. Two small glaciers cling to its northwestern face, and their meltwater is the beginning of the Tuolumne.

In the next phase of its 158-mile existence the river lives in high country, flowing through forested valleys that spread out at 8,600 feet into the largest meadow in the Sierra. Below Tuolumne Meadows the river is seldom seen. After a series of spectacular cascading falls, the river enters the precipitous Muir Gorge and rages a mile below the canyon rim. At 3,800 feet, still in Yosemite National Park, the Tuolumne enters Hetch Hetchy Valley or, rather, the drab reservoir that now lies behind O'Shaughnessy Dam. The loss of this scenic rival of nearby Yosemite is widely regarded as the nation's single greatest mistake in managing its national parks. But, in fairness, 1913 was not 1976 in terms of public perception. Wilderness, whether in a park or not, still seemed to most Americans a hostile presence to be conquered and controlled. Only a tiny handful, like John Muir, sought wild places for pleasure. Today the tables are turned. Only a tiny handful drive to O'Shaughnessy Dam to stare over concrete railings at the dull expanse of water edged most of the year with a bathtub ring of whitened granite.

Since its completion in 1923, O'Shaughnessy has blocked minds as well as the Tuolumne River. Many well-meaning people honestly think the river died, sucked into an aqueduct that leads to faucets and toilets. This assumption is a problem for those who know that the Tuolumne still lives and is eminently worth protecting *below* Hetch Hetchy.

San Francisco's aqueduct draws some water from Hetch Hetchy. But the city is required by the Department of the Interior to maintain the trout habitat with a minimum flow. However, seven miles downstream from the national park boundary, the discharge of the Dion Holm Powerhouse on Cherry Creek augments the river. There are also natural increments from tributaries such as the south, middle and north forks of the Tuolumne, Jawbone Creek, Clavey River, Indian Creek and Big Creek. The upshot is that thirteen miles below Hetch Hetchy the Tuolumne gets its act as a river together again. It is big enough for kayaks, whitewater canoes and modified rafts at this point, and the fishing is excellent. Eight miles farther downstream, at Lumsden Campground, river runners confront eighteen incredible miles.

The dirt road that snakes down the steep southern wall of the Tuolumne Canyon to Lumsden is the last one seen until Ward's Ferry Bridge at the head of the Don Pedro Reservoir. It is easy to spend three days making the whitewater run between the roads and, because of the special challenge of the Tuolumne, feel as if you had been away for a week. In theory, the river can be run in a matter of hours. But the Tuolumne often spoils the best laid plans. Particularly during the high water of the spring runoff, it is relentless. One rapid blends into another. Only occasionally can a boatman find an eddy in which to catch his breath. Then, looking back upstream, the river seems like a white staircase descending the Sierra. At Clavey Falls it pounds through one of the West's undisputedly great rapids.

Even the most hardened whitewater veterans are stunned when they see

*Roderick Nash is professor of history and environmental studies at the University of California, Santa Barbara, and author of* Wilderness and the American Mind; *Robert Hackamack is a member of the Sierra Club's Northern California Regional Conservation Committee.*

Clavey Falls for the first time. Caused by the confluence of the Clavey River on the right side and a two-hundred-foot cliff on the left, the rapid begins with a fifteen-foot drop—a maelstrom of green and white water crashing over ominous black rocks. In a successful run boats drop over the falls inches away from dagger rocks on the left and right. And this is only the beginning of Clavey Falls. There is a cliff to slam, rocks to smash boats upon or wrap them around, "holes" ready to flip boats, ledges waiting to tear out their bottoms and, finally, a hundred yards of run-of-the-mill ten- to twelve-foot waves. Clavey is, as they say on the rivers, a "hummer."

Within a half-day's drive of fifteen million people, it is astonishing that the middle Tuolumne was not run until the 1960s. Kayaks pioneered, in 1965 and 1968, and in 1969 the first inflatable rafts challenged the Tuolumne. The following year saw the hesitant beginning of commercial river-running. In time came confidence and better equipment. The United States Forest Service, which regulates the runnable section of the Tuolumne, estimates that 6,500 persons, about equally divided between commercially guided parties and private groups, travel on the Tuolumne annually. With the Stanislaus River, just to the north, slated for submergence behind the bitterly contested New Melones Dam, the popularity of the Tuolumne as one of California's last runnable whitewater rivers will certainly increase.

Whitewater boating on the Tuolumne no sooner began than it appeared destined to end. On December 4, 1968, the San Francisco Public Utilities Commission released a report proposing more intensive use of the Tuolumne's "remaining power drop" for hydroelectric generating capacity. Indeed, the proposal was for near-total use. A new dam and reservoir were proposed for the river below O'Shaughnessy Dam near the Cherry creek confluence (see map). From there, water would be conducted by tunnel through Jawbone Ridge into the Clavey River six miles upstream from the Tuolumne and Clavey Falls. The water would then be channeled to a power plant located at the foot of Clavey Falls. A twelve-mile-long reservoir created by a dam at Ward's Ferry would complete the destruction of the last runnable section of the Tuolumne.

Initially the San Francisco proposal did not elicit much opposition. Most Americans did not know what was at stake. They assumed that the value of the Tuolumne as a recreational resource ended with the closing of the gates of O'Shaughnessy Dam. Few could correct this impression. River running was in its infancy as a sport. Only a few persistent fishermen and several kayakers knew firsthand about the wonders of the deep canyon in the Sierra foothills.

The Sierra Club, however, was instinctively suspicious of San Francisco's plans for the Tuolumne. Like the Alamo, Hetch Hetchy's loss was remembered. Indeed, recollection of that lost valley helped fuel the successful campaign against dams in Dinosaur National Monument in the 1950s and in the Grand Canyon of the Colorado a decade later. So when the first river-runners reported that there was a remarkable river worth protecting below Hetch Hetchy, the Sierra Club swung into action. The result was a publication by Robert W. Hackamack and Thorne B. Gray entitled *The Tuolumne River: A Report on Conflicting Goals with Emphasis on the Middle River* (1970) and a recommendation: instead of placing more dams in the Tuolumne watershed, the Club proposed to delete some. Eleanor Dam, built in 1918 on a tributary of the Tuolumne to generate power for the larger Hetch Hetchy

Galen Rowell

*Continued on page 16*

# Geothermal Energy Prospects and Limitations

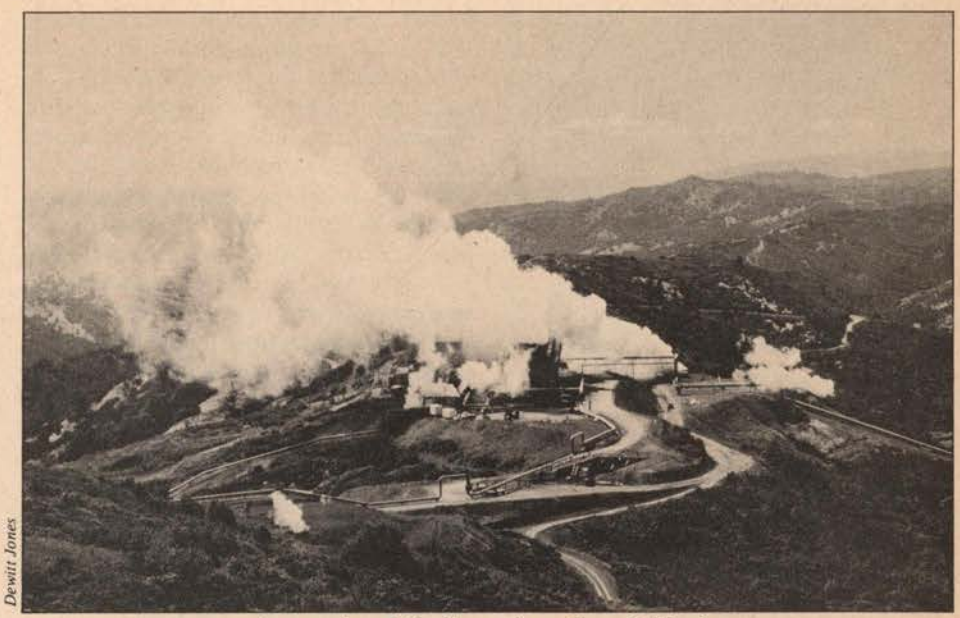
HAMILTON HESS

Clean energy from under the earth"—thus is geothermal power frequently hailed as a major, nonpolluting energy source for the future. *Geo-thermal* is *earth-heat* energy, an attractive concept proposed for such wide-ranging uses as space heating, industrial processing, hydroponics and the production of electric power. An immense storehouse of heat lies under the Earth's crust, more than enough to supply the total energy needs of mankind for the remainder of human history.

Although current production is small, geothermal energy is being used in a number of countries for both electricity generation and space heating. Italy has had a small geothermal field in production for sixty years. Other producing fields are located in New Zealand, Iceland, Japan, Mexico and the Soviet Union. Still other countries, including El Salvador, Chile, Ethiopia, Kenya, Turkey, Indonesia and the Philippines, are exploring their geothermal resources. The United States is the largest producer of geothermal energy, with 500 megawatts (MW) of electrical production at The Geysers in northern California, which provides 1.7 percent of the state's electricity needs.

Geothermal energy is regarded by many legislators and other government officials as a promising source for America's needs. The Geothermal Steam Act of 1970 opened the federal lands of the nation to geothermal-resource leasing. The federal Energy Research and Development Administration (ERDA) has been directed by the Geothermal Research, Development and Demonstration Act of 1974 to design a national program for geothermal energy development and to establish preliminary goals. ERDA's fiscal-year 1977 geothermal program budget is $45.5 million, with an estimated ultimate cost of $20 billion.

*Hamilton Hess is geothermal coordinator for the Sierra Club's National Energy Policy Committee.*



Dewitt Jones

*An overview of The Geysers in northern California, the only operating dry-steam field in the United States.*

A realistic appraisal shows that geothermal energy, like other sources, has its problems as well as its promises. Under currently known technologies, or those envisioned for the foreseeable future, the use of geothermal energy has distinct limitations. Heat energy is available from anywhere on the surface of the globe if you go deep enough. The difficulties lie in how you get there and how you bring the energy to the surface for practical application. The utilization of geothermal energy is now confined to regions where heat from the Earth's interior is unusually close to the surface and available for extraction in the form of naturally occurring hot water or steam.

The geothermal resource is tapped by means of wells drilled 4,000 to 10,000 feet into the earth. Steam delivered to the surface under natural pressures can be used directly to run turbines. If pressure is insufficient, hot water pumped to the surface can be used to heat a secondary substance—one with a low boiling point—thereby producing gas necessary to power the turbines. In some geothermal hot-water fields, the water, under great natural pressure, is superheated, remaining liquid so long as the pressure is maintained. But when brought to the surface, where pressures are lower, the water "flashes" to usable steam.

Although The Geysers in northern California is the only proven dry-steam field in the United States, hot-water reservoirs are known to occur in a large number of areas in the West. These natural heat-convection systems are being rapidly assessed for their commercial potential.

Approximately two million acres of land in the western states have been

**MORE INFORMATION ON GEOTHERMAL ENERGY**

Readers who want to learn more about the potential environmental costs of geothermal development should consult "The Benefits and Costs to Landowners from Geothermal Resource Lease and Development" (University of California, Division of Agricultural Sciences, bulletin #1876). Coauthored by Stephen O. Anderson of the Sierra Club research department and L. T. Wallace, director of the State Department of Food and Agriculture, the pamphlet is available at no charge by writing to: Publications, Division of Agricultural Sciences, University of California, 1422 S. 10th St., Richmond, CA 94804.

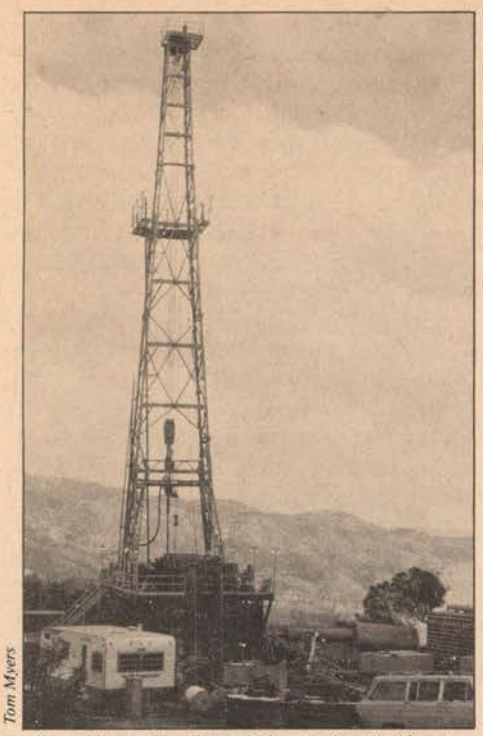


classified by the United States Geological Survey (USGS) as being within "known geothermal resource areas." An additional 100 million acres are designated as having prospective value for geothermal resources. The states involved are Alaska, Arizona, Arkansas, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, South Dakota, Utah, Washington and Wyoming. Those of highest potential are Alaska, California, Idaho, Nevada and Oregon.

Estimates of producible energy from geothermal systems in the United States vary greatly, but a recent study by the USGS has received wide acceptance. The most attractive geothermal reservoirs have temperatures above 300° F, and total productivity for reservoirs of this type, expressed as potential electrical energy, is estimated at about 26,000 MW for thirty years. About half this energy is considered to be producible with current technology and economical at current production costs. High-temperature resources in undiscovered systems are estimated to total 126,700 MW for thirty years, bringing the total of known and anticipated geothermal resources to 153,000 MW for thirty years.[1] The time factors included in these estimates are necessary because exploitable geothermal resources are finite, due to fluid or steam depletion, heat depletion, or both. The common estimate for the producing life of a geothermal field at full development is thirty to fifty years.

While geothermal convection systems can make a significant contribution to the nation's energy supply, their productivity over time is limited, and for this reason they can be regarded only as an interim supplement to other energy sources. The relatively minor role that geothermal energy can be expected to play is illustrated by a comparison of the thirty-year productivity capacity given above with the anticipated energy consumption of the United States a little over two decades from now. Current projections of the average annual growth rate of energy use in the United States range from 1.3 to 5.8 percent. Based on these estimates, the total national energy need in the year 2000 would be between 100 and 145 quadrillion BTU,[2] roughly twice the national consumption of energy in 1970. Expressed in terms of electrical generating capacity, the potential to supply this energy demand would be about three to five million MW. The estimated geothermal output of 153,000 MW could therefore meet only about three to five percent of the total energy need. Assuming that electricity will provide approximately forty-two percent[3] of the nation's total energy supply in the year 2000, geothermal resources could supply only about seven to eleven percent of the national electrical output.

Geothermal energy cannot be transported. It must be used or converted to electrical energy close to the site of production. Fields in the United States with commercial potential are for the most part in regions far from the centers of major energy use. In some cases, industrial energy users might be able to relocate close to geothermal areas, but otherwise the electricity produced may have to be transmitted several hundred miles to the areas of demand. This factor will inevitably further reduce the national significance of geothermal energy, although California, Nevada, Idaho and Oregon may realize a considerably higher percentage of electrical supply, space heating, and industrial heat from geothermal sources than other states. California, for example, may be able to produce



Tom Myers

*A geothermal well near Clear Lake, California, a few miles from The Geysers.*

19,200 MW of electrical energy for thirty years,[4] or twenty percent of an estimated demand of 94,800 MW in the year 2000.[5]

Other means for exploiting earth-heat energy, in addition to natural convection systems, are also now being proposed. "Geopressured" zones, which have immense quantities of superheated fluids under high pressure, have been discovered both onshore and offshore along the Gulf Coast. The recoverable combined energies from heat, mechanical energy and methane contained in these fluids is estimated by USGS to be 144,490 MW for thirty years,[6] or six percent of the nation's electrical needs in the year 2000.

There may also be a number of "dry hot rock" areas having higher than normal heat located relatively close to the earth's surface. Technology to utilize heat from hot rock is being explored at the University of California Laboratory at Los Alamos, New Mexico. The extraction of energy present in normal heat flow through the earth's crust has also been seriously suggested, but at best lies in the distant future.

The attractiveness of earth-heat energy is somewhat tarnished by the environmental problems that accompany its development and production under today's technology. Many may be overcome with time, but the current push for rapid development should be viewed cautiously. A number of prime locations for prospective geothermal development are in regions of exceptional environmental sensitivity, including Long Valley in Mono County, California; Double Hot Springs and the Black Rock Desert in Nevada; and the Alvord Desert in Oregon. The Sierra Club and other organizations are active in opposing geothermal development in these areas and in seeking measures for protecting their natural, scenic and cultural values. Other environmentally critical regions have also been proposed for geothermal-resource exploration. Among these are Saline Valley and the Upper Pitt River Basin in California, Ruby Valley in Nevada, and Gillard Hot Springs in Arizona.

The phenomenon of accessible heat energy occurs along the junctures of the earth's crustal plates and in regions of geologically recent volcanic activity. Volcanic areas are frequently characterized by scenic mountains, hot springs, unusual geological features, and forest lands nourished by rich volcanic soil. For this reason, geothermal resources are commonly found in conjunction with other competing values, with which their development and its impacts may be incompatible.

It is perhaps unfortunate that several sites of current interest for geothermal-resource production are located in areas where conflicts with environmental values have already become sharply focused. The conflicts have appreciably impeded the speed of geothermal development, but at least they have forced government and the energy industry to address the environmental problems of geothermal energy early in its history. In the long run, this early confrontation may serve to advance the pace of development by a more rapid reduction of adverse effects. Opposition to the development of geothermal resources in regions of exceptional natural and scenic interest has been absent with respect to other areas, where projects for resource exploration and development are proceeding without challenge: for example, at several sites in the Imperial Valley in California, at Roosevelt Hot Springs in Utah, and at other locations in several other states.

It is certain, however, that controversies over geothermal development projects will continue to arise. Fifty-eight percent of the known or prospective geothermal-resource lands in the United States are federally owned, and current mechanisms for geothermal

leasing decisions are not adequately structured for public involvement in issues of land use and impact mitigation.

A geothermal field is an industrialized area during both its development and production phases. Operational noise from drilling rigs and other heavy equipment, the noise of steam escaping at high pressure, service roads for wells and generating units, networks of steam or hot-water gathering lines, power plants and cooling towers, plumes and columns of steam from a variety of sources: all of these effectively combine to make a geothermal-development area heavily industrial. The acceptability of the industrial presence depends upon the locality involved.

Geothermal-resource production now requires an extensive commitment of land. On the basis of average well-spacing and productivity, twelve to fifteen square miles of land are required (for wells, pipelines and power plants) for every 1,000 MW of electricity produced. In hilly or mountainous terrain extensive cut-and-fill operations are required. It has been estimated that twenty percent or more of the land surface in a geothermal field may ultimately undergo alteration, with accompanying vegetation removal, loss of wildlife habitat and exposure to erosion.

The most serious adverse environmental effects resulting from geothermal operations have been erosion and siltation, air and water pollution, and noise. The major cause of air pollution is the emission of noncondensible gases contained in geothermal brines or steam. At The Geysers, twenty-four tons of hydrogen sulfide are emitted to the atmosphere daily. Hydrogen sulfide is a toxic gas characterized by a rotten-eggs odor and capable of damaging vegetation and causing harmful physical and psychological symptoms in humans at low concentrations.

The pollution of surface waters resulting from spillage of drilling muds, geothermal brines and steam condensate has been a recurrent problem at The Geysers and is a constant hazard in a geothermal field. In an operating field, geothermal fluids are produced by the millions of gallons daily, and they normally contain toxic substances such as ammonia, arsenic, boron and mercury.

Other possible environmental hazards include groundwater contamination; land subsidence following fluid withdrawal; seismic activity induced by the reinjection of geothermal fluids; uncontrollable blowout; pollution of surrounding lands by chemical depositions from materials in cooling-tower steam emissions; detrimental effects upon plant and animal life through water and land pollution; and climatic modification in enclosed air basins caused by vapor emissions and ejected heat.

Promoters of geothermal energy frequently compare its hazards with those of nuclear power and its impacts with those of a coal-burning power plant. In many respects geothermal energy is preferable, but its own drawbacks and problems have to be solved before it can be proclaimed as a "clean" alternative.

The geothermal-energy policy statement revised and adopted by the board of directors of the Sierra Club on May 2, 1976, recognizes both the benefits and the problems of geothermal energy, and urges a carefully controlled national program for development that considers the needs for environmental protection and balanced land-use values, as well as the need for alternative energy sources.

In considering geothermal energy as an alternative, it is necessary to recognize that its probable rate of depletion makes it a short-term resource and that its proportionate contribution to the energy supply will be in any case relatively small. A slower rate of withdrawal, for example, would extend the longevity of the resource, but would also reduce its output. The utilization of natural deposits of hot water and steam will likely be of only moderate significance as an interim measure. Some of the more advanced concepts of earth-heat extraction, however, may prove to be of great importance in the distant future.

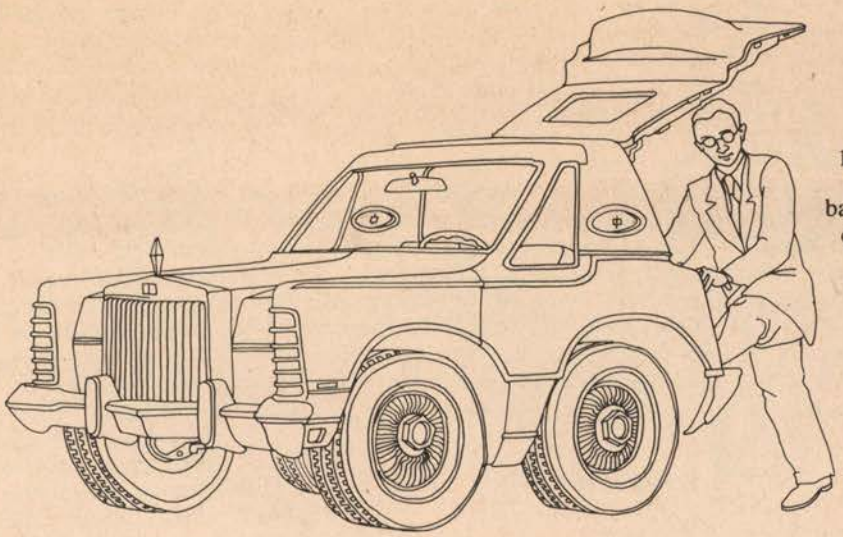
## NOTES

1. Figures cited are from USGS Circular 726, *Assessment of Geothermal Resources of the United States—1975.*
2. "A National Plan for Energy Research, Development and Demonstration: Creating Energy Choices for the Future."
3. "Energy and the Environment: Electrical Power," Council on Environmental Quality, 1973.
4. USGS Circular 726, p. 108.
5. Extrapolated with utility growth rate projections from the 1995 demand estimate of 74,807 MW in "Summary of 1976 Electrical Utility Forecasts of Loads and Resources," State of California Energy Resources Conservation and Development Commission. May 24, 1976.
6. USGS Circular 726, p. 151.

# FALSE STARTS IN DETROIT

## (You won't see these lemons in your showroom.)

ART HOPPE and STEVEN JOHNSON



Illustrative of the auto makers' initial thinking was this early projected version of a 1977 Lincoln Corto. It employs the technological principle of longitudinal maximinimization to achieve compactness without giving up either the prestigious look or the high horsepower that Lincoln owners demand.

While retaining the 460-cubic-inch, four-barrel V-8 engine of the 1976 model, design consultant Warren (Dutch) Hanrahan simply shortened the wheel base to 39.2 inches, less than that of the Volkswagen Rabbit. Lincoln officials had high hopes for this seemingly adequate solution until a market-research study indicated that 98.3 percent of American motorists would adamantly refuse to accept a sedan without at least two doors.

**Lincoln Corto**

With whirling searchlights, beaming smiles and carnations in their buttonholes, the nation's auto makers have unveiled their all-new, 1977 models, each heralded as The Great American Car designed to be released during this, our Bicentennial Year. The reaction of the motoring public was perhaps best summed up by Hector Woolsey of Falls Church, Virginia, who, after visiting nine dealers' showrooms, said glumly, "I didn't even bother to kick the tires."

The Great American Car the motoring public has demanded for years, of course, is a small, roomy, gas-saving, high-powered automobile with a low price tag and a plethora of chromium-plated accoutrements to enhance its owner's sense of status, and incidentally, security on the highway.

With the quality of the environment at stake, patriotic motorists were more than willing to accept a compact car that offered thirty-five miles to the gallon and a smog-free exhaust system—just as long as they didn't have to sacrifice roominess, comfort, a massive grille and an engine that would take them from zero to sixty in ten seconds flat. That was the clear-cut challenge Detroit faced once again in this Bicentennial Year. Once again, Detroit failed to meet it.

The problem was not lack of intent. ("God knows we tried," said one General Motors executive with a touch of bitterness.) During the past year, thousands of imaginative designs flowed from the drawing boards in a feverish effort to produce what the public demanded. Yet each, for one arcane reason or another, proved impractical. In fairness to the auto makers, here is a smattering of these aborted attempts.

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*Art Hoppe's satires appear daily in the* San Francisco Chronicle *and 100 other newspapers across the country. Steven Johnson's environmental cartoons have been featured often in the* Bulletin, *as well as other publications.*

**Cadillac Coupe de Grille**

It was Cadillac ("The Standard of the World") that first applied both longitudinal and latitudinal maxi-minimization. Shortening the length of its 1976 models proved no problem. Narrowing the width by 27.4 inches, however, required narrowing the sparkling, heavily chrome-plated front end by a like amount. At first, this seemed an overwhelming obstacle to consumer acceptance. *"After all,"* said General Motors' consulting psychologist, Dr. Herman Fishbein, *"why else does anyone buy a Cadillac?"* But a design task force, working around the clock for three months, eventually scored the breakthrough shown here—the 1977 Cadillac Coupe de Grille. A pilot model was tested for eight days in the Los Angeles area. In that time, it was ticketed twice for parking illegally in parallel zones and caused several nasty accidents on the Ventura Freeway when other motorists, upon glancing out their right-hand windows, swerved with undue haste to avoid side-on collisions. At this point, the U.S. Bureau of Automotive Safety obtained a cease-and-desist order from Federal Judge Albert Swinnerton and the project was regretfully terminated.

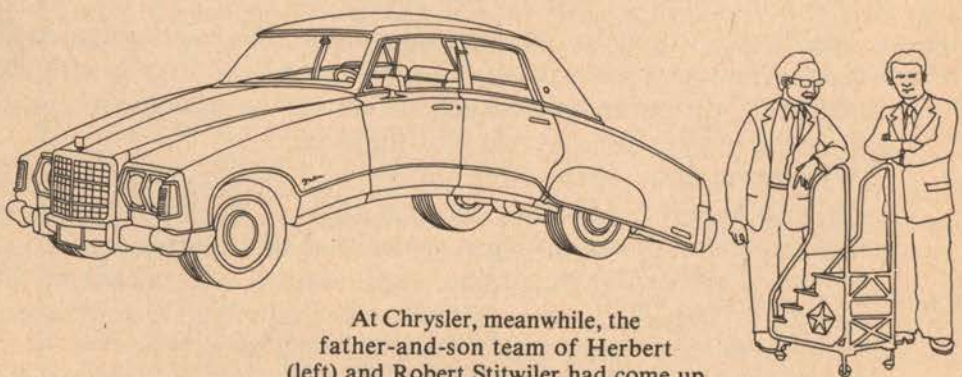
With the dismal failure of their attempts to create The Great American Car in our Bicentennial Year, it was back to the old drawing board for the nation's auto designers, who even now are creating mock-ups of the 1978 models. What they have in store for us cannot definitely be known. Most industry analysts agree, however, that the closest Detroit has yet come to meeting the demands of the environment-conscious American motorist was the innovative Chevette. Here was a small, economical, gas-saving, no-frills car. Unfortunately, it lacked a large bumper, four headlights, room for eight passengers and an engine that went, "Va-room! Va-room!" Sales were disappointing.

Nevertheless, General Motors plans to continue production of the Chevette as its contribution to a more beautiful America. The new model will, of course, incorporate "minor design changes."

The aforementioned, somewhat-bitter G.M. executive declined to confirm the authenticity of the pirated photograph above, which purports to show the 1978 Chevette 2. All he would say was, *"If we can't give the public what they like, we'll give 'em, by God, what we like!"*

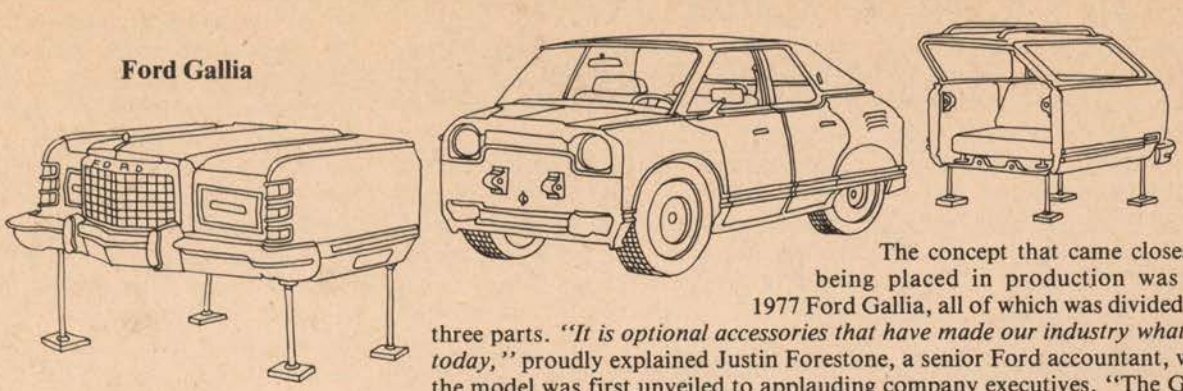

**The Chevette 2**

**Chrysler New Yorker Crescent**



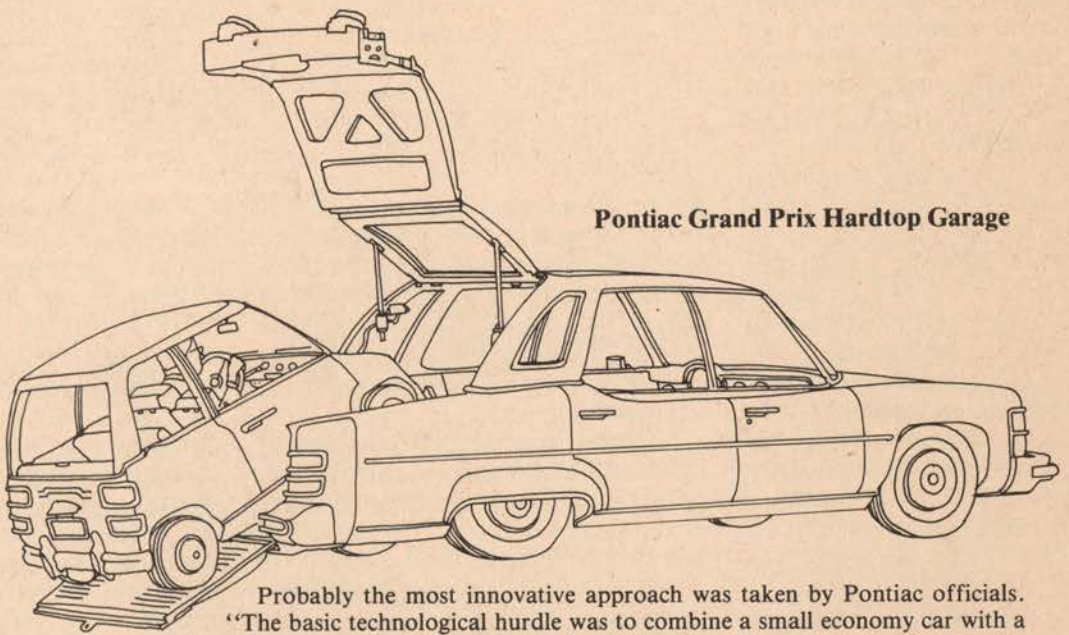
At Chrysler, meanwhile, the father-and-son team of Herbert (left) and Robert Stitwiler had come up with an ingenious application of longitudinal maximinimization in this mock-up of a 1977 New Yorker Crescent. *"We realized that the longest distance between two points is a curved line,"* explained the elder Stitwiler. *"Thus, by arching the frame, we were able to reduce the wheel base 19.4 inches without sacrificing roominess, comfort, or stability. Moreover, this design provided easy access for under-body maintenance."* It was not so much the inconvenience of the portable boarding steps (an optional accessory) that caused the project to be abandoned as it was the tendency of the curved drive shaft, when rotating more than 30,000 revolutions per minute, to emit what one automotive analyst described as "strange noises."

**Ford Gallia**



The concept that came closest to being placed in production was this 1977 Ford Gallia, all of which was divided into three parts. *"It is optional accessories that have made our industry what it is today,"* proudly explained Justin Forestone, a senior Ford accountant, when the model was first unveiled to applauding company executives. "The Gallia is the ultimate in its field." The basic unit with its four-cylinder engine achieved the compactness, fuel economy and low price tag the public had long demanded of Detroit. Employing an advanced link-up device that was a technological spin-off from the Apollo-Soyez space mission, the driver, by careful maneuvering, was able to lock on to the ornate hood accessory which contained its own four-cylinder engine, thus doubling the car's horsepower and prestige for trips to country clubs and restaurants with valet parking. This left only the challenge of roominess, one easily solved by the purchase of the rear-end station wagon accessory shown here. This, then, appeared to be The Great American Car at last—small, roomy, gas-saving, high-powered, low-priced and prestigious. After market-testing fourteen models, however, Ford executives reluctantly decided to stick with their traditional, one-piece, eight-cylinder $7,500 Country Squire station wagon. It was not so much the difficult maneuvering involved (this required driving forward into the garage to pick up the front accessory, backing out, turning around, and backing in again to pick up the rear accessory), as the fact, proved conclusively by the studies, that once American motorists had locked on their accessories, they would be psychologically incapable of releasing them.

**Pontiac Grand Prix Hardtop Garage**



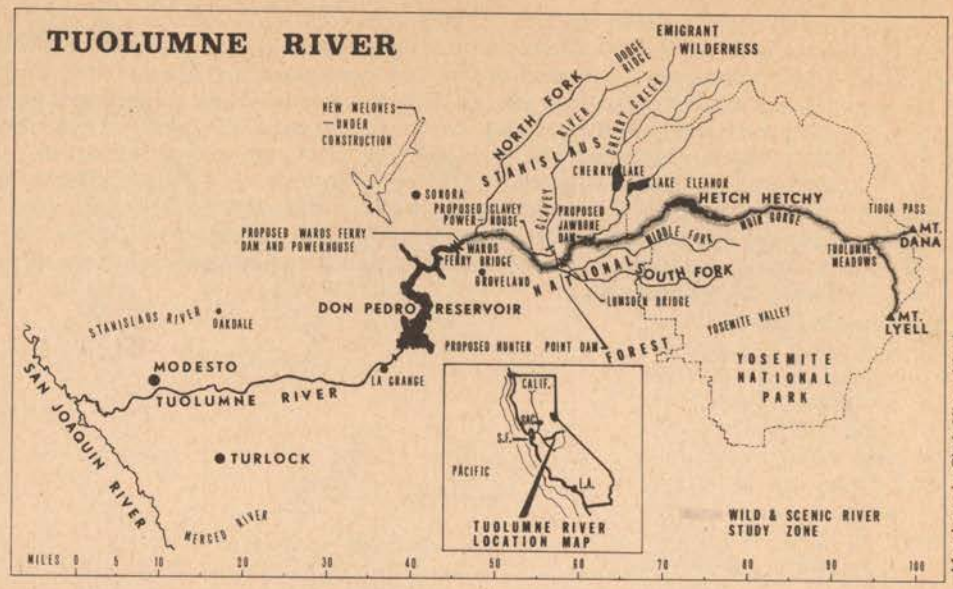
Probably the most innovative approach was taken by Pontiac officials. "The basic technological hurdle was to combine a small economy car with a large luxury car," said the company's chief engineering analyst, Godfrey Jonah. "While other designers have long attempted to build the features of a large luxury car within the confines of a small economy car, we saw at once that the challenge was insuperable. So we simply reversed the process." The result was this 1977 Pontiac Grand Prix four-door hardtop garage. Parked permanently in front of the owner's home in full view of the neighbors, the Grand Prix offered what Jonah termed "the zenith in low fuel consumption" due to its lack of an engine. For trips, the hatchback raised and a ramp descended automatically, thus enabling the small economy car it contained to back out and be on its way in a jiffy. While the concept looked good on the drawing board, tests in several urban areas showed that the Grand Prix not only required a parking place for itself, but an empty parking place behind it to permit the egress of the small economy car it contained. This resulted in numerous altercations and the filing in Chicago of an assault-and-battery complaint. *"I still feel strongly that this problem can be licked,"* said Jonah, but he declined to speculate on precisely how.

Tuolumne *(Continued from page 8)*
project, could, it was argued, be removed without great loss to anyone. Some went further. Michael McCloskey, Sierra Club executive director, made San Francisco headlines with the suggestion that O'Shaughnessy Dam be removed and the Tuolumne allowed to return to its ancestral course through Hetch Hetchy. "We've already had the experience of reclaiming logged-over land for parks," McCloskey reasoned. "We think it's time the same concept be applied to dams." McCloskey's position drew force from the fact that the new Don Pedro Dam, completed in 1971 on the lower Tuolumne, could provide all the flood-control and irrigation services expected by residents of the San Joaquin Valley. And San Francisco could explore alternate sources of municipal water supply including waste-water recycling and drawing from the Sacramento-San Joaquin Delta. It was also possible to think the unthinkable: use less.

The proposal for more development on the partially harnessed Tuolumne focused the accelerating debate on land use and quality of life in California. In terms of traditional priorities, new questions were being asked. "What I want to know," newly appointed San Francisco Public Utilities Commissioner Lydia Larsen asked at a Tuolumne hearing in July 1976, "is do we need more power, and what for, and who will pay for it, and are those the same people who will benefit from it?" One of the new breed of citizen-oriented utility officials, Larsen pinpointed widespread public uneasiness about continuing growth and development. Real social progress, many felt, would increasingly be measured not by what was changed but by what was left alone. Keeping, not conquering, the remaining pieces of the Tuolumne seemed a contribution to the quality of life. And for almost the first time in American history that seemed at least as important as quantity.

On January 3, 1975, the controversial middle stretch of the Tuolumne was designated a "study" river under an amendment to the federal Wild and Scenic Rivers Act. Ensuing public hearings, conducted during the death throes of the Stanislaus, revealed overwhelming support for protection. A federal study team will make its recommendation early in 1977, and Congress will have the final word, probably not before 1980. Meanwhile the hydropower interests stepped up their campaign. In June 1976 the Modesto and Turlock irrigation districts filed an application with the Federal Power Commission for a three-dam, $473-million complex on the Tuolumne. San Francisco joined the application in September, with Commissioner Larsen dissenting. The proposals rested on suspicious and self-serving benefit-cost ratios that drew heavily on air conditioning and other peak-power uses, which many felt constituted insufficient reasons for completing the destruction of the Tuolumne as a living river. Representative of the developers' point of view was the statement of Oral L. Moore, general manager of the Hetch Hetchy system. "As I see it," opined Moore, "it's just another hot canyon—a kind of Disneyland." Larsen, on the other hand, opposed the project because the "sole reason for . . . it is to make money."

Looming over the determination of the future of the last runnable whitewater on the Tuolumne is the memory of the drowned Hetch Hetchy Valley. The 1913 decision to build a dam there closed options. Four other major dam-powerhouse complexes similarly curtailed choices in other parts of the watershed. Protection of the free-flowing Tuolumne below the Hetch Hetchy keeps options open. If the agribusinesses and utility conglomerates ever become so starved for water, energy and revenue that it seems in the nation's interest to complete the conquest of the entire Tuolumne, that possibility still exists. But if, on the other hand, wild rivers continue to win friends and favorably influence the quality of people's lives, the middle Tuolumne will still be dancing in the sun. In defending the freedom to make such a choice, contemporary defenders of the river only echo the 1909 wisdom of Sierra Club leader William Colby. "What I am opposed to," Colby declared, "is the determination right now that the Hetch Hetchy shall be flooded fifty years from now. I feel that the decision ought properly to be reserved for those who live fifty years hence. We surely can trust that their decision will be a wiser one than any we can make for them."



*Map drawn by Clyde Himmelsbach.*

A final truth must not be forgotten in deciding the future of the Tuolumne. There is nothing inherently wrong with dams and hydropower installations. We all are the beneficiaries of these things. But of every new proposal involving the loss of living rivers society must ask if the increased benefits of extending the control of technological civilization really compensate for the loss to our culture of an increasingly rare wildness. This should be the ultimate cost-benefit analysis. Performing one is never simple given the diverse priorities in American society, but surely the intensity of civilization in a given region is an important determinant. Dammed rivers and flatwater reservoirs are common in California. The whitewater Stanislaus is apparently doomed. Much of the Tuolumne is already dammed. The preservation of the magnificent pieces that are left should be an imperative that the state and the nation cannot ignore.

SCB

# What Do You Know About Population?

JUDITH KUNOFSKY

1. **What is the population of the world today?**
   (a) 4 million (b) 40 million
   (c) 400 million (d) 4 billion
   (e) 40 billion

2. **What is the population of the U.S. today?**
   (a) 50 million (b) 150 million
   (c) 220 million (d) 400 million
   (e) 4 billion

3. **Approximately how many Americans lived in the 13 colonies in 1790?**
   (a) 40,000 (b) 1 million
   (c) 4 million (d) 30 million

4. **Which of the following countries has the most people? How many?**
   (a) China (b) Soviet Union
   (c) Brazil (d) United States
   (e) India

5. **Which region has the highest birth rate?**
   (a) Africa (b) Asia
   (c) North America
   (d) Latin America (e) Europe
   (f) Soviet Union (g) Oceania

6. **Which region has the highest rate of population growth?**
   (a) Africa (b) Asia
   (c) North America
   (d) Latin America (e) Europe
   (f) Soviet Union (g) Oceania

7. **How many people are likely to be alive in the world in the year 2000, according to the United Nations' "moderate level" projection?**
   (a) 4 billion (b) 4.5 billion
   (c) 6.3 billion (d) 10 billion
   (e) 12 billion

8. **If current trends continue, what will the U.S. population be in the year 2025, according to the Census Bureau?**
   (a) 150 million and declining
   (b) 220 million and constant
   (c) 240 million and growing very slowly
   (d) 300 million and growing
   (e) 500 million and doubling every 70 years

9. **Which of the following is true?**
   (a) The U.S. has reached zero population growth (z.p.g.)
   (b) The U.S. has not reached z.p.g., but is close
   (c) The U.S. will reach z.p.g. approximately at the end of this century
   (d) The U.S. will not reach z.p.g. in most of our lifetimes

10. **What portion of the current U.S. population growth is due to immigration?**
    (a) 25% (b) 18% (c) 12%
    (d) 5% (e) 1%

11. **Which has not been a major cause of the population explosion?**
    (a) modern preventive medicine
    (b) increased birth rates
    (c) improved sanitation
    (d) lower infant mortality
    (e) longer life span
    (f) all of the above

12. **Match the following countries to the percentage of births in that country which are to teenage women:**

| | |
|---|---|
| (a) United States | (1) 1% |
| (b) Japan | (2) 3½% |
| (c) France | (3) 6% |
| (d) West Germany | (4) 9% |
| (e) Egypt | (5) 11½% |
| (f) Mexico | (6) 15½% |
| (g) Venezuela | (7) 17% |
| (h) Jamaica | (8) 17½% |

13. **The low average family size in the U.S. during the 1930s Depression resulted from a higher percentage of women having zero or one child than has been true more recently. Of women born between 1900 and 1910, what percentage had no children?**
    (a) 2% (b) 7% (c) 12%
    (d) 23% (e) 41%

    **What percentage had exactly one child?**
    (a) 1% (b) 6% (c) 12%
    (d) 21% (e) 36%

14. **What do the following people have in common?**
    Hans Christian Andersen, Jean Paul Sartre, William Randolph Hearst, Shirley Jones, Franklin D. Roosevelt, and Queen Victoria

15. **Between 1970 and 1975, U.S. population increased by approximately 6%. During that period there was a substantial difference in the growth rates of different states. The fastest growing state was Arizona, whose numbers increased in those five years by:**
    (a) 75% (b) 45% (c) 25%
    (d) 15% (e) 8%

16. **Seven of the twelve fastest-growing urban areas in the country between 1970 and 1974 were in Florida. The "leader" was the Fort Myers metropolitan area, with an increase of approximately:**
    (a) 75% (b) 45% (c) 25%
    (d) 15% (e) 8%

17. **A household is any number of people living together, and housing needs are a function of the number of households as well as the total population. There are now about 71 million households in the United States. What percentage of these consist of one or two people?**
    (a) 10% (b) 25% (c) 50% (d) 60%

    **How many Americans live alone?**
    (a) 1 million (b) 4 million
    (c) 14 million (d) 24 million

18. **The Census Bureau's "medium level" estimate predicts an increase of about 14% in the U.S. population between now and 1990. The expected increase in households between now and 1990 is at least:**
    (a) 6%, up to 75 million households
    (b) 14%, up to 81 million households
    (c) 27%, 90 million households or more
    (d) 82%, 129 million or more households

19. **What percent of all births in the United States between 1966 and 1970 were unplanned?**

20. **A study by the Council on Environmental Quality, published in April 1974, estimated the relative costs of a high-density planned community and a low-density sprawl community, each housing the same number of people. How much energy and water can be saved, and how much land left untouched, in the high-density community compared with the other?**
    energy: (a) no savings
    (b) 15% savings
    (c) 44% savings
    (d) 76% savings
    water: (a) no savings
    (b) 20% savings
    (c) 35% savings
    (d) 50% savings
    land: (a) 30% savings
    (b) 50% savings
    (c) 80% savings

**For answers, see page 18.**

*Judith Kunofsky is the Sierra Club's specialist on population problems.*

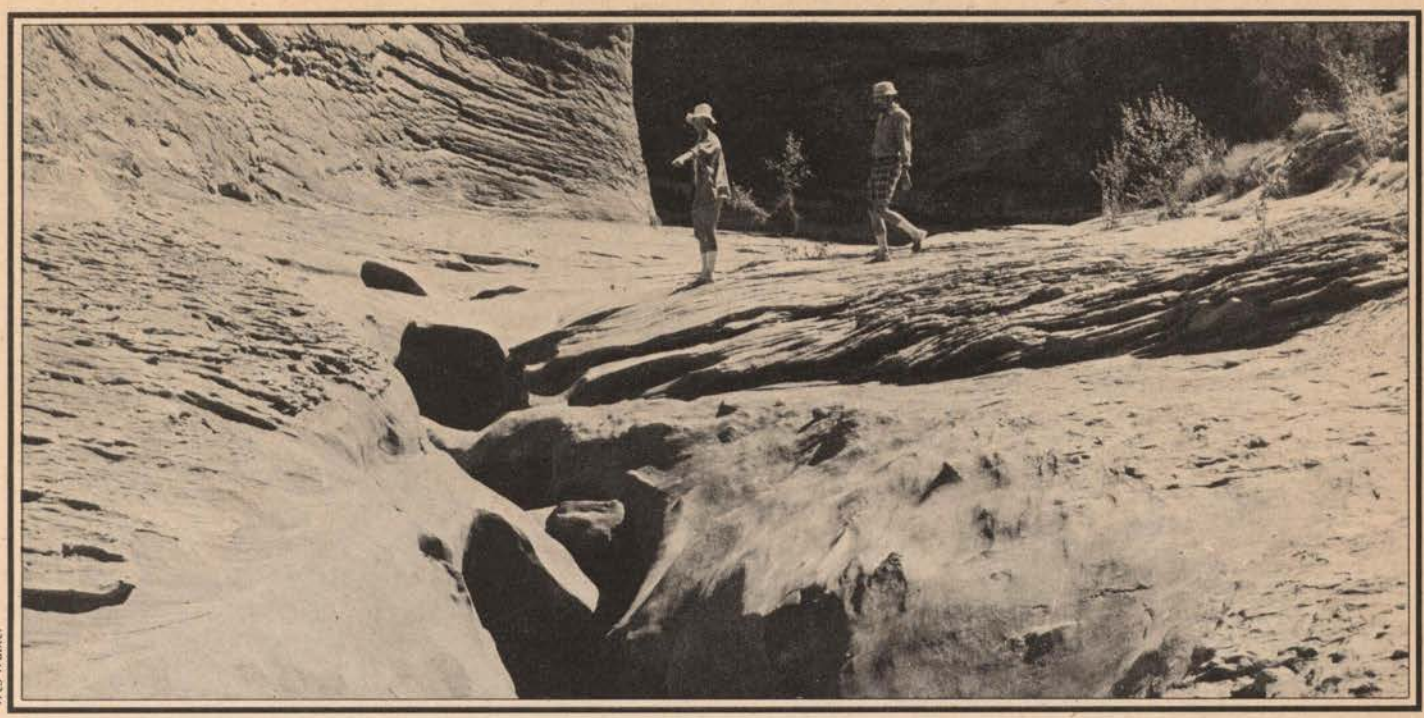
**Answers to Population Quiz, from page 17.**

1. (d) 4 billion, though no one knows exactly how many people are alive.
2. (c) 220 million. The U.S. Bureau of the Census estimates that U.S. population in mid-1976 is 215.7 million. To this must be added the 5.3 million people missed in the 1970 census and an unknown number of illegal aliens who have entered since 1970.
3. (c) 4 million. The first U.S. census, taken in 1790, counted 3.9 million Americans. In 1776, the non-Indian population of the thirteen colonies was 2.6 million. The population was growing very rapidly at that time due to high fertility and immigration.
4. (a) China is the most populous country in the world. Estimates of its size range from 837 million to 930 million. The population of the other countries listed was, as of mid-1976: India, 621 million; Soviet Union, 257 million; United States, 220 million; Brazil, 110 million.
5. (a) Africa is the region with the highest birth rate—46 births per 1,000 population per year. The lowest birth rates are in North America and Europe—15 births per 1,000 per year.
6. (d) Latin America, at 2.8% population growth per year. Its population of 326 million is likely to be 606 million in the year 2000. While the birth rate in Latin America is about 37 per thousand per year, less than that of Africa, the death rate is substantially lower than Africa's, leading to a higher rate of population growth. Rate of population growth = birth rate - death rate + immigration rate - emigration rate.
7. (c) 6.3 billion. This projection assumes that family size in the less-developed countries will decline by 31% in the next 25 years and that mortality will continue to decline. The high and low estimates for the year 2000 are, respectively, 6.6 and 5.8 billion.
8. (d) 300 million and growing. The "current trends" assumed are an average of 2.1 children per woman, and net annual immigration of 400,000.
9. (d) z.p.g. is not in sight. Zero population growth is a condition in which the population neither grows nor declines. It occurs when births + immigrants = deaths + emigrants. U.S. population grew by more than 1.7 million in 1975.
10. (a) 25%. The U.S. population growth in 1975 was a result of 3.1 million births, 1.9 million deaths, and net immigration of 500,000. Even though American families are now smaller than they were a decade ago, two factors keep our population growing: first, the children of the "baby boom" are now becoming parents, and even the fewer children per couple is not counteracting the effect of more couples. Second, without immigration, an average family size of 2.1 *eventually* ends population growth, once the effect of conditions such as baby booms has ended. With any level of immigration, however, family size must be correspondingly lower.
11. (b) Increase in birth rates has not been a major cause of the population explosion. Family size has not become larger, but mortality has declined, causing an increase in growth rates.
12. (a) United States (7) 17%
    (b) Japan (1) 1%
    (c) France (3) 6%
    (d) West Germany (4) 9%
    (e) Egypt (2) 3½%
    (f) Mexico (5) 11½%
    (g) Venezuela (6) 15½%
    (h) Jamaica (8) 17½%

    The number of children born to teenage women in countries such as Egypt is higher than in developed countries, but is offset by the still higher fertility at older ages. Nevertheless, the United States is the *only* developed nation to have such a high proportion of teenage fertility, as well as a low age at marriage.
13. (d) 23% had no children and (d) 21% had one child. The post World War II baby boom was caused not just by an increase in families with three and four children, but also by a substantial decrease in those having fewer than two children.
14. Each is an "only child." Approximately one in twenty Americans—more than ten million people—is (or was) an only child. The popular image of America's reproductive history (everyone marrying and having many children) is simply wrong. Other famous "onlies" include symphony conductor Antonia Brico, former Chief Justice Charles Evans Hughes, quarterback Roger Staubach and author Robert Louis Stevenson.
15. (c) 25%. The actual increase was 25.3%, up to 2.2 million. The nearest competitor was Florida, with a five-year increase of 23% and a 1975 population of 8.4 million.
16. (b) 45%. The Fort Myers, Florida, metropolitan area increased by 46.4% in only four years.
17. (c) 50% of the households consist of one or two people, according to a Census Bureau report issued in March 1976. In 1975, almost 14 million people (c) lived alone. Of these, 51% were individuals over 65. These figures, which reflect a drop in average number of persons per household from 3.33 in 1960 to 2.94 in 1975, result from a variety of trends: declining average family size, increased divorce and marital separations, increasing percentages of young people not marrying, and greater likelihood of older people living alone.
18. (c) 27%. The number of households is rising much faster than the population, primarily because of the World War II baby boom, which began in 1947 and reached the peak number of births in 1957 before starting to decline. These Americans are now from 19 to 29 years old, the prime ages for household formation.
19. 44% of all births in the U.S. between 1966 and 1970 were the result of unplanned pregnancies. This does not, however, mean that the couples were not intending to have a(nother) child, only that this pregnancy occurred earlier than desired.
20. A high-density planned community can save (c) 44% of the energy and (c) 35% of the water compared with a low-density sprawl community. More than (b) 50% of the land in the high-density planned community can remain completely undeveloped; all the land is at least partially developed in the other.

*"Population Quiz" is a regular feature of* Population Report, *the Sierra Club's free monthly newsletter on population issues. Write: Editor,* Population Report, *530 Bush Street, San Francisco, CA 94108. Please give your membership number.*

# 1977 Sierra Club Outings



Wes Walker

## Spring Trips

As usual, the Spring Outings will be concentrated in the desert and canyons of the Southwest and Mexico. But don't forget the other trips, wilderness outings by canoe in the Okefenokee and Dismal Swamps, camping on Hawaiian beaches, ski-touring in Colorado or the Adirondacks, and leisurely boat trips off the Mexican coast.

Sierra Club trips average from 12 to 30 members, and are generally organized on a cooperative basis: trip members help with the camp chores including food preparation and cleanup under the direction of a staff member. First-timers are often surprised at the satisfaction derived from this participation. To determine which outing best fits your needs, read the following trip descriptions carefully and see "For More Details on Spring Outings." Reservation requests are being accepted now for all spring trips. See "Reservations for Sierra Club Trips."

**(46) Cinnamon Bay, St. John, U.S. Virgin Islands—January 22-30.** Leader, Fred Sawyer, 567 High Rock St., Needham, MA 02192. Cost $235.

Relax on a picture-postcard beach, swim or snorkel in the clear warm waters of the Caribbean or explore lush tropical forest. Air fare and boat rentals are not included in the trip price.

**(22) Talchako Snowshoe Base Camp, Tweedsmuir Park, British Columbia—February 7-17.** Leader, Gary Miltenberger, General Delivery, Hagensborg, British Columbia. Cost $310.

Talchako Lodge, in the heart of British Columbia's Coast Range, will serve as our base for daily excursions to explore the Bella Coola winter wonderland.

**(23) Natural History of Sierra de la Victoria and Cerralvo Island, Baja California, Mexico—February 7-18.** Instructor, Pierre C. Fischer; leader, John Ricker, 2950 N. 7th St., Phoenix, AZ 85014. Cost $435.

We will drive south to La Paz and take a two-day hike with pack animals up the flank of the Sierra de la Victoria. Then, boats will take us to a rugged, arid, mountainous, uninhabited island . . . Cerralvo, in the Gulf of California.

**(24) Easter Week on Molokai, Hawaii—April 1-10.** Leader, Gordon Peterson, 1776 Vining Dr., San Leandro, CA 94579. Cost $195 plus air fare.

We will be transported by small boat to a remote beach where we can ride a rubber raft, or swim to the shore. We can spend our days swimming, snorkeling, hiking the valley, or lying on the beach.

**(25) Mazatzal Wilderness, Mazatzal Mountains, Arizona—April 2-9.** Leader, Les Albee, 130 S. Rocky Dells Dr., Prescott, AZ 86301. Cost $220.

This moderate high-light trip will traverse the Mazatzal Mountains, northeast of Phoenix—the largest wilderness in Arizona. Side trips will penetrate steep canyons and climb high peaks.

**(26) Natural History of the Anza-Borrego Desert, Base Camp, California—April 3-9.** Naturalist, Will Neely; leader, Serge Puchert, 37 Southridge Ct., San Mateo, CA 94402. Cost $165.

Camp will be located near Borrego Springs, 90 miles NW of San Diego. The outing is designed for those who would like to study the natural wonders of the living desert. Hiking will be very easy.

**(27) Gila/Salt River Boat Trip—April 3-9.** Leader, John Ricker, 2950 N. 7th St., Phoenix, AZ 85014. Cost $105.

The trip will start at Forks of the Gila and end just below the proposed site of Hooker Dam. Trip members furnish their own boats. Rubber rafts or inflatable kayaks should be used although experienced white-water kayakers will be accepted. Leader approval required.

**(28) Okefenokee Canoe Trip, Georgia—April 3-9.** Leader, Lincoln E. Roberts, 2152 Cross Creek Way, Dunedin, FL 33528. Cost $155.

We will spend six leisure-to-moderate days making a loop trip through this land of Pogo in the Southeast. Minimum age 14 with sponsor. Canoes are not provided, but rentals are available. Leader approval is required.

**(29) Panamint Mountains, Death Valley, California Burro Trek—April 3-10.** Leader, Jack McClure, 75 Castlewood Dr., Pleasanton, CA 94566. Cost $205.

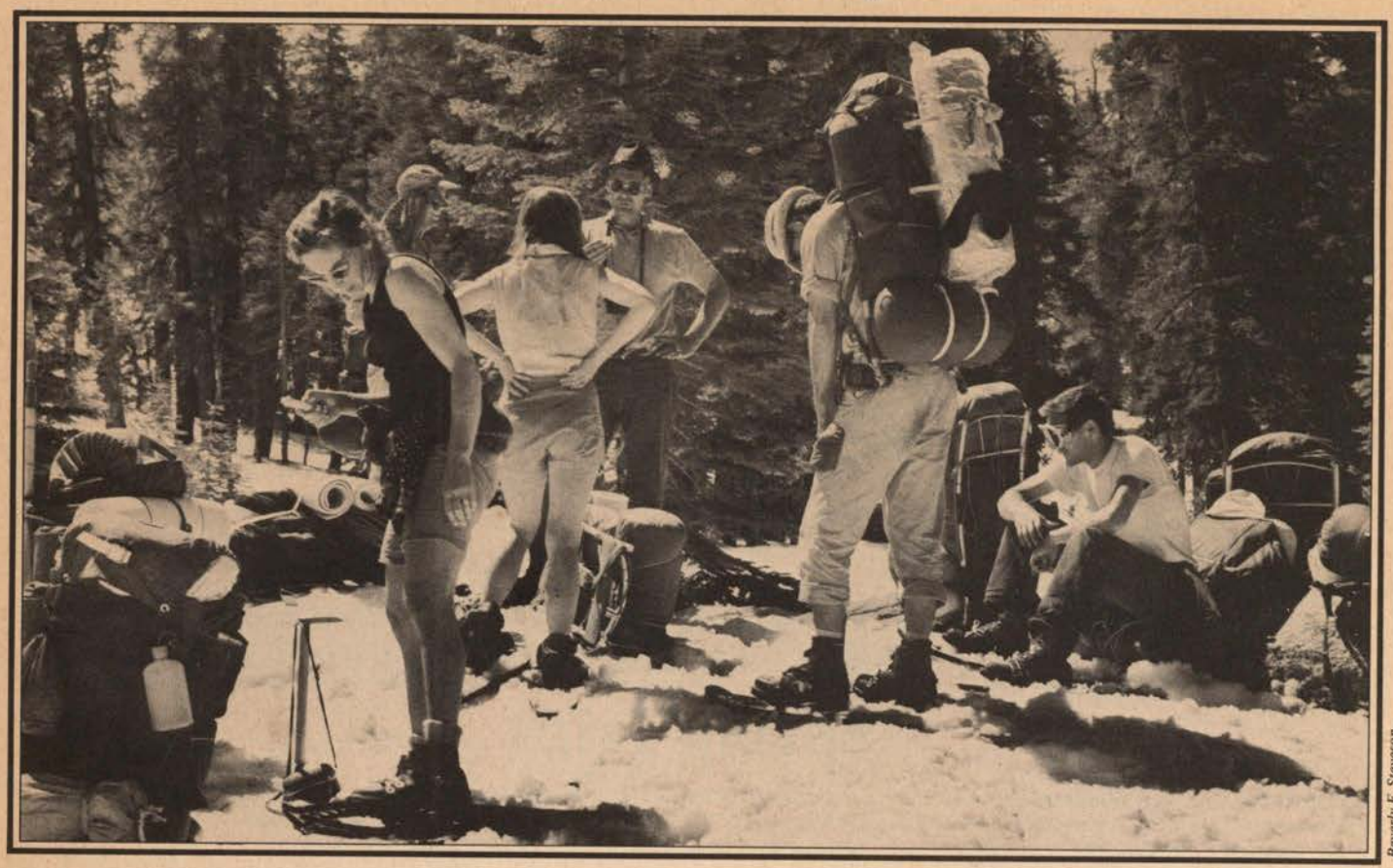
**(30) Panamint Mountains, Death Valley, California Burro Trek—April 10-17.** Leader, Joe Holmes, 11 Cresta Blanca, Orinda, CA 94563. Cost $205.

We will ascend the steep western slope of the Panamint Mountains through a narrow canyon. Just as in the days when miners roamed the area, burros will carry our food, water, and dunnage. Trip members should plan to participate in cooking, burro packing and wrangling.

**(31) Dismal Swamp, Virginia and North Carolina—April 10-16.** Leader, Mike Maule, 228 Pine St., Philadelphia, PA 19106. Cost $145.

We will canoe Lake Drummond in the new Fish and Wildlife Refuge and on the Northwest River. Leader approval is required; participants must have canoeing and camping experience. Minimum age 16. Canoes not provided.

# Knapsack Trips



Beverly F. Steveson

Knapsack trips offer the most freedom for exploring wilderness because everything you need is on your back. Young and old are today showing an eagerness for the adventure, solitude and personal challenge of knapsacking. Sierra Club trips provide all these rewards as well as the example of how to knapsack knowledgeably and comfortably. Knapsacking is strenuous activity, however. For a trip of a week, the starting load may weigh from 35 to 40 pounds, but the exhilaration and extra physical effort make you feel more a part of the wilderness. With today's new designs in backpacking equipment, almost anyone in good health and physical condition can enjoy knapsacking.

All trips require members to help with the cooking and camp chores, although the leaders provide commissary equipment and food. Trip members bring their own packs, sleeping bags, shelter and clothing.

Trips are rated as leisure, moderate, and strenuous by the individual leader. The ratings are made as accurately as possible on the basis of total trip miles, cross-country miles, the aggregate climb, terrain difficulty and elevation.

Strenuousness is measured also in less obvious ways. On desert trips members are often required to carry liquids which significantly increase their pack loads. Canyon trips obviously entail steep descents and climbs and quite variable temperatures from top to bottom.

The demands of knapsacking require that the leader approve each trip member based on response to questions about previous knapsacking experience and equipment. If you lack experience or have never knapsacked at high elevations for any length of time, you may qualify for one of the less strenuous trips by going on weekend knapsacking outings prior to the trip. Unless otherwise stated, minimum age on knapsack trips is 16, although qualified youngsters of 15 are welcome if accompanied by a parent.

**(34) Hells Canyon Service Trip, Oregon-Idaho—March 26-April 2.** Leader, Judy Kingsley, 1290 Apple Lane, Davis, CA 95616. Cost $50.

Enjoy the dramatic scenery of the deepest gorge in North America while working trails and cleaning old campsites. Swimming, exploring, and a jetboat ride down the Snake River will be highlights. Minimum age 18.

**(35) Grand Canyon, Arizona—March 27-April 2.** Leader, Edith Reeves, 1739 East San Miguel Ave., Phoenix AZ 85016. Cost $100.

This moderate trip will descend the South Kaibab Trail, 3300 feet to the Tonto Platform and east along the Tonto to the Grandview Trail. A day hike down to the Colorado River is for the energetic, and side canyons are for all to explore. Minimum age 16.

**(36) Desert Spring Leisure/Photography, Superstition Wilderness, Arizona—March 27-April 2.** Leader, John Peck, 4145 E. 4th St., Tucson, AZ 85711. Cost $85.

Hike/base camp/day hike during the heart of the spring flower season, with time to explore and photograph. The first and last days are moderate hikes over rocky trails. Minimum age 16, without parents.

**(37) Grand Canyon Trip—April 3-9.** Leader, Tom Pillsbury, 1735 Tenth St., Berkeley, CA 94710. Cost $155.

**(38) Grand Canyon Trip—April 10-16.** Leader, Bill Wahl, 325 Oro Valley Dr., Tucson, AZ 85704. Cost $155.

These strenuous cross-country knapsack trips will be in the west part of the Grand Canyon National Park. Some use of climbing ropes will be necessary.

**(39) Marble Canyon Trip, Grand Canyon National Park, Arizona—April 10-16.** Leader, Jim De Veny, 5307 E. Hawthorne, Tucson, AZ 85711. Cost $125.

This strenuous trip is suitable for strong hikers. We will descend into Nankoweap basin and along the Colorado River into Marble Canyon. There will be one lay-over day and a river crossing.

**(40) Kanab Canyon to Thunder River, Grand Canyon, Arizona—May 1-9.** Leader, Chuck Kroger, Environmental Research Lab., International Airport, Tucson, Arizona 85706. Cost $175.

The trip features caves, waterfalls, clear-water tributaries, springs, quiet fern-lined grottos, and some of the most rugged terrain around. The hiking on this strenuous trip will be almost entirely cross-country.

# Foreign Outings

Sierra Club Foreign Outings visit almost every part of the world, staying as close to the land and the people as possible. Trip size is usually from 15 to 25. Prices are approximations and do not include air fare.

**(550) Guatemalan Archaeology and Jungle —January 3-18.** Leader, Ellis Rother, 903 Sunset Dr., San Carlos, CA 94070.

We jeep and hike through jungle, highlands, past volcanoes, down jungle rivers to visit ancient cities with a working archaeologist, camping as we go. Minimum age 18. Approximate cost: $1250 plus air fare.

**(565) Baja Driving-Hiking Adventure—January 24-February 4.** Leader, Betty Osborn, 515 Shasta Way, Mill Valley, CA 94941.

Our loop trip in 4-wheel drive vehicles will explore the coastal areas of both the Sea of Cortez and the Pacific Ocean. Experienced guides will accompany us. Approximate cost: $565 from San Diego.

We will walk among seal and bird colonies, see marine and land iguanas, and have penguins watch us while we take photographs. Swimming and snorkeling in the cool water is pleasant. Approximate cost: $1725 plus air fare.

**(595) Scotland—June 9-26.** Leader, John Ricker, 2950 North 7th St., Phoenix, AZ 85014.

**(595) Scotland—June 13-30.** Leader, Tony Look, 411 Los Ninos Way, Los Altos, CA 94022.

Walk with us over bonnie banks and braes, in the misty highlands and out by the purple islands to discover the beauty, colorful history and the environmental challenges facing Scotland today. The walks are moderate; accommodations will be in hostels or small hotels. Leader approval is required. Approximate cost: $600 plus air fare.

**(603) Land of the Sun Kings, Peru—June 19-July 24.** Leader, Ray Des Camp, 510 Tyndall Street, Los Altos, CA 94022.

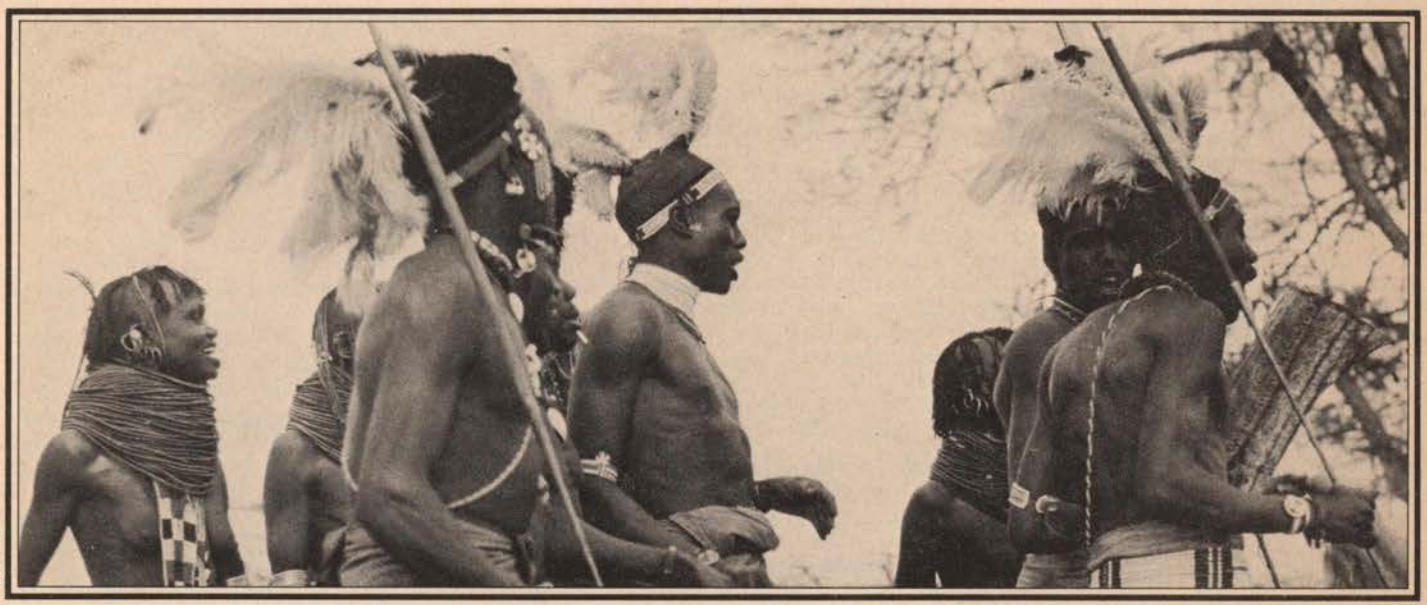
On this 36-day trip you will travel by bus, plane and foot to Lima, Trujillo, Cajamarca, Huaras, Ica, Nazca, Arequipa, Puno, and Cuzco. We plan also a three-day side trip to La Paz. Approximate cost: $1600 plus air fare.

**(605) France: The Alps to the Mediterranean—July 5-20.** Leaders, Lynne & Ray Simpson, 604 Hartnell Place, Sacramento, CA 95825.

A summer excursion heading south from Geneva on the French side of the Alps—visiting a variety of mountainous recreational areas. We will drive ourselves and do some of our own meal preparation. Leader approval is required. Approximate cost: $650 plus air fare.

**(630) Camping, Hiking and Game Viewing in Tanzania, Kenya and Zambia—July 15-August 13.** Coordinator, Al Schmitz, 2901 Holyrood Drive, Oakland, CA 94611.

We will visit by landrover the finest game viewing areas, such as Amboseli Refuge near Mt. Kilimanjaro, Tarangiri and Manyara National Parks, Ngorongoro Crater, Olduvai Gorge, the Serengeti Plains and the Masai-Mara Refuge. Approximate cost: $1600 plus air fare.



Al Steck

**(585) Rim of Kathmandu Valley Natural History Trek, Nepal—March 4-26.** Naturalist, Dr. R. L. Fleming, Kathmandu; leader, Al Schmitz, 2901 Holyrood Dr., Oakland, CA 94611.

When rhododendrons are abloom and birds migrating, we will make a two week trek around the rim of the valley. We will have a full program of sightseeing in Kathmandu and spend 2 days at Tiger Tops. Approximate cost: $1100 plus air fare.

**(587) Winter Walking in Norway—March 16-31.** Leader, Betty Osborn, 515 Shasta Way, Mill Valley, CA 94941.

This will be a ski touring and snowshoe trip for all. We will base camp in three different areas. We will be guests in the huts of the DNT whose members will guide the group on daily excursions. Leader approval is required. Approximate cost: $475 plus air fare.

**(600) Galapagos Islands, Ecuador—May 23-June 9.** Coordinator, Howard Mitchell, 65 Hillside Ave., San Anselmo, CA 94960.

**(636) Galapagos Islands, Ecuador—July 11-28.** Coordinator, Howard Mitchell, address above.

**(625) Kenya: Northern Frontier, East Africa —June 20-July 16.** Coordinator, Al Schmitz, 2901 Holyrood Dr., Oakland, CA 94611.

We will travel from the Tanzania border to Lake Rudolf. The pattern of our trip will be three nights under canvas followed by a night in a lodge. Travel will be by landrover, and we will hike in the parks and preserves. Approximate cost: $1650 plus air fare.

**(638) Southern Norway Trek—June 28-July 13.** Leader, John Ricker, 2950 N. 7th St., Phoenix, AZ 85014.

This is the first Sierra Club trip to Southwest Norway, hiking in Rogaland-Setesdal and the southern part of Hardangervidda. Leader approval required. Approximate cost: $650 plus air fare.

**(610) Hindu Kush Himalaya Trek, Pakistan—June 28-July 27.** Leader, Peter Owens, 123 N. El Camino Real, San Mateo, CA 94401.

This 4-week trip will feature trekking, jeep

**(620) Yugoslavia: Mountains and Sea Coast —July 18-August 9.** Leader, Ross Miles, 350 Sharon Park Dr., #B-21, Menlo Park, CA 94025.

Beginning in Ljubljana, this trip takes us through some of the most beautiful portions of Yugoslavia. In these spectacular mountains day trips have been arranged. Moderate hiking up to 10 miles a day. Leader approval is required. Approximate cost: $650 plus air fare.

**(650) Australia Down Under—September 4-October 1.** Leader, Ann Dwyer, P.O. Box 61, Kentfield, CA 94904.

Australia is more than kangaroos, koalas and kookaburras. It is the Australian Alps, the Great Barrier Reef and Alice Springs of the vast interior. We will see them all, including a profusion of wildflowers. Leader approval is required. Approximate cost: $2300 from San Francisco.

**(700) Annapurna Circle, Nepal—October.** Leader, Norton Hastings, 100 Quarry Rd., Mill Valley, CA 94941.

This strenuous trek will circle the massifs of Annapurna Himal, Lamjung and Ganesh Himal. We'll walk north up the Kali Gandaki Gorge, cross Thong La at 17,000 feet and then move south through the Marsyandi Valley. Leader approval required. Approximate cost: $1450 plus air fare.

**(705) Makalu to Everest, Nepal—October & November.** Leader, Doug McClellan, 88 Ridge Rd., Fairfax, CA 94930.

Forty-five days of high-altitude travel, with ten days on glaciers. From Dharan Bazaar, we cross the Arun River, ascend the Barun Glacier and cross Sherpani Col at 20,046 ft. Basic mountaineering knowledge and experience is necessary. Leader approval is required. Approximate cost: $1950 plus air fare.

**(710) Mexico, Glimpses of Past and Present—November 12-December 13.** Leader, Ray Des Camp, 510 Tyndall Street, Los Altos, CA 94022.

We will tour by air-conditioned bus the states of Mexico, Puebla, Oaxaca, Chiapas, Tabasco, Campeche, Yucatan, Quintana Roo and Vera Cruz, with one night on the Gulf of Tehuantepec and several at Cancún. Approximate cost $1050 from Mexico City.

**(715) Holiday Special: Galapagos, Peruvian Bird and Easter Island trip—December 20-January 13, 1978.** Leader, Al Schmitz, 2901 Holyrood Dr., Oakland, CA 94611.

Wander through Quito's cobblestoned streets and enjoy Lima's famous churches. We'll inspect the spectacular bird life on Peru's famous guano islands, and then move on to Easter Island for a 4 to 5-day visit. This outing has a capacity for 10 persons. Approximate cost: $1550 plus air fare.

### For More Details On Spring Outings

For more information on any of these trips, write the Sierra Club Outing Department for the specific supplement of that outing. Trips vary in size, cost, in the physical stamina and experience required. New members may have difficulty judging from these brief write-ups which one is best suited to their own abilities or interests. Don't be lured onto the wrong one! Ask for the trip supplement before you make your reservation, saving yourself the cost and inconvenience of changing or cancelling a reservation. Beyond the first five supplements requested, volume requires that we must charge 50 cents each. Write or phone the trip leader if any further questions remain.

Clip coupon and mail to: 11/76

**SIERRA CLUB OUTING DEPARTMENT**
530 Bush Street, San Francisco, CA 94108

Sierra Club Member ____Yes ____No

Send Supplements: #____ #____ #____ #____ #____

NAME _____

ADDRESS _____

_____

Enclosed is $_____ for supplements requested over 5 at 50c each.

# Foreign Underwater Trips

**(401) Grand Cayman, Tropical Reef Biology, British West Indies—June 11-22.** Leader, Rob Spivack (c/o Miles), 139 Loma Lane, San Clemente, CA 92675.

Biology, natural history, ecology and identification of tropical marine organisms are covered. The base is a small divers' resort, an hour from Miami. Leader approval is required. Approximate cost: $850 plus air fare, less for non-divers.

**(402) Grand Cayman, Tropical Reef Biology (Intermediate), British West Indies—June 23-July 4.** Leader, Steve Webster, 3202 Maddux, Palo Alto, CA 94303.

Instruction by the leader is augmented by maximum diving geared toward research. For certified divers, casual participation or college credit. Leader approval is required. Approximate cost: $850 plus air fare, less for non-divers.

**(403) Bonaire, Netherlands Antilles—July 21-August 1.** Leader, Kent Schellenger, 19915 Oakmont Drive, Los Gatos, CA 95030.

This Dutch island off the coast of Venezuela offers a 21-mile coral reef of great beauty. Fish life is prolific and unafraid; spearfishing has never been allowed. Leader approval is required. Approximate cost: $950 including air fare from Miami, less for non-divers.

**(404) Truk and Ponape, Micronesia—July 20-August 7.** Leader, Steve Zuckerman, 2640 Alabama Ave., St. Louis Park, MN 55416.

The U.S. Navy sank 33 Japanese ships in Truk Lagoon. Diving on these ships will be an unforgettable experience. Nearby we will explore coral reefs whose beauty is as yet unscarred by man. Leader approval is required. Estimated cost: $1650 including air fare from San Francisco; less for non-divers.

**(400) Galapagos Islands, Ecuador—August 6-27.** Leader, Kent Schellenger, 19915 Oakmont Drive, Los Gatos, CA 95030.

Fish, many species of which exist nowhere else, sea lions, marine iguanas, and diving birds stagger the imagination. Leader approval is required. Approximate cost: $1,900 plus air fare, less for accompanying non-divers.

# Spring Ski-Touring

**(258) Ski Touring Clinic, Steamboat Springs, Colorado—January 9-14.** Leader, Sven Wiik, Box #5040, Steamboat Village, CO 80499. Cost $60.

Five days of excellent skiing with all levels of touring instruction. The trip leader is a former Olympic Nordic coach. Program includes selection and care of equipment, ski-touring technique, half and full-day tours. Separate arrangements must be made directly with the Scandinavian Lodge for room and board.

**(47) Adirondack Ski Touring—January 16-22.** Leader, Walter Blank, Omi Rd., W. Ghent, NY 12075. Cost $170.

The first five nights will be spent at a delightful farmhouse with home cooked meals. The sixth night we will ski into two remote cabins heated by wood stoves. Packs and sleeping bags are required. Skis may be rented. Leader approval is required.

**(48) Cross Country Ski, Rocky Mountain National Park, Colorado—January 30-February 5.** Leader, Kurt Newton, 534 S. Franklin, Denver, CO 80209. Cost $95.

We'll sleep in a Park-Service Building, with daily trips radiating from there. Trips will vary in distance and terrain. Leader approval is required.

**(49) Cross Country Ski, Rocky Mountain National Park, Colorado—February 27-March 5.** Leader, Lee Baker, 1122 Pearl, #102, Denver, CO 80203. Cost $95.

We will tour from our cabin base into an area near the Continental Divide. Individuals will furnish their own equipment, and some cross-country experience is necessary. Cooking, cabin-keeping, woodcutting, etc. will be communal activities. Leader approval is required.

**(259) Superior-Quetico Ski and Snowshoe, Minnesota-Canada—February 27-March 5.** Leader, John Wheeler, 2690 Huron, Roseville, MN 55113. Cost $135.

Our base camp is located 30 miles from Grand Marais, Minnesota on the Gunflint Trail, one mile from Minnesota's Boundary Waters Canoe Area. We will take day trips, with overnight trips if desired. No experience necessary; minimum age 15.

# Mexican/Guatemalan Boat Trips

**(414) Whale Watching Leisure Boat Trip, West Coast of Baja, Mexico—January 15-21.** Leader, Monroe Agee, 13750 Rivulet Rd., San Jose, CA 95124.

Six days round-trip San Diego to San Ignacio Lagoon, birthplace of the whales. We see elephant seals during their breeding season, harbor seals and California sea lions. We observe nesting birds, descend a lava tube and climb a volcanic crater. This trip is dedicated to save the whales. Approximate cost: $465 from San Diego.

**(412) River of Ruins Raft Trip, Guatemala & Mexico—March 17-April 1.** Leader, c/o Frank Hoover, 900 Veteran Ave., Los Angeles, CA 90024.

Rafting down the River of Ruins, visiting Maya ruins, exploring tropical jungles, and having fun in the back country make this an irresistible trip. Members will help with rowing, organizing activities and transportation. Approximate cost: $750 plus air fare.

**(416) Sea of Cortez Leisure Boat Trip, Mexico—March 26-April 2.** Leader, Elmer Johnson, 622 Locust Rd., Sausalito, CA 94965.

**(417) Sea of Cortez Trip—April 2-9.** Leader, Herbert Graybeal, 29 Country Club Dr., Suisun, CA 94585.

**(418) Sea of Cortez Trip—April 9-16.** Leader, Ruth Sumner, 930 Sutter St., San Francisco, CA 94109.

**(413) Sea of Cortez Trip—November 19-26.** Leader, Monroe Agee, 13750 Rivulet Rd., San Jose, CA 94124.

These cruises are adventures in sea life, designed to meet the requirements of both the physically active and the more sedentary. The four trips go between La Paz and San Felipe. Approximate cost: $575 from San Diego.

# Reservations for Sierra Club Trips

## Changes have been made in deposit/cancellation/ refund policies. Please read this page carefully.

### Eligibility

Our trips are open to Sierra Club members, applicants for membership and members of organizations granting reciprocal privileges. You may include your membership application and fee with your reservation request. Children under 12 need not be members.

Unless otherwise specified, a person under 18 years of age, unless accompanied by a parent or sponsored by a responsible adult, may join an outing only with the consent of the leader. If you lack a sponsor, write the trip leader for assistance.

### Applications

One reservation form should be filled out for each trip by each individual. However, spouses and families (parents and children under 21) may also use a single form. Mail your reservation together with the required deposit to the address below.

Reservations are generally confirmed on a first come, first served basis. However, when acceptance by the leader is required (based on applicant's experience, physical condition, etc.), reservations will be confirmed upon acceptance; such conditions will be noted in the *Bulletin* or the trip supplement. When a trip's capacity is reached, later applicants are put on a waiting list. The Sierra Club reserves the right to conduct a lottery to determine priority for acceptance in the event that a trip is substantially oversubscribed shortly after publication of the *Bulletin*.

### Deposits

| | |
|---|---|
| Trips priced up to $499 per person: | $25 per individual or family (parents and children under 21) application |
| Trips priced $500 and over per person: | $50 per person |

The deposit is applied to the total trip price and is *non-refundable* unless 1) a vacancy does not occur or you cancel from a waiting list; 2) you are not accepted by the leader; 3) the Sierra Club must cancel a trip.

### Payments

Full payment of trip fees is due 90 days prior to trip departure. In addition, most foreign trips require a payment of $200 per person 6 months before departure. Payments for trips requiring the leader's acceptance are also due at this time, regardless of your status. You will be billed before the due date. If payment is not received on time, your reservation may be cancelled.

### Refunds

The following policy is effective for all trips departing on or after January 1, 1977. Refunds following cancellation of a confirmed reservation *(less the non-refundable deposit)* are made as follows, based on the date notice of cancellation is received by the Outing Department:

1) 60 days and more prior to trip: full amount of remaining balance.
2) 14-59 days prior to trip: 90% of remaining balance.
3) 4-13 days prior to trip: 90% of remaining balance if replacement is available from a waiting list.
   75% of remaining balance if no replacement is available from a waiting list.
4) 0-3 days prior to trip: No refund.
5) No refund will be made if you are a "no show" at the roadhead or if you leave during a trip.

Transfer of a confirmed reservation from a trip priced up to $499 incurs a $25 transfer fee. Transfer of a confirmed reservation from a trip priced $500 and over is treated as a cancellation. See Refund Schedule above.

### One-Price Policy

Generally, adults and children pay the same price; some exceptions for family outings are noted in the *Bulletin*.

### Your Kind of Trip

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

### Emergency Care

In case of accident, illness or a missing trip member, the Sierra Club, through its leaders, will attempt to provide aid and arrange search and evacuation assistance when the leader determines it is necessary or desirable. Cost of specialized means of evacuation or search (helicopter, etc.) and of medical care beyond first aid are the financial responsibility of the ill or injured person. Medical and evacuation insurance is advised, as the Club does not provide this coverage. Professional medical assistance is not ordinarily available on trips.

### Additional Conditions

Reservations are subject to additional conditions regarding transportation and conduct during a trip. A complete statement accompanies each reservation acknowledgement and is available upon request.

**MAIL TO: SIERRA CLUB OUTING DEPT. — P.O. BOX 7959 RINCON ANNEX, SAN FRANCISCO, CA. 94120**

| MEMBERSHIP NO. (CHECK BULLETIN LABEL) | | | Trip number | Trip name | Departure date |
|---|---|---|---|---|---|
| Print Name: Mr. Mrs. Ms. | FIRST | LAST | DEPOSIT ENCLOSED $ | (Leave blank) | No. of reservations requested |
| Mailing Address | | | If you have already received the trip supplement, please check. ☐ | | |
| City | State | Zip Code | Residence telephone (area code) | Business telephone (area code) | |

| PLEASE PRINT **YOUR** NAME AND THE NAMES OF ALL FAMILY MEMBERS GOING ON THIS OUTING | Age | Relationship | Membership No. | How many trips have you gone on? Chapter | National |
|---|---|---|---|---|---|
| 1. | | | | | |
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Commentary

# The Case for Environmental Education

JOHN C. MILES

While searching for materials to support my belief that conservation groups should devote more attention to environmental education, I came across Gifford Pinchot's observation that

> The conservation idea covers a wider range than the field of natural resources alone. Conservation means the greatest good to the greatest number for the longest time. . . . The development of resources and the prevention of waste and loss, the protection of the public interest by foresight, prudence, and the ordinary business and home-making virtues, all these apply to other things as well as to the natural resources. There is, in fact, no interest of the people to which the principles of conservation do not apply.[1]

The phrase "greatest number for the longest time" caught my eye because a major point that might be made about environmental education as it is practiced in the first half of the 1970s is that it is too much in the hands of educators and too limited in perception of its purpose, particularly in regard to its time perspective. Here was Pinchot writing sixty-five years ago about the importance of thinking of the future. He truly anticipated the "limits to growth" that we face today.

Pinchot's rival, John Muir, was more "pure" in his definition of what constituted the "greatest good for the greatest number for the longest time," but his concern was the same. He carried Pinchot's concern beyond pragmatic interest in long-term national prosperity into a philosophical and spiritual dimension that he believed involved the very essence of humaneness and a good life experience. Three-quarters of a century have passed since Pinchot, Muir and their contemporaries directed attention to environmental matters of long-term interest. That span of years brought a technological revolution that has increased enormously the scale and complexity of the problems that concerned these people. In retrospect, their efforts can be seen as the beginning of a great tradition of environmental service, but we can also see that the "movement" they helped to found has been insufficient to accomplish the goals of long-term prosperity and environmental quality they envisioned.

Michael E. Bry

This is evident in the increasingly serious environmental problems facing the world today. Despite nearly seventy-five years of effort by the ideological descendants of Pinchot and Muir, forests are being cut and not replaced, wilderness irreplaceably consumed, and air and water polluted. Dominated by an overriding necessity to cope with immediate crisis after crisis, the energies of environmentalists have produced many good works, but the environment, on the whole, has continued to deteriorate.

What, then, is to be done? A conclusive answer to this question eludes me, but one fruitful direction suggests itself —*environmental education* to provide information and stimulate awareness of the environment and its problems. The ultimate goal is a "land ethic" like that so eloquently described by Aldo Leopold. This involves motivating people to act to solve environmental problems. The educational approach to environmental problem solving is long-term and slow to produce observable results, yet it seems a necessary complement to the short-term remedial efforts that comprise most environmentalist activity.

Envision two opposite positions, both valid, from which to attack environmental problems. One constitutes what may be called a "top-down" approach, yielding immediate results such as legislation, new technology, establishment of new regulations and regulatory agencies. This response to the problem of air pollution, for instance, produced the Clean Air Act of 1970, electrostatic precipitators, scrubbers, and other technical devices to reduce pollutants at the source, and formation of the Environmental Protection Agency with its responsibility for air-pollution research, regulation, and enforcement.

The complementary position might be designated the "bottom-up" approach, which entails examination of the source of pollution problems in general and construction of an appropriate long-term response. The source may, for example, be found in a value system that regards humankind as essentially apart from nature and certain groups of humans as having no relation to others. It regards economic gain and technological progress as intrinsically valuable, and places ultimate value on accrual of the greatest benefits to the self in the immediate present. This view of environmental problems

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sees them as coming only secondarily from smokestacks and automobile exhausts, and primarily from a system of beliefs and values, once adaptive, that has gone askew and lost touch with ecological and social realities.

Neither approach is limited to the results attributed to it. Effective education can ultimately yield legislation and other remedial measures, and "top-down" measures in turn contribute to changing awareness and belief. But neither method can, it seems to me, solve environmental problems without the other. The cliché that one "cannot legislate morality" is precisely the point here. Ultimately, environmentalists seek active operation of a "land ethic," a broadly accepted limitation to freedom of action based on ecological imperatives, and it is unlikely that this can occur by "top-down" efforts alone. A deep-seated change in beliefs and values and consequent alteration of social processes, seem an essential part of any strategy to achieve a land ethic.

It is true that environmental education has been part of the environmental movement since the days of Pinchot and Muir. Conservation education, outdoor education and nature education emerged, at least in part, from the work of these men and their peers. The pamphlet, eloquent journalism, and "exhibit format" books have been useful tools for educating the public. Great educational work has been done, but not enough. Thirty years ago Aldo Leopold perceived the problem:

> Conservation is a state of harmony between men and land. Despite nearly a century of propaganda, conservation still proceeds at a snail's pace; progress still consists largely of letterhead pieties and convention oratory. On the back forty we still slip two steps backward for each forward stride.
>
> The usual answer to this dilemma is 'more conservation education.' No one will debate this, but is it certain that only the *volume* of education needs stepping up? Is something lacking in the *content* as well?
>
> It is difficult to give a fair summary of its content in brief form, but, as I understand it, the content is substantially this: obey the law, vote right, join some organizations, and practice what conservation is profitable on your own land; the government will do the rest.
>
> Is not this formula too easy to accomplish anything worthwhile? It defines no right or wrong, assigns no obligation, calls for no sacrifice, implies no change in the current philosophy of values. In respect of land-use, it urges only enlightened self-interest. Just how far will such education take us?[2]

Such education has not taken us far enough. The overriding objective of the movement founded by Pinchot and Muir—"the greatest good to the greatest number for the longest time"—is at profound odds with the prevailing beliefs and values of contemporary society. Leopold recognized this and saw that "conservation education" had avoided this ultimate hard reality. He called for a search for ways to extend "the social conscience from people to land." He knew how difficult this would be in a society so bent on profit and short-term gain in the marketplace, but he recognized the necessity. A means toward the necessary ethical extension may be environmental education with an emphasis, and on a scale, that environmental organizations have perhaps not recognized.

### A lifelong process

If environmental groups are to raise the banner for environmental education on any broad scale, they will have to formulate a clear definition of it. I regard it as the process through which one learns about the environment as a system of which one is an integral part. In doing so one also learns about specific problems of that environment, understands one's personal relationship to those problems, and is motivated to help in solving them. Consequently, the learner becomes motivated to take part in their solution. The overriding goal of this educational process is to change the behavior of the learner, as he responds to a well-developed "land ethic." The environment referred to includes at its farthest extent the "spaceship earth" and at its smallest extent the self. The process occurs within the schools at all levels of the curriculum, but also outside formal educational institutions. The process of environmental education is, or at least should be, lifelong.

The youngster curiously exploring a neighborhood marsh after school, reading a book by Thornton Burgess, watching a Jacques Cousteau documentary on television or collecting butterflies is being educated about environment. So, too, is the student in school studying the economics of oil, or the history of the American West, or reading the works of Henry David Thoreau, or of Wendell Berry. Environmental education is going on at all times in many settings. Unfortunately, its volume and its emphasis are not equal to the challenge it faces.

What more, then, can environmental groups do to assist in the "bottom-up" part of the struggle for environmental quality? First, they can direct more of their limited resources to formulating a broad-based strategy to promote environmental education in American society. They can inquire into what needs to be done on the educational scene, and bring environmentalists and educators together in this effort. It was surprisingly difficult, in the spring of 1975, to generate the interest of either group in meeting at the National Association for Environmental Education conference to discuss mutual interests. Perhaps educators think environmentalists too activist and radical, while environmentalists consider educators too academic. There are many good ideas in both groups, and dialogue between them should be more extensive. Indeed, it seems essential to the most effective use of limited resources.

Second, the Sierra Club and its allies could focus on political action to increase governmental support of environmental-education programs. Congress passed the Environmental Education Act in 1970 at the height of national interest in environmental matters, authorizing the expenditure of $45 million on environmental education over the next three years. Only $6 million actually was made available, and this was dispersed so broadly across the country that it accomplished little in the way of initiating long-lasting and effective programs. In his essay on "Public Law 91-516" Don Albrecht noted that from the beginning it had no strong citizen lobby behind it, but was initiated and monitored entirely by Congress. He said that ". . . it took Congressional leaders, not educators, to recognize the ultimate role of education in initiating the necessary changes in values and lifestyles that would reverse society's tendency toward environmental abuse."[3] Environmentalists have demonstrated their political effectiveness on many issues. More of their political energy and expertise should be directed toward increasing federal support for environmental education.

More than federal interest, of course, is necessary for effective environmental programming in public education. Political work also must be done at the state and local levels. State commitment to environmental education varies widely in extent but is, on the whole, insufficient. State departments of education must be convinced of the importance of environmental education so that they will provide encouragement and provide resources to local schools to expand their curricula in this direction. Because state education departments depend on their legislatures for funding and on boards of education for policy direction, political spadework must be done with these groups also.

The local scene cannot, of course, be ignored, and school boards, school administrators and teachers must be convinced that environmental education is important to the maintenance and improvement of society and environment. This is where the actual educating is done and is ultimately the most important level. If both local and state people are not deeply committed to environmental education, money from federal coffers will do little good.

There is a role for environmentalists to play at all stages of the formal education system, as well as outside it. The first stage comprises kindergarten through the twelfth grade. Most Americans participate in education during this period. It is a fundamental part of our socialization process, so here is where environmental education can potentially reach all people as they mature. Some work is being done at this level today, though far from enough, largely because many teachers do not perceive its importance. There is much to be done to raise their awareness and provide ideas and learning materials. Curriculum development here will be a difficult and controversial process. Traditional American values, some of which unquestionably underlie environmental problems, must be examined critically. I am thinking of such values as success and achievement measured in terms of money and property, the notion that "bigger is better," and prevailing in competition as the key to success. All these values are transmitted through public education, as well as in the home, church and other areas of educational influence. How can values be critically examined in a system of public education of which at least one objective is the transmission of prevailing values and the maintenance of a status quo? This is the tough problem at the base of the challenge of environmental education at this level. Environmentalists must promote and assist in this thorny task.

### Teaching teachers

At the next level is higher education, particularly teacher education. Advanced inquiry into the complex problems of the environment may be carried out here. Many students will finish their higher education and move into positions leading to power in the society. Institutions of higher education must be encouraged to explore ways to expose all students to the environmental problems they will have to cope with and attempt to solve. One way this can be done is to recognize environmental studies as a legitimate, and indeed critical, area of general studies and to make it a required part of a modern liberal education. Another way is to establish colleges of environmental studies that feature interdisciplinary programs focusing wholly on environmental problems.

No prospective teacher should graduate from college today without an awareness of environmental problems and of the importance of education in solving them. Unfortunately, many do graduate in ignorance of environmental education. Environmentalists must urge education faculties to make it a required part of teacher preparation. To counter the argument that every special interest believes its cause to be central and that so many "special interests" cannot be accommodated, environmentalists must impress upon these educators that the environment is not just another "special interest" on a par with vocational education, black studies, consumer education and such, but is an area of "universal interest," perhaps central to the survival of our society and even our species. I do not minimize the importance of other "special interest" areas, but contend that environmental education encompasses each of them in some respects. Every time a new teacher joins the practicing corps of educators in the field without a background in environmental education, the hope for a long-term solution to environmental problems receives a setback.

Unprepared new teachers become the focus of another significant level of environmental-education activity. This is "in-service" teacher education. These teachers are not necessarily involved in formal degree programs, but study to improve their teaching, often motivated by financial incentives provided by local school districts. Teachers take extension courses from colleges and universities and attend workshops on various topics. Obviously there are many practicing teachers, graduates of teacher-education programs over the past twenty years, who know nothing of environmental studies and their potential contribution to all disciplines for such. How can these people, many of whom are excellent teachers, be made aware? One answer is in-service education. The Sierra Club has invited teachers to workshops in California. Other possibilities need to be explored. Unquestionably the re-education of all unprepared teachers would be a large and expensive task, beyond the resources of most environmental groups. Encouraging state legislatures and state departments of education to require and reward such in-service study should be the focus of work at this level, and as many such programs should be offered as possible.

The fourth level of environmental education, and one to which the Sierra Club has traditionally directed much of its educational energy, is community and adult education. People who have finished their formal education, who may have graduated from high school and college decades ago, are faced with environmental problems and decisions for which their educational experiences did not prepare them. Some of these people are hungry for knowledge and actively seek understanding. Others are just puzzled and retreat from decisions, turning them over by default to others. Ways and means must be found to educate such people. Environmental publications reach some of them. If an issue is close to home and directly affects them, they may read environmental literature and take a stand. But many people outside formal education remain uninformed and confused. Some of them can be reached through community education programs and processes of many types. Regional and local environmental education centers, places where people can find answers to their questions, have been set up in some areas, but more are

needed. Community development and planning processes provide controversial arenas for education. Workshops and community forums focusing on issues close to the hearts of local people can provide a setting for significant discussions of values and the quality of life. We may not think of such activities as environmental education, but they are as significant as courses offered in formal education.

Ideally, environmental education should permeate the entire society as that society seeks to understand its problems and opportunities. It is a process of growth, the ultimate goal of which is to enable each human to become a fully functioning being. In this sense it is blatantly anthropocentric, or person-centered. The process reveals that the quality of human life is entirely dependent on a fully functioning biosphere. It then becomes evident that to reduce environmental quality is inevitably to reduce the quality of life itself. Thus environmental education contributes to the classical goal of education—assisting each person along the path toward maximum development of his or her potential.

### Ethics education

Another important aspect of environmental education is its "content," that is, what will actually be taught. Content ultimately defines the process, and environmentalists have a significant role to play in shaping this content. It is enough here to state that environmental education is defined by its ecological focus. It is founded on the concept of the interdependence among living organisms and their environment. As Garrett Hardin has noted in several of his writings, the overriding message of the environmental educator is much the same as that of the ecologist—"You can't do only one thing."[4]

Perhaps the major contribution environmentalists can and must make in determining the content of environmental education is to urge educators not to shy away from the hard issues of perception, values and social change that surface when environmental problems are studied. Environmental educators so far have tended to confine their work to the dissemination of knowledge concerning the "biophysical environment and its associated problems."[5] They have only lightly touched on the values and ethics related to these problems. More effort should be given to examining each person's responsibility toward nature and humankind.

Education is society's way of transmitting values from one generation to the next. A value is a "conception . . . of the desirable which influences the selection from available modes, means, and ends of action."[6] Environmentalists, in most of their political action, point out problems associated with value decisions being made in contemporary society. They may argue, for example, that it is short-sighted and perhaps even morally wrong to commit ourselves to a pattern of growth in energy consumption that can only be attained with the production of energy by nuclear fission. This production method, they contend, will leave to future generations a legacy they may neither desire nor be able to manage. Justification for such a course of action derives from the premise that people alive today are separate from and bear no responsibility for people who will live in the future. The environmentalist view, on the contrary, is that life is a continuum that imposes on those living today responsibility for future generations. Values traditionally transmitted through the educational process in our society, such as "growth is good," are contributing to serious environmental difficulties. Such values must be examined and changed.

There will be resistance to value reexamination in public education. One critic of the education efforts of "conservation" organizations contended recently that while these groups believe themselves to be arguing in the public interest they are, in fact, arguing for their special interest.[7] A call for critical examination of dominant values and study of alternative values will be met by the claim that environmentalists really wish only to "indoctrinate" people. This is, of course, a misconception of the point. Indoctrination occurs when only one point of view is presented. Developmental and commercial interests promote growth and consumption in so many effective ways that conservative alternatives do not get a hearing. America is a pluralistic society with a dynamic value orientation. It is founded on the belief that rational people can and will weigh the information they receive and make decisions in their best interest. Education is a process through which people acquire the skills and knowledge to do so. Environmentalists, by questioning values, are contributing to the process. They do not force people to accept their views, but they provide the opportunity for a debate out of which may come the decisions necessary for solution of pressing environmental problems. By raising critical questions about prevailing beliefs and values and by stimulating discussion of them, environmentalists are working in the best tradition of American society.

The Sierra Club and its allies must press the search for effective ways to see that questions at the core of environmental issues are studied in the educational process. Local environmental groups should investigate whatever environmental education exists in their schools, and assist in strengthening it where it is found wanting. Resources should be allocated to the production of excellent curriculum material to supplement those already available to teachers.

If the goal of "the greatest good to the greatest number for the longest time" lies at the core of environmentalist purpose, then long-term, future-oriented educational efforts must complement the essential work on immediate problems that occupies so much of our limited time. **SCB**

### NOTES


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3. Don Albrecht, "The Politics of Non-Education: A Case Study," Noel McInnis and Don Albrecht, Eds., *What Makes Education Environmental?* (Washington, D.C.: Data Courier, Inc., 1975), p. 46.
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## Annual Election

The annual election for directors of the Sierra Club will be held on April 9, 1977. The Nominating Committee has presented to the Board of Directors the following nine names for the five positions to be filled: Marvin Baker, David Bedan, Helen Burke, Richard Cellarius, Joseph Fontaine, Samuel Sage, Paul Salisbury, Lowell Smith, Theodore Snyder, Jr.

Members of the Club may add to this slate of candidates by petition. The requirements for such petitions are: (1) a petition for nomination shall be directed to the Nominating Committee, Sierra Club, 530 Bush Street, San Francisco CA 94108; (2) each petition must be signed by a total of at least 455 members in good standing (one percent of the ballots cast in the last election) and shall also show the petition signer's printed name, address and membership number; (3) petitions must be received at the Club office by December 31, 1976; (4) a letter of consent, signed by the proposed candidate, must also be sent to the Nominating Committee.

# Regional Reports

## Western Canada: The Spatsizi Wilderness

Rosemary J. Fox

Primeval wilderness, in the sense of undisturbed ecosystems that contain their historic complement of large mammals, has disappeared from most of North America, and is to be found only in northern Canada and Alaska. Therefore, when the roadless, 2,000-square-mile Spatsizi Plateau Wilderness Provincial Park was created in northern British Columbia (BC) in 1975 in recognition of its outstanding wildlife values, the Sierra Club of Western Canada saw this as an opportunity to preserve a primeval wilderness, where the major predators and their prey, and the ecological base on which they depend, may live undisturbed by man. Spatsizi's wildlife includes two species found only in northern BC and the Yukon—the Stone sheep, which look like sheep in evening dress, and the Osborn caribou, which is the largest of all caribou, two to three times the weight of the barren-grounds caribou.

The order-in-council establishing the Spatsizi park states that "the area will be maintained as a wilderness landscape in which natural communities are preserved intact and the progressions of the natural systems may proceed without alteration," and that "such unique wildlife areas require exceptional protection and management to ensure that the values associated with the wildlife are retained and not permitted to degenerate in quality." Nevertheless, hunting is permitted on the same basis as in other parts of the province; no restrictions have been placed on other forms of use. In response to this situation, the Sierra Club of Western Canada in January of this year recommended to the provincial government that:

(1) A moratorium be placed on hunting until sufficient knowledge is available to manage the wildlife in such a way that the park's ecological system is not impaired by human activities;

(2) Studies be launched to provide a basis for managing the park as a wilderness-wildlife preserve;

(3) In view of the increasing pressures upon parks and wilderness areas in both Canada and the United States, all forms of recreational use be strictly limited to minimize wildlife disturbance and to preserve the wilderness character of the area; and

(4) No additional facilities, such as roads, campgrounds, lodges, etc., should be developed, and the use of mechanized equipment be prohibited so as to minimize disturbance of the natural environment.

The focus of the Club's efforts to date has been on obtaining a suspension of hunting in the park, since there is reason for concern that hunting pressure on some species may already have exceeded tolerance levels. Even basic information on wildlife populations is lacking. Although the Club's position has met with strong opposition from the Fish and Wildlife Branch, it has been sympathetically received by the minister in charge of parks and wildlife, who has said she will work toward suspending hunting in 1977 and establishing a research program to provide a scientific basis for management of the wildlife. Unfortunately, the issue is complicated by the presence in the area of a registered game guide under contract from the government to conduct nonresident hunters. Under law, all nonresident hunters in the province must be accompanied by a registered game guide who is granted a monopoly by the government to guide in a specific territory. The guide in the Spatsizi, Howard Paish, was convicted in April on a number of charges of violating game regulations, as a result of which the Sierra Club and other groups called for suspension of his contract, but the government has declined to take action until court proceedings are completed later this year.

*T. A. Walker*

Although the Club has been concentrating on the hunting issue, which is the most urgent one facing the new park, it is equally concerned about the effect of so-called "nonconsumptive activities" on the park's ecosystem, in view of the wilderness degradation that has occurred elsewhere in North America through overuse. There is ample evidence to show that northern areas, with their short growing seasons and severe climate, cannot tolerate excessive disturbance of either habitat or wildlife. If some vestiges of Canada's wilderness heritage are to be preserved, a cornerstone of management policy must be a restriction on use to levels consistent with preservation of the ecological integrity of the wilderness. The Club's belief in the critical importance of imposing restrictions before overuse occurs underlies its current campaign to save the Spatsizi wilderness. **SCB**

*Rosemary J. Fox is treasurer of the Lower Mainland Group of the Western Canada Chapter.*

# Nebraska: The "Mid-state" Controversy

Ted E. Hoffman

The Central Flyway, one of several broad North American arterials used by migratory birds, resembles an hourglass. Its base is Mexico and the Southwest; its top, the vast northern wetlands of the continent. The waist of the hourglass lies in central Nebraska and consists of some 90,000 acres of wet meadows along the Platte River. Each spring and fall, millions of birds funnel through this area, stopping to feed and rest on their long journeys north or south. Their survival may well depend on preserving the wetlands of the Central Platte Valley.

Proposals to establish a national wildlife refuge in the valley have been defeated by water-development interests, including two state agencies, who supported "Mid-State," a U.S. Bureau of Reclamation project that would have been located near the proposed refuge. The tug of war between Mid-State and a wildlife refuge was inevitable because the amount of water remaining in the Platte River, according to the U.S. Fish and Wildlife Service, would not support both projects.

In the last thirty-five or forty years, eighty-two percent of the wet meadows along the river have disappeared, destroyed by agriculture, gravel mining, housing projects and roads. The river has been reduced to a mere thirty-one percent of its natural flow. Although the Mid-State project was voted down last year in a special election held in the Mid-State Reclamation District, the water rights in the valley are still up for grabs.

The Platte River is an important staging area for nearly all of the mid-continent population of sandhill cranes. According to the Sandhill Crane Committee and the International Crane Committee, protection of the Platte River habitat is critical.

Seventy to ninety percent of the mid-continent population of white-fronted geese also use the Platte Valley wetlands. Almost one million ducks and geese of various species use the valley each year.

Finally, seventy-seven percent of all the confirmed sightings of whooping cranes, of which only sixty-two remain in the wild, were made on or near the Platte River. For years, scientists and government agencies have worked feverishly to protect the small remaining population of "whoopers," and recent successes in efforts to establish a second population now seem promising. Yet both the whooping crane and the efforts of its supporters might be washed into oblivion if the wetlands are destroyed.

In 1974, the Fish and Wildlife Service proposed to buy 15,000 acres for a Platte River refuge. Opposition to the refuge was well organized and well connected in state government. Political pressure was intense. After initially approving the proposal, Governor J. James Exon vetoed the refuge.

Although many farmers in the area are not opposed to a refuge, believing it to be compatible with agriculture, they do fear and oppose the government's power of eminent domain. The water interests have exploited this fear. The Fish and Wildlife Service's second refuge proposal attempted to take the farmers' misgivings into account. It consisted of two elements: (1) from 6,000 to 13,000 acres would be purchased from voluntary sellers; and (2) another 45,000 acres would derive from voluntary easements. The refuge would consist of segments containing the most desirable habitat along a 180-mile stretch of the river.

This time, the water interests rolled out their heaviest artillery. The Association of Natural Resources Districts, with the help of employees of the State Natural Resources Commission, accused the Fish and Wildlife Service not only of poor planning and poor coordination with state and local officials, but of subterfuge, charging that the acquisition of easements would be followed eventually by condemnation procedures. Intense political pressure and lack of the governor's signature defeated the second wildlife-refuge proposal.

A third refuge study is now on the drawing board. It will be carried out according to the principles and standards of the Water Resources Council and will closely examine both environmental quality and economic development. A number of proposals will be considered, including the segmented refuge described above and the alternative of simply doing nothing. Fish and Wildlife personnel are determined to see their third attempt succeed.

One important aspect of the controversy that so far has received little attention involves the Migratory Bird Treaty Act, under which the United States, along with Canada and Mexico, is obligated to protect migratory birds that cross from one into another or both of the other countries. Letters to Nebraska's governor, who has veto power over the refuge proposal, would be helpful, and would do well to suggest that Nebraska, like all other states, has the responsibility to honor and uphold the treaty. Write to: Governor J.J. Exon, State Capitol, Lincoln, NE 68509. **SCB**

*Ted E. Hoffman is chairman of the Nebraska Chapter.*

# Washington, D.C.: Last Days of the Forestry Bill

Brock Evans

There is a place outside the Democratic entrance to the Chamber of the House of Representatives known as the "Gauntlet," a ten-yard walk beneath great marble columns, from the elevators that bring congressmen from their offices to the door that enters the chamber. This is where lobbyists gather when a crucial vote is called, hoping to buttonhole a congressman just once more to persuade him to vote their way.

I stood here the morning of the vote on the forestry bill, a perfect September day. A handful of us, representing the environmental community, was on one side, and a large crowd of industry and labor lobbyists was on the other side. Inside, the House had just begun debate on the forestry bill; the final vote could come sometime within the next few hours. The key vote for both sides, however, was not on the bill itself, but on two important amendments: the first one, from Congressman George Brown (D-California), would implement stronger controls on clearcutting; the second, from Congressman James Weaver (D-Oregon), would require a policy of sustained yield on the national forests, and would protect fragile lands from being cut at all. The timber industry strongly opposed both amendments, especially the second.

As we were standing in the Gauntlet, while congressmen were entering the chamber, I glanced across to the crowd of lobbyists on the other side. A lady representing the International Garment Workers Union walked up to an industry lobbyist and said, "Here I am—what do I say?" After they told her, she spent the next two hours buttonholing congressmen, telling them about "irresponsible environmentalists" and the need to oppose our amendments in order to—somehow—protect jobs.

Of course, our amendments would not affect jobs at all. They were designed to *protect* the national forests from further harm; not necessarily to cut back on the amount of timber now being cut. In fact, a Government Accounting Office report specifically analyzed each of the industry/labor claims about our amendments and refuted each one.

Last spring, the timber industry made a most strange alliance with the AFL-CIO, and by doing so, swung the whole vast mechanism of that organization to its side. The combination was indeed powerful and one that is not usually denied in Congress. In the past few, frantic weeks just before the House vote, both sides were scrambling for allies and attempting to persuade congressmen to vote their way. Members of Congress received a ten-foot-long telegram listing 130 labor and industry organizations opposed to our amendments. The timber industry had set up a "hot line," a toll-free number that anyone across the country could call for the latest "information" on the bill. Incredibly, the Forest Service itself had publicized this number as a source of "impartial information." A number of congressmen told us they would like to support us, but that labor pressure was simply too great.

When I looked across the Gauntlet aisle again, a congressman from Oklahoma asked an industry lobbyist, "What is it you want me to do now—vote just against the Weaver Amendment or against the whole thing?"

### Strengths of Our Own

But we were not without strengths of our own. A united coalition of all the major environmental groups was working to save the national forests; our unanimity and conviction carried great weight. We also had powerful congressmen supporting us, and Sierra Club members responded beautifully to our pleas for letters—an overwhelming amount of mail came in during those final days. In fact, an industry lobbyist told me that pro-timber forces had tried to move the vote up a few days, before our mail could have much more of an effect.

As debate dragged on, it seemed as if a vote on the amendments would never come. Meanwhile Congressman Brown, whose amendment would be considered first, had decided to ask for a simple voice vote—ayes and nays—rather than a full recorded vote, reasoning that should his amendment lose it might prejudice the decision on the more important Weaver Amendment to follow. The problem with a voice vote, however, is that many congressmen do not appear in the chamber unless summoned to a formal roll-call vote. Such was the case in this instance. When Brown's amendment appeared to lose the voice vote, he called for a "division of the House"—a show of hands. The results: 24 to 13 against the amendment. Nevertheless, Brown's decision was probably correct.

When Congressman Weaver called up his amendment for a vote, opponents shouted it down resoundingly. He then asked for a record vote on the measure, but in order to get it, twenty of the members present had to stand and agree to it. Because the chamber was then dominated by timber-industry supporters, Weaver could not get the necessary twenty members. Thus, we were robbed forever of our record vote.

We all felt dejected, but the battle was not over. The House bill passed without significant amendments, but because it was so different from the already-passed, much stronger Senate bill, a conference committee composed of members of both houses had to resolve the differences. The committee met for half a dozen long and stormy sessions, and the final results were much better than we had dared to hope.

As approved in conference and then by the entire Congress, the final bill was much stronger than the House version:

- For the first time, the law included a clear provision directing that the even-flow approach to sustained yield be followed;
- It provided important protection for sensitive marginal lands, as we had asked;
- It contained clearcutting guidelines identical to those in Congressman Brown's amendment;
- It specified protection of fish habitat.

Of course, the administration of the law and the interpretations of some of its possible loopholes will have a considerable influence on the protection ultimately afforded environmental values. However, in the face of one of the most concerted lobbying campaigns ever mounted by the joint forces of the timber industry and labor, the national forests emerged intact, with stronger statutory safeguards than existed, in practice, before the Monongahela Decision.

Most of this was due to the devotion and dedication of all Sierra Club members and others who cared enough about this issue to write letters throughout the campaign and especially in those last days. Your voices *did* make a difference. Last fall, your letters and telegrams blunted the timber industry's drive to obtain quick emergency legislation to overturn the Monongahela Decision. Then, as the Senate subcommittees and committees marked up the bill, your efforts helped get critical elements of the strong Randolph Bill—those dealing with sustained yield, even flow, and marginal lands especially—into the initially weak Humphrey Bill. And although they didn't overcome the parliamentary maneuvering on the House floor nor the overwhelming strength of the timber interests in the House Agriculture Committee, they had a great impact on House members who became a part of the conference committee. All of you who responded in those critical last days deserve the greatest thanks from all of us. **SCB**

# YOU DECIDE

Suddenly, the common bobcat is uncommon — hounded and trapped to the vanishing point in many areas. Even tiny bobkittens are being trapped for their pelts, which go to Europe to become high fashion furs.

Defenders of Wildlife is leading a campaign to protect the bobcat as an endangered species. Just as we led the fight to save Alaska's wolves, to prevent the drowning of porpoises in tuna nets, to halt predator poisoning.

We've been fighting such greedy cruelties for half a century. But we need new strength: yours.

Join with us. Your reward will be the satisfaction of making the world better for other creatures. Also, the outstanding bimonthly magazine, *Defenders*, with its enlightening coverage of natural history and conservation, its educational supplements, and first-rank writers and artists. (Recent contributors include Loren Eiseley, Lewis Thomas, Tony Auth, Hope Ryden, Jeff MacNelly, Faith McNulty.)

Without help from those who can speak, the creatures that cannot are doomed. Join the fight while there's still time.

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Please enter my membership for ( ) 1 year — $10 ( ) 2 years — $18 ( ) 3 years — $25

*D*efenders of Wildlife, 1244 Nineteenth Street, Washington, D.C. 20036

# News

## Energy legislation stalled as Congress adjourns

Very little new energy legislation emerged from Congress during the closing days of the last session. The most positive achievement, perhaps, was the enactment and signing of an energy-conservation bill supported by the Sierra Club, American Institute of Architects and various consumer, labor, business and environmental groups. It establishes mandatory energy-conservation standards for new buildings and provides grants, loan guarantees and other incentives for energy conservation in existing buildings.

Just a couple of days before Congress adjourned, the Outer Continental Shelf Lands Act Amendments bill, which had already survived a House-Senate conference committee, was effectively killed by a last-minute maneuver that sent it back to conference. Supported by conservationists and a majority of members of Congress, it would have provided states a greater role in offshore-leasing decisions, assured stringent safeguards for offshore oil development, and provided the public a fair return from the lease of offshore resources. The bill was opposed by the Ford administration. A related bill that would have established a more comprehensive system for assessing oil-spill liability also was defeated. Both bills will re-emerge in the next Congress. In other actions:

- A final effort to enact a federal strip-mine bill failed when the House Rules Committee voted not to allow it to reach the floor. The bill will be a high priority next Congress.
- Legislation opposed by environmentalists which would provide between two and four billion dollars in loan guarantees and other subsidies for synthetic-fuel development died when the House voted 193-192 not to consider the several competing versions of the legislation.
- The Senate sidetracked legislation passed by the House that would have provided eight billion dollars in loan guarantees to Bechtel Corporation for the construction of private uranium-enrichment facilities. Conservationists applauded the Senate's action on this blatant give-away.
- Congress also failed to act on two competing bills to control the spread of nuclear weapons made possible by uncontrolled export by the U.S. of nuclear fuels and technology.

## Forestry reform bill passes

After a year-long struggle between conservationists and the timber industry and unions, Congress produced a forestry reform bill. Preliminary analysis of the bill's complex provisions indicates that conservationists fared better than anticipated. Provisions include a declaration that "sustained yield" and "even flow" are guiding policies, and a statement that logging cannot be a management goal on lands where irreversible soil erosion will result from cutting, or where trees cannot be successfully restarted within five years of the cut.

## Arctic gas pipeline bill passes

In the closing days of the recent Congress, the Senate passed a House bill establishing a procedure for determining a route for the proposed Arctic gas pipeline. Earlier attempts to preclude all judicial review and to give the administration the right to ignore other laws in routing the pipeline were defeated. The new legislation, which is acceptable to conservationists, involves review and approval—in the following order—by the Federal Power Commission, the Council on Environmental Quality, the President and Congress.

## Reprieve for the Mississippi

Proponents of a new and expanded Lock and Dam 26 on the upper Mississippi suffered a serious setback recently when Congress failed to include authorization for the controversial project in the Water Resources Development Act of 1976. The project's supporters had mounted a major campaign to win congressional approval, hiring a $50,000-a-year lobbyist with a $250,000 budget, and retaining a prestigious public-relations firm under a $175,000 contract. Even so, waterway interests not only failed to gain congressional approval for Lock and Dam 26, but came closer than ever before to having user charges imposed on them for the construction, operation and maintenance of the nation's inland waterway system. For the first time, such a user-fee provision was reported out of the Senate Public Works Committee.

## Hearings set for Lake Placid Olympics

Hearings on the draft environmental impact statement (dEIS) for the proposed 1980 winter Olympics scheduled to be held in New York's Adirondack Park will be held at Lake Placid (the proposed site) on December 10, and at Albany on December 18. Environmentalists, who fear the impacts of a large Olympic facility on the forest preserve, have criticized the dEIS for being incomplete and for failing to consider various alternatives. Those who wish to submit comments on the dEIS are invited to address them to: Mr. John Hansel, Room 7126, U.S. Department of Commerce, Washington, D.C. 21230.

## Snowmobiles banned in BWCA

An immediate ban on snowmobiling in the Boundary Waters Canoe Area was announced in September by the Secretary of Agriculture. In addition, a limit on the maximum horsepower for boats was established for most areas. The BWCA, located in the Superior National Forest in northeastern Minnesota, is the largest designated wilderness east of the Rockies. The ruling resulted from an appeal made by the Club's North Star Chapter and the Minnesota Federation of Ski Touring of a forest plan that would not have terminated the use of snowmobiles in the BWCA until 1980.

# News

### Congaree Swamp National Preserve created

In the fading days of the session, the House passed a bill to create a Congaree Swamp National Preserve. Sponsored by the entire South Carolina delegation, the measure authorized acquisition for Park Service management of the famous 15,000 acre Bidler Tract of virgin hardwood forests along the Congaree River. In the Senate, the bill lost momentum because of objections from Senator Bennett Johnson (D-Louisiana), and only the last-minute efforts of the South Carolina senators Hollings and Thurmond and Senator Henry Jackson persuaded Johnson to drop his objections and permit the bill to be cleared for signature.

### Lobbying disclosure act killed

The Public Disclosure of Lobbying Act was killed by parliamentary maneuvers two days before the end of the last session of Congress. After the Senate passed an unworkable bill on June 15, public-interest groups worked improving amendments into the House version before it was passed on September 28, including an amendment sponsored by Representative Don Edwards (D-California) for the Sierra Club. Senator Abraham Ribicoff (D-Connecticut) vowed that his Government Operations Committee will take up the legislation again in January. Public-interest groups worked to amend early drafts of the legislation that would have hampered their activities without seriously affecting those of big industrial lobbies.

### Toxic-substances bill passes; delays in air and water clean-up

Enactment of the Toxic Substances Control Act was a major achievement for environmentalists in this past session of Congress. Signed into law by President Ford on October 11, the bill gives EPA authority to screen and require testing of new chemicals or significant new uses of existing ones. It also gives the agency powers to protect the public from hazardous substances posing an imminent danger.

Congress failed, however, to pass the Clean Water Act Amendments. Environmentalists were not happy with the House version of the bill, particularly its provisions on (1) the disposal of dredged or fill material in wetlands and (2) state approval authority over construction grants for wastewater treatment facilities. The Senate-House conference committee on this bill failed to reach agreement before Congress adjourned, and environmentalists are content to wait until next Congress for a more comprehensive review of progress in cleaning the nation's waterways.

The bill revising the Clean Air Act, which emerged from conference strongly supported by conservationists, was the victim of a last minute filibuster by those who oppose its strong language on significant deterioration. Even though the bill extended the current deadline for meeting auto-emission standards, the auto industry does not think the delay is long enough.

### Ford signs "Land and Water" amendments

President Ford signed into law amendments to the Land and Water Conservation Fund that will increase authorization, beginning in 1980, in three stages to $900 million. The current level of authorization is $300 million. This will provide a big boost to federal, state and local park programs, which have had to curtail expansion sharply because of a growing backlog of unpurchased parks and rapid inflation in land prices.

### Ford affirms protection for New River

The end of a fourteen-year struggle to save the New River in North Carolina came when President Ford signed a measure reaffirming his administration's designation of the New River as a Wild and Scenic River. Its status has been in jeopardy as the result of a prior Federal Power Commission permit for construction of a twin-dam, pumped-storage hydroelectric facility.

### Wilderness bills pass

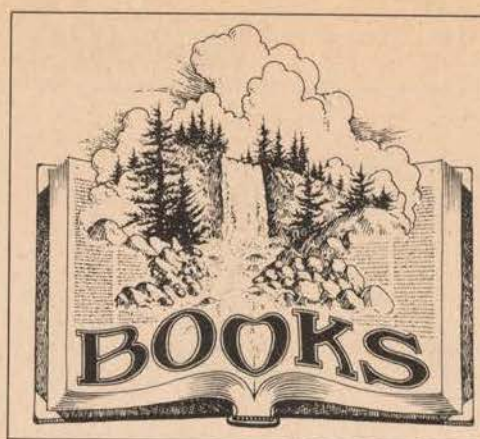
Congress has passed the omnibus National Park Wilderness bill (H.R. 13160), which designates as Wilderness more than 900,000 acres located within thirteen units of the national park system. Many of these areas will be considered for possible expansion in the future. At press time, the bill was still on the president's desk. The Senate also passed on September 30 the omnibus forest-and-refuge wilderness bill (S. 1026), which designates nineteen areas (about 388,000 acres) as Wilderness. Sixteen of the areas are in national wildlife refuges; three are in national forests. The bill provides that an additional 587,000 acres shall be studied for possible future Wilderness designation. President Ford signed both bills in mid-October.

### Ford signs BLM Organic Act

The Bureau of Land Management at last has a statutory charter defining its basic management and enforcement authority over 450 million acres of public domain. Congress passed the "organic act" shortly before adjourning in late summer, and President Ford signed the legislation in mid-October. It contains a provision for wilderness review and embodies satisfactory provisions on land withdrawals and grazing, unlike the earlier House version.

### Park mining bill signed into law

The Park Mining Control Bill, S. 2371, was signed into law in September. It prohibits new mining claims in Mount McKinley and Crater Lake national parks; Death Valley, Glacier Bay and Organ Pipe Cactus national monuments; and Coronado National Memorial. Also, it establishes a four-year moratorium on increased mining activity in Mt. McKinley National Park and in Death Valley and Organ Pipe Cactus national monuments.




Mary Austin

# Mystic, Writer, Conservationist

Kevin Starr

The reputation of Mary Hunter Austin (1868-1937) has always been obscured by the lingering, luminous memory of Willa Cather. Should a poll ever be taken among members of the Sierra Club, Willa Cather would no doubt emerge as the most popular and respected woman writer ever to associate her career with the American West. That is as it should be. The author of such masterpieces of Western life as *O Pioneers!* (1913), *The Song of the Lark* (1915), *My Antonia* (1918), *The Professor's House* (1925), and *Death Comes for the Archbishop* (1927) deserves such recognition. Most of her work is still in print; and, with sales continuing year after year, her publisher, Alfred Knopf, does not even feel the need to reprint her in paperback.

And yet lovers of American literature and of the American West do themselves a disservice by allowing the work of Mary Austin to remain the province of scholars and specialists. In the course of a busy and varied career, she produced a diverse and distinguished body of writing which, in its way, rivals—or better, complements—the achievement of Willa Cather.

Cather made her most lasting contribution in the novel. Mary Austin produced some skilled and interesting fiction: *Isidro* (1905), for instance, a novel of the California Missions; *Santa Lucia* (1908), a love story set in a small California college town; *Outland* (1910), a fantasy-narrative dealing with Carmel; the feminist novels *A Woman of Genius* (1912), *The Lovely Lady* (1913), and *26 Jayne Street* (1920); and *The Ford* (1917), a novel dealing with the Owens Valley/Los Angeles controversy over water rights.

But Mary Austin reached her greatest creativity as an essayist, as a literary landscapist and master of style. Her evocative, poetic portraits of California and the Southwest—*The Land of Little Rain* (1903), *The Flock* (1906), *Lost Borders* (1909), *California, Land of the Sun* (1914), *The Land of Journeys' Ending* (1924), together with her autobiography *Earth Horizon* (1932)—are, one in all, *tours de force:* prose poems of vision and grace, in which perception, intuition, and mystical insight are realized, and presented, through metaphor, cadenced language and exquisite precision of detail. These books evoke California and the Southwest as regions of dramatic beauty and immemorial mystery, akin to the classic landscapes of the ancient world. For Mary Austin, the Southwest offered its "indwellers"—those who lived close to the region—a geography of aesthetic adventure and spiritual encounter.

Born in Carlinville, Illinois, in 1868, a daughter of that town's local "squirearchy," Mary Austin was by temperament something of a mystic or natural contemplative. When she was a little girl, she tells us in *Earth Horizon*, she came upon a walnut tree on the edge of a sloping hill as on a summer morning she walked through an orchard. Silhouetted against the blue sky, its branches swayed in the wind. "Quite suddenly, after a moment of quietness there," she writes, "earth and sky and tree and windblown grass and the child in the midst of them came alive together with a pulsing light of consciousness. There was a wild foxglove at the child's feet and a bee dozing about it, and to this day I can recall the swift inclusive awareness of each for the whole—I in them and they in me and all of us enclosed in a warm lucent bubble of livingness. I remember the child looking everywhere for hours for the source of this happy wonder, and at last she questioned—'God?' —because it was the only awesome word she knew. Deep inside, like the murmurous swinging of a bell, she heard the answer, 'God, God.'"

Photos courtesy of the Bancroft Library

Graduating from Blackburn College, Carlinville, in 1888, Mary came west to California that year with her brother, sister and widowed mother. They filed for a homestead in the Tejon district of the lower San Joaquin Valley. Mary supplemented the family income by teaching school. Between 1888 and 1904, when she moved to Carmel, the important events of her life transpired. She made an unsatisfactory marriage, later dissolved by divorce. She gave birth to a retarded daughter, who was to die in early adulthood. Getting to know Mexicans, Indians and other desert dwellers, she began to write of them in the early 1890s, and of the desert itself, for *The Land of Sunshine* and *The Overland Monthly.*

Reared as a Methodist, she was by nature intuitive and religious. From childhood, she tells us, she sought God, not as a theological formulation, but as "the experienceable quality in the universe." Her adult revolt against Methodism left her innately religious temperament restless and without context. The Southern California desert restored her sense of mystery. She encountered "Something" which she called the Spirit of the Arroyos,

> . . . a lurking, evasive Something, wistful, cruel, ardent; something that rustled and ran, that hung half-remotely, insistent on being noticed, fled from pursuit, and when you turned from it, leaped suddenly and fastened on your vitals. This is no mere figure of speech, but the true movement of experience. Then, and ever afterward, in the wide, dry washes and along the edge of the chaparral, Mary [Mary Austin often wrote of herself in the third person] was beset with the need of being alone with this insistent experiential pang for which the wise Greeks had the clearest name concepts . . . fauns, satyrs, the ultimate Pan. Beauty-in-the-wild, yearning to be made human.

The Spirit of the Arroyos led her to yearn for mystical experience. And then it happened: something that provided her with the foundation for all her subsequent writing about California and the Southwest.

> It was a dry April, but not entirely barren; mirages multiplied on every hand, white borage came out and blue nemophila; where the runoff of the infrequent rains collected in hollows, blue lupine sprang up as though pieces of the sky had fallen. On a morning Mary was walking down one of these, leading her horse, and suddenly she was aware of poppies coming up singly through the tawny, crystal-sanded soil, thin, piercing orange-colored flames. And then the warm pervasive sweetness of ultimate reality, the reality first encountered so long ago under the walnut tree. Never to go away again; never to be completely out of call . . . . Only the Christian saints have made the right words for it, and to them it came after long discipline of renunciation. But to Mary it just happened. Ultimate, immaterial reality. You walk into it the way one does into those wisps of warm scented air in hollows after the sun goes down; there you stand motionless, acquiescing, I do not know how long. It has nothing to do with time nor circumstance; no, nor morals nor behaviors. It is the only true and absolute.

She began casting about for some way of relating through prayer and ascetic practice to the ultimate reality she had experienced amidst the lupine and the poppies.

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*Kevin Starr is on a Guggenheim Fellowship, finishing the second volume of* Americans and the California Dream.

A brief reaffiliation with the Methodist Church left her dissatisfied, and an experimental Practice of the Presence of God drew her further and further away from Christian orthodoxy. The God she encountered in her meditation was neither triune nor personal, but a principle in creation itself.

The Paiutes, she felt, came closest to the truth when they understood it as Wakonda or The-Friend-of-the-Soul-of-Man. As the effective principle of creation, Wakonda could be communicated with through prayer, not in uncertain petition as in Protestantism but with the certainty of a chemical reaction. Addressed properly, The-Friend-of-the-Soul-of-Man always heard.

Prayer, in other words, as practiced by the Paiute, freed Mary Austin from a Calvinist universe, with its arbitrary, personal God acting out of inscrutable purposes. To the Indian way of looking at it, men and the principle behind creation shared a relationship of necessity. Putting oneself in harmony with creation—through patterns of work, art, the dance—one prayed, knowing from the start that you were being listened to if you prayed correctly.

> Prayer is the whole process of becoming, of complete expressiveness of which we shall never arrive at any given mark . . . . It ties and unties, patterns and unravels; the most that we can do is to take it at the flow, going with it, leaning upon it.

All of this is not to suggest that Mary Austin was primarily a religious figure or a mystic. Her religiosity was but one line of interest in a varied, busy life. It did, however, underlie and structure her relationship to landscape. To her way of thinking, intuitive communion with landscape was contact with Ultimate Reality itself; a completeness of Being that was imminent in creation, but that also transcended it. As a literary landscapist, she sought not so much to describe (although she described magnificently), as she sought to discern and present aesthetic patterns in the landscape—existential confluences of biology and geology—which in their balance and harmonies showed the shaping presence of creative mind. To read Mary Austin's evocations of landscape is to pass with her through a process of intuition, discernment, pleasure and choice. It is to grow in a personal sense: to nourish one's inner being through an act of imaginative repossession of nature's fullness and harmony.

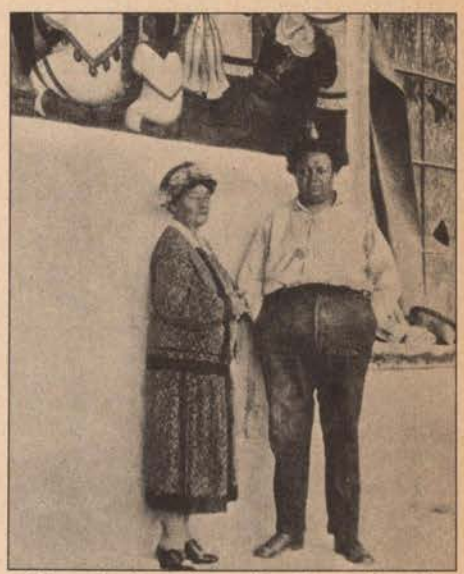
The life of Mary Austin should be of great interest to contemporary women. It was a brave struggle for assertion and fulfillment. Stafford Austin, her husband, reminds one very much of the husband figure in Wallace Stegner's Pulitzer Prize-winning novel of the West, *Angle of Repose* (1973): a stubborn, hard-working man, pursuing ill-fated schemes of development, and wanting his wife never to place herself—financially, socially, but above all intellectually—above the circumstances of his persistent, but derailed career.

Seeking solace from her husband's bitterness and from her child's failure to develop, the young ranch wife turned to her pen. The flamboyant Charles Fletcher Lummis welcomed her work into *The Land of Sunshine*, a Los Angeles-based magazine taking for its subject the entire Southwest. During the years her marriage disintegrated (1898-1903), she forged ahead, posting article after article from the post office at Lone Pine. In 1900 she gave up the struggle to try to care for her retarded daughter and to write at the same time, placing Ruth with a foster family.

The year 1903 saw the publication of her first (and, some say, greatest) book, *The Land of Little Rain*. Shortly thereafter she left Stafford Austin and moved north to Carmel, California, where an art colony was forming out of San Francisco Bay Area artists looking for a congenial place to work. She lived there for about three years, becoming part of a bohemian group that included (at various times and for various lengths of sojourn) George Sterling, Jack London, Ambrose Bierce, Edwin Markham, Lincoln Steffens and John Muir, among many others. At Carmel she became active in the Forest Theater Society, a group of bohemians who produced outdoor verse dramas, mainly mythological, but also including Biblical and Native American themes. For the Forest Theater, Mary Austin wrote *The Arrow Maker*, which also, in 1911, played briefly at the New Theatre in New York.

Reminiscences of Mary Austin during her Carmel period describe her as a headstrong, slightly difficult woman, given to artful eccentricity. She dressed frequently in the leather gown of an Indian princess and did her writing in a Paiute wickiup she had constructed on a platform in a tree. She claimed gifts of prophecy and extrasensory perception. There was always in her make-up a blend of sincerity and hokum, of spontaneity and playing-for-effect.

London, New York and San Francisco claimed much of Mary Austin's time before and after the First World War. Following the death of her daughter in a sanatorium, she spent the remaining years of her life as a solitary *chisera* or medicine woman—one who has seen and suffered and who now spends her life in the service of the tribe, above the play of passion or ambition. She eventually (1924) chose Santa Fe, New Mexico, as her home, feeling, as she did, that California, for her at least, no longer held the mystery of things. The Spirit of the Arroyos, first encountered there, had now to be pursued deeper into the Southwest. She built a lovely adobe home, Casa Querida, in Santa Fe, epitomizing Southwestern lore, style, and value. From this last period date her Southwestern masterpiece, *The Land of Journeys' Ending* (1924); her study of Indian poetry and Hispanic American folk culture, *The American Rhythm* (1924); and her autobiography, *Earth Horizon* (1932). Suffering from cancer, she



*Mary Austin and muralist Diego Rivera in Cuernavaca, Mexico.*

faced her death with courage, resignation and hope in *Experiences Facing Death* (1931), an essay-memoir of moving profundity. Her ashes were interred on Mount Picacho near Santa Fe on August 13, 1937.

Contemporary readers of Mary Austin find her a marvelously modern figure. Her holistic approach to the outdoors—her blending, that is, of intuition and analysis, fact and poetry—is quite in keeping with today's ecological consciousness, which also seeks a wholeness of response to environment. Mary Austin sought the integration of her faculties. She thirsted for the visible fact and for the invisible meaning of things seen. Her holism, for example, animated her feminism, so eloquently expressed in her *Love and the Soul Maker* (1914): a protest against sexuality as an exploiting, detached function, energized by female passivity and male aggression. She advocated a flexible, spiritualized mind-body awareness as the reformed basis of human sexuality. Disappointed herself, Mary Austin wanted other women to have a chance at happiness.

She was partly a *poseur*, true—but what great artist is not? She had a flair for the theatrical, desiring to bear witness to her values through the drama of her life. As she grew older, her lifestyle became a studied expression in regional living. She was fond of pointing out that life itself was the greatest of art forms.

Again there was the passion for integration: as if each detail of dress, speech, cooking, furniture, interior decoration, and architecture could be integrated into a single revelatory pattern. For it was pattern Mary Austin sought—the pattern of the cosmos as it worked within the self and the environment.

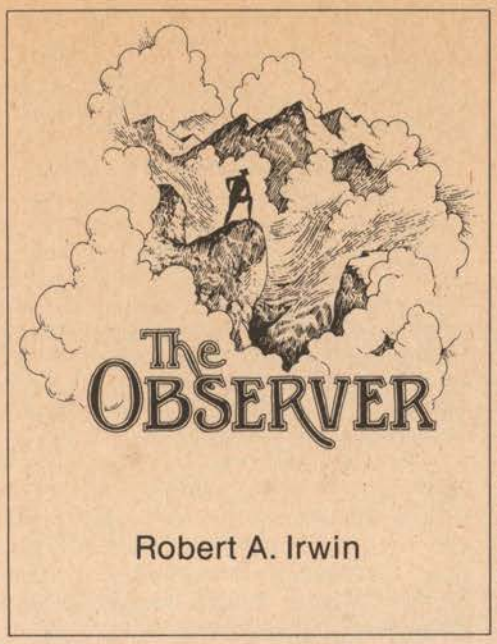
She was, finally, an American woman of representative American concerns and energy. Like Willa Cather, Mary Austin came from a small Midwestern town. She rejected its smug provincialism, but she took with her for a lifetime the sense of strength and self-possession that came from growing up willful, bright, and ambitious in a provincial setting. As a child, she insisted that her breakfast egg be cooked four minutes, instead of two like the rest of the family. She went through life insisting upon, and often attaining, various versions of the four-minute egg. Meeting her in London in 1901, the expatriate American novelist Henry James found Mrs. Austin a little on the pushy side—a little too opinionated. He might very well have said "a little too Western." For Mary Austin was, above all else, a woman of the West: a ranch woman, a rural schoolteacher, a friend of sourdoughs, of Indians, and of *paisanos*, an essayist and conversationist *par excellence*. She loved California and, later, New Mexico with a grand and generous passion—and she made that love manifest through the enduring testimony of literary art. **SCB**

## $R_X$ for Better Communications

As chapters grow and groups proliferate, often the only real face-to-face experience an ordinary member has with the Sierra Club is with his or her local group. Even the chapter can become remote, especially its executive committee, which decides chapter policy, expenditures and programs. To be sure, most chapter newsletters exhort members to attend "excom" meetings, but when they are held in someone's small downtown office, or in a home far out of town, visitor attendance will seldom be anything but slim. Before long, the "excom" may find that, although it seems to be talking for the whole chapter, it actually is talking only for and to itself. Member alienation can set in, manifesting itself in overawe or resentment of the excom, or even worse, utter indifference.

A great many chapters have become aware of this affliction and are attempting to bring their executive committees to the members, instead of making half-hearted appeals to members to sit in on their proceedings. Some chapters have begun to organize weekend chapter meetings. Some are relatively unstructured, perhaps an open meeting of the executive committee, plus an outing or two. Others are built around a full schedule of activities—workshops, speakers, panel discussions and major committee meetings.

The Tennessee Chapter regularly holds the relatively unstructured type of weekend meeting. Its executive committee "rides circuit" throughout the state, its meeting hosted in turn by the chapter's four regional groups. On the April 10-11 weekend, for instance, the Chattanooga Group hosted the meeting at Pickett State Park. The Oklahoma Chapter scheduled a somewhat more formal occasion on the weekend of June 4-6 in Platt National Park to mark the recent establishment of the newest unit of the National Park System, the Chickasaw National Recreation Area. The Redwood Chapter held its first-ever weekend meeting on September 18-19, with an overcapacity attendance of 145. It was a relaxing, loosely structured gathering in a redwood-forest camp of rustic cabins near Mendocino, California. There were ecology hikes, both leisurely and strenuous. An evening program of conservation updates was capped with a wide-screen, three-projector presentation by naturalist John Olmsted of a proposed transcontinental hiking trail. On Sunday morning the executive committee met. Chapter members joined in the lively discussion of a possible reorganization of the committee into a council-type body of delegates from each of the chapter's five groups. In the afternoon, Olmsted, who only this past summer won state protection for the final missing section of the nearby Pygmy Forest Giant




Staircase, led three arduous tours up and down that unique series of sea terraces (see article by Stephen Whitney in the May, 1973, *Bulletin*). Total cost, including three meals, a surprising $6 per person.

An example of the more highly organized and ambitious type of weekend meeting is the "group-chapter conference" held by the Mother Lode Chapter May 14-15 at the Club's Clair Tappaan Lodge. The announcement of the conference in the chapter's newsletter, *Bonanza*, explained the aims of the meeting to chapter members:

> This gathering is to help members understand how the Sierra Club works—and to improve those workings in the Mother Lode Chapter. It will give you a picture of our activities. It will give you a chance to talk with people involved with the activities. It will help others to see things from a new (to them) perspective—yours. It will be a forum for exchanging ideas and techniques that work—or don't work. Emphasis will be on communication and sharing of information.

The conference began on an informal note Friday evening with music, folk dancing and conversation. It got down to business Saturday morning with a long workshop session on communications and how to improve them at different levels within the Club and in such activities as meetings, outings and public relations. Kent Gill, past Club president and long-time chapter member, led off the afternoon discussion of Club, chapter and group roles in conservation. More music and folk dancing followed in the evening, along with the showing of new Club films. On Sunday, there were workshops on chapter and group elections and bylaws, newsletters, membership and outings. For those who were tired of sitting, there was a field course in orienteering. Meals and lodging cost each participant from $13.50 to $15 for the weekend —plus some housekeeping or kitchen duty.

The turnout and enthusiastic participation exceeded expectations. Each session was attended by from fifty to sixty members. The conference achieved its goal of improving communications and informing members of how the Sierra Club works and what it is all about.

## Notes and Briefs

The Sierra Club. Crazy enough to think that our wilderness is worth saving"—this is the eye-grabbing message on the front of a new brochure to attract and recruit new club members. Designed by Denny Shaffer, chairman of the National Membership Committee, the brochure is available to chapters and groups from the Member Services Department at Club headquarters. So far, the Joseph LeConte, New England, Pennsylvania and Rio Grande chapters have each placed orders for 5,000 brochures and twenty-five display-card racks for holding them. . . . Also available from Member Services is a new, eighteen-minute, 140-slide show with recorded music and commentary for presenting the Sierra Club to prospective members; for new members, it serves as an introduction to the Club's history and goals. A $5 donation, plus return shipping, is asked for use of the audio slide show.

### On the Chapter Front

Talchako Lodge, the Club's wilderness retreat in northern British Columbia, is doing well and should more than break even this year, the Western Canada Chapter reports. Caretakers Gary and Dawn Miltenberger, three and a half meals a day, plus all-season operation, have made the difference. . . . The Hawaii Chapter's "travel service" for Sierra Club backpackers and campers has become a heavy drain on its treasury. In order to continue the service, the chapter makes the following modest request: When you write them at P.O. Box 6037, Honolulu, Hawaii 96818, could you please tuck in a dollar? . . . The Ozark Chapter has published a thoroughly documented alternative plan to a proposed Army Corps of Engineers dam on the scenic, free-flowing Meramec River in central Missouri. The plan appears as a special supplement edited by Chapter Chairman Jerry Sugerman in the August/September issue of the chapter's newsletter. Its chief argument, based on state and federal recreational-needs surveys, is that the demand for such flat-water activities as power boating, water skiing, and sailing has declined dramatically since 1966, while that for hiking, bicycling, camping, canoeing and backpacking has risen. With half of Missouri's Congressional delegation retiring this year, the Meramec Dam has become a major political issue, with many candidates supporting the alternative plan. . . . The San Francisco Bay Chapter has set up the Nat Flynn Defense Fund to help defray $17,000 in legal fees incurred during Mr. Flynn's futile year-long battle to keep

his job as an engineer with the Bay Area Air Pollution Control District. Mr. Flynn's "mistake" was in daring to suggest that the district require local oil refineries to comply with air-pollution regulations.

### The Group Scene

The Big Bend Group of the North Star Chapter has been awarded an HEW grant of $8,296 to sponsor workshops in a dozen southern Minnesota communities to promote citizen awareness of the effects of today's social, economic and political decisions on the future environmental quality of their 200-mile-long Minnesota River Valley. . . . The Pomo Group of the Redwood Chapter has produced a new bumper sticker that reads, "Sierra Club . . nature's voice." The hand-made, silkscreen stickers, at $1 each or five for $4, are available from the Pomo Group, Box B, Capella, CA 95418. . . . Members and friends of the Governor Pinchot Group of the Pennsylvania Chapter rode rafts down a wild, nine-mile stretch of rapids on their state's Youghiogheny River on Labor Day, each thereby putting $20 into the coffers of the Group. The outfitter donated the use of the rafts, paddles and life jackets, plus the services of guides, lunch on the river, and a bus shuttle. . . . *The Wilderness World of John Muir*, a collection of Muir's writings edited by Edwin Way Teale, is available in paperback at $5 postpaid (plus 30c tax in California) from the Peninsula Group, Loma Prieta Chapter, P.O. Box 111, San Carlos, CA 94070.

### With Our members

Observing that "money talks" for the hunters on matters of conservation because of the excise taxes they pay on firearms and ammunition, Outings Chairman George Kay of the Atlanta Group of the Chattahoochee Chapter suggests that perhaps hikers and backpackers might gain some clout if they too were to pay similar taxes on their equipment. . . . In August, two activist members of the Baton Rouge Group of the Delta Chapter joined forced in marriage. The bride, Doris Falkenheiner, former chapter conservation chairperson, was a recent recipient of the Governor's Award by the Louisiana Wildlife Federation for her campaign to preserve wetlands in the Bayou Cocodrie (Dismal Swamp) area. The groom, Charles Fryling, Jr., is a former chairman of the group. . . . Hal Thomas, former conservation chairman of the Tehipite Chapter and now chairman of the Club's Forest Practices Committee, has been awarded the Commonwealth Club of San Francisco's silver medal for literature for his book for young people, *Coyotes, Last Animals on Earth?* . . . Late last June, 176 Cumberland Chapter members and friends walked across a log bridge to the strains of country music and paid their $3 toll to attend an H. B. Farmer Day chicken feast. Farmer, or Mr. Herbert as he is best known, was being honored for his long and so-far successful efforts to save Red River Gorge from the dam builders. Another tireless Red River battler, the chapter's Carroll Tichenor, hailed Farmer's legendary posters, thousands of leaflets, personal appeals to senators and congressmen all over the country, and his contributions of time "and sometimes almost all of his money to save his beloved Red River Valley." . . . Businessman-environmentalist Sidney Hirsh sees no incongruity in "knowing how to meet a payroll and being an active conservationist," he told a business-page writer for the *Tucson Star* recently. Hirsh is the chairman of the Rincon Group of the Grand Canyon Chapter and a frequent leader of Sierra Club outings in the Southwest. As a partner in his family's four-store shoe business, he obviously has a stake in how Tucson develops and is quick to point out to his fellow entrepreneurs that they too have a stake in preserving the community's amenities and surrounding wildlands.

## This Column Tries to Help, But It's No Ombudsman

In my brief appeal last April for material of possible interest to members, I apparently also seemed to be offering my services as a Sierra Club ombudsman. It was my suggestion that if you should need feedback on some problem, all you had to do was to let me know. That did it! All kinds of requests poured in. I had intended only to offer a bit of space here for notices seeking some needed, hard-to-find information. Indeed, the Sierra Club already provides an ombudsman service. Who is your ombudsman? The representative from your region on the National Membership Committee. Their names and addresses by regions are:

NORTHEAST Robert Norman, Math Dept., Dartmouth College, Hanover, NH 03755 (All of New England, NY, NJ, and Ontario, Canada)

APPALACHIAN Barry Grimm, 1234 B Columbus Circle, Wilmington, NC 28401 (PA, DE, MD, VA, WV, TN, NC and SC.)

MIDWEST Julius J. Werner, 2020 Chamberlain Ave., Madison, WI 53705 (OH, MI, IN, KY, IL, WI, MN, IA, MO.)

GULF COAST J. Kenneth Watson, 1401 NW 30th St., Gainesville, FL 32605 (LA, MS, AL, GA, FL.)

SOUTHERN PLAINS Bradley Hogue, 3750 Long Ave., Beaumont, TX 77706 (AR, KS, OK, most of TX.)

SOUTHWEST Phillenore Howard, 1522 Stanford NE, Albuquerque, NM 87106 (CO, UT, NM, AZ, the El Paso tip of TX.)

NORTHERN PLAINS Norman Nelson, 1111 Ninth St., Rapid City, SD 57701 (NE, ND, SD, WY, MT.)

NORTHWEST James A. Vaupel, 4105 Cooper Point Road NW, Olympia, WA 98502 (ID, OR, WA, all of W. Canada)

N. CALIFORNIA Gil Deane, 17 Upper Fremont Dr., San Rafael, CA 94901 (all of CA north of and including the counties of Monterey, Fresno, Inyo, and the north strip of Tulare County)

S. CALIFORNIA Anne Van Tyne, 1319 Panchita Place, Santa Barbara, CA 93101 (all the rest of CA)

## Erratum

The editor regrets that Senator George Aiken was mistakenly said to be a member of the Senate Interior Committee rather than the Agriculture Committee, in the October *Sierra Club Bulletin* article "Eastern Wilderness."


### Sanguine/Seafarer

**To the Editor:**

With interest I have read the article on "Sanguine/Seafarer" in the April 1976 issue. The author, Grover Ellis, has made some very cogent arguments. But, however one feels about the desirability of such a weapon system, it is important to get the technical facts straight.

There is a statement attributed to Dr. C. H. Harrison in Mr. Ellis' discussion that *"there is considerable evidence that Sanguine may take 100 times more power than the Navy estimates."* This is a spurious argument based on some well-intentioned theoretical work that is now known to have arisen from an error in a complicated computer program. The discrepancy and related issues were discussed at great length in various papers that appeared in a special issue of the *Transactions of the Communications Society of the Institute of Electrical and Electronics Engineers* (Vol. Comm-22, No. 4, April 1974). The actual correction to the numerical results that eliminates this factor of 100 in power was acknowledged recently, in a very gracious manner, by J. R. Johler and R. L. Lewis in the journal *Radio Science* (Vol. 11, No. 2, pp. 75-81, Feb. 1976). With all due respect to Senator Gaylord Nelson, some earlier technical criticism of the antenna configuration published in the *Congressional Record* (April 17, 1972) have also proved to be unfounded.

The influence of Sanguine/Seafarer on the physical environment, not to mention the biological influences, is of vital concern to us all. Ultimately, some difficult decisions on the implementation of S/S will have to be made taking into account all factors. It is particularly important that the technical issues be debated openly at meetings of appropriate scientific societies and other suitable forums. The U.S. Navy and its contractors, federal advisory bodies such as the National Academy of Sciences, and the various technical advisors to our legislators need to recognize the strong as well as the weak points of each other's arguments.

*James R. Wait*
Boulder, Colorado

**Grover Ellis responds:**

Dr. Harrison's assertion that "Sanguine may take 100 times more power than the Navy estimates" may very well be an exaggeration. However, when I interviewed Dr. Harrison he stood by that statement. My main point, and a point I tried to make throughout my article, was that the size, antenna configuration and power requirements of the Sanguine/Seafarer system are always changing. They change from month to month, from year to year, from location to location. It is difficult, if not impossible, to know which figures to go by. I personally doubt, and am sure Dr. Harrison doubts, that Sanguine *will require* 100 times more power than the Navy has estimated. But I do not doubt that once the system is built, the Navy will find it necessary to return to the drawing board. And I will not be surprised—nor do I believe the Navy will be surprised—when they discover that the size and power requirements of Sanguine/Seafarer will have to be increased. It's already in the cards, and a careful reading of Navy literature on the subject will bear me out.

### Request for Information

**To the Editor:**

A group of individuals and organizations in Lexington is considering methods of improving our community's urban environment. We currently are researching various proposals, with tentative plans to introduce these as issues for discussion in the 1977 local elections for Mayor and Metro Council.

Any information that Sierra Club chapters, groups, or members might provide on what has been done in other communities on the following subjects would be greatly appreciated:

1. Requiring underground placement of utility lines;
2. Prohibiting billboards, and strictly regulating other signs;
3. Landscaping public streets and places; and
4. Coordination of "street furniture," such as traffic signals, signs, street lights, etc.

Information can be sent to me at 3378 Commodore Drive, Lexington, KY 40502.

*Eric Karnes*
Lexington, Kentucky

### Lobbying Reform?

**To the Editor:**

In your July/August issue, Brock Evans in "Washington Report" reviews the problems he feels the Sierra Club would have in complying with a new lobbying law. He portrays Common Cause as insensitive to the problems of small organizations and points out that virtually all public-interest groups oppose revisions in the law because they would be burdensome, expensive and possibly "crippling." He adds that business and labor also oppose a new lobbying disclosure law. Let's correct that assertion. Big business does oppose a new law; labor doesn't. The AFL-CIO fought hard and effectively to get a new law through the House.

It is true that Common Cause believes it is essential to the public interest that we have a strong and comprehensive lobbying

law which ensures disclosure of who is spending how much to lobby whom for what. One response is simple: quit the secrecy and cover not only the Congress but the Executive Branch and independent agencies as well.

We are for a law that makes this possible. We are not, however, for any bill which would define lobbyists to include unpaid Sierra Club "citizen lobbyists." Nor are we for a bill which places an unreasonable expense or reporting burden on small organizations. Although we are dedicated to the proposition that the public has a right to know, we would never back a bill which we feel would unfairly hamper groups from petitioning their government.

It is our firm belief, however, that in the interest of an open and accountable process, public-interest groups must not be treated as a privileged class but must be subject to the same requirements as any others who spend money to influence decision-making and public policy.

We believe that if we are ever to have accountable government, we must make it possible for the public to know about and evaluate the connections which exist between money and policy-making. Our work to open up congressional committee sessions, for disclosure of the financial holdings of government officials, for lobby disclosure and public financing of Presidential and Congressional elections, has been to that end.

As a new lobbying bill is shaped in Congress, Common Cause will work for a law which both ensures the public's right to know and makes it possible for public interest groups like the Sierra Club to continue as a vital force in American politics.

*David Cohen*
President, Common Cause

**Brock Evans responds:**

We agree with and support Common Cause's fine efforts for a more open process in government. But we still have to point out that the "lobbying reform" bill they originally supported would have crippled us and many other groups, without really affecting business interests.

By now, the *Bulletin's* readers are perhaps aware that the Public Disclosure of Lobbying Act passed both the Senate (on June 15) and the House of Representatives (on September 28) in differing versions, but was killed by parliamentary maneuvers in both houses two days before the close of the 94th Congress. What they might find dismaying, however, is that the legislation's floor managers, Congressman Walter Flowers (D-Alabama) and Senator Abraham Ribicoff (D-Connecticut), had attempted to beat the clock by avoiding a House-Senate conference entirely. They tried to formulate compromise language for this "open government" measure—behind closed doors.

Without a public proceeding and without a conference report to back up a compromise bill, public-interest groups could never be assured that their volunteer members' first-amendment rights to speak freely, to assemble peaceably and to petition their government had been fairly considered. We certainly agree with Common Cause that in order to be accountable, government should operate in the open.

Where we do not agree, however, is in our reading of the Senate bill, which was still pending before the Senate on June 6 when I wrote the article to which Mr. Cohen refers. On June 15, the Senate passed the legislation with Common Cause's full support, despite futile efforts by AFL-CIO, Nader's Congress Watch and the American Civil Liberties Union to amend offensive language.

The Senate bill required quarterly reporting on the lobbying activities of an organization's unpaid "principal officers" as well as of its paid staff. (The Sierra Club's regions, chapters and groups are almost entirely run by 500 volunteer leaders, and as many as 5,000 volunteers hold committee and subcommittee positions—these could all qualify as principal officers.) Also, the bill called for sworn statements and five years of record-keeping, subject to stiff fines and jail sentences, to substantiate quarterly reports on the "aggregate costs" of "entire solicitation" efforts, that is, the grass-roots chain reaction of newsletters, fliers and telephone calls by volunteer units in response to requests from the paid staff. Compliance would be costly, not only in terms of accounting procedures, but also in its inevitable chilling of public participation in federal decision-making.

In the three months that intervened between the passage of the Senate and House versions of the bill, labor and public-interest groups, including the Sierra Club, managed to persuade Common Cause to back various amendments to the House version, most of which would free an organization from having to report and keep records on the lobbying activities of its volunteers. Once AFL-CIO's own concerns were met, labor did indeed fight hard to get the House bill passed. However, despite other improvements, the bill had some residual first-amendment problems and inspired little enthusiasm among voluntary membership organizations, who felt that encyclopedic reporting would not curb lobbying abuses (gifts and services to influence decision-making).

I wish one could conclude from Mr. Cohen's letter that Common Cause at least no longer supports the Senate bill because it would discourage citizens from exercising their first-amendment rights and because it would impose an unfair burden on organizations, such as the Sierra Club, that cannot pass on the costs of compliance to consumers. However, I am puzzled by his remark that "public interest groups must not be treated as a privileged class."

Profit-making corporations are the privileged class on Capitol Hill. With their narrow economic interests, they need hire relatively few lobbyists and can rely on business affiliates to express "grass-roots" sentiments for them. Their lobbying expenses are subsidized under the tax laws as deductible "business expenses," and even so, they are passed on to the buyers of their products. By contrast, public-interest groups cover a wider range of more general issues, have little money and spend a larger proportion of what they do have for lobbying and for maintaining a constituency of dedicated volunteers. Rather than put us at an even greater disadvantage, we hope Common Cause will work with us to even up the balance.



# Horseshoe Meadows: Another Mineral King?

MARY ANN ERIKSEN

In the southeast Sierra Nevada, almost a mirror image of Mineral King westward across the crest, lies Horseshoe Meadows. Like Mineral King, it is a peninsula of unprotected land the Forest Service is determined to develop, surrounded by wilderness that will be trampled to death as a result. With Horseshoe Meadows, the peninsula is 6,000 acres of de facto wilderness, bordered by the John Muir Wilderness, the Upper Kern wilderness study area, and beyond, to the west, Sequoia National Park.

As in the case of Mineral King, the Forest Service has long promoted Horseshoe Meadows for major ski development, originally known as Trail Peak, the mountain to the south. And as with Mineral King, a major roadblock to the Forest Service's ski development schemes was the road itself or lack thereof: A dirt road had been pushed through in the twenties from the town of Lone Pine to the 7,000 foot level. But Horseshoe Meadows with its surrounding 2,000-year-old foxtail pines, was still above a 10,000 foot elevation, protected precisely because it was not a drive-in meadow. Soon, however, the Forest Service would change all that.

With help from the chamber of commerce and the Los Angeles Department of Water and Power, and despite strong public opposition, the Forest Service successfully campaigned to extend, widen and pave the road up the Sierra escarpment, stopping less than two miles from the meadows and creating one of the worst road scars anywhere. But this hideous defacement of the Sierra is by no means the road's worst aspect.

Because the road had been gouged across sheer, unstable slopes subject to severe sheet erosion, the Forest Service now estimates ten times as much money ($30 million) for stabilization as the $3 million so far for construction. And many critics believe the road can never be stabilized.

Mary Ann Eriksen

Without doubt, the road is a disaster, which even the Forest Service now admits: "In retrospect, it can be assumed that if the road was designed and proposed in this era of environmental awareness, it might be constructed differently, or not at all."

Unfortunately, the road's disastrous impacts extend beyond its terminus. In 1972 California Fish and Game documented these impacts, writing that the road . . .

> . . . has produced intense public use which threatens the continued existence of golden trout in the upper portions of the Golden Trout Creek and the South Fork of the Kern River. This is the ancestral home of the golden trout, which has been designated as California's State Fish. Intense use of the Cottonwood Lakes Basin has also developed upon partial completion of the road project and is jeopardizing continued adequate production of a harvestable surplus of golden trout eggs. This area is the sole available source of eggs for California's statewide Golden Trout Management Program.

Fish and Game further warned that present use would have severe impacts upon the reported remnant Mount Langley bighorn sheep herd (a rare subspecies) and would foreclose using the area for reintroduction of the bighorn.

With this documentation in hand, Fish and Game strongly advocated limiting development, human use and fish take, adding that if these measures proved inadequate, the road would have to be closed to provide for wildlife and habitat recovery.

Instead, the Forest Service issued its "final" plan for Horseshoe Meadows, calling for a "development theme of a 'gentle backcountry experience,'" and increased use of 35 percent or 1,300 people at one time. The road would be extended to a parking lot for 150 cars, campground for 100 trailers and campers, pack station with parking for 50 more cars, corrals, office, warehouse, barracks, sanitation facilities, etc., plus three or four backcountry campgrounds: in all, 350 acres of develop-

*Continued on page 44*

*Mary Ann Eriksen is Southern California Representative of the Sierra Club. Her articles and photographs have appeared in numerous magazines and newspapers.*

# Understanding Our National Symbol

## The Bald Eagle

VICTOR BANKS

Victor Banks

Our national stereotype of the bald eagle envisions a proud, defiant bird perched on a windswept crag—invulnerable, vigilant, poised to swoop down on its prey. This caricature says more about us than it does the eagle. For decades, people thought the bald eagle strong enough to take large game, but today, thousands of observations confirm Audubon's assessment of the bird as a lazy, often piratical species, most often relying for food on dead and dying fish. Yet between 1917 and 1952, 130,000 bald eagles were killed in Alaska alone because local fishermen thought that the bird killed enough large salmon to threaten the local industry. More recently, both bald and golden eagles have been shot or poisoned under the misapprehension that they preyed on sheep, especially young lambs.

The fact is that the golden eagle lives almost exclusively on ground squirrels, and the bald, as mentioned above, on fish and carrion. Either bird might stoop to feed on a sheep carcass killed by other predators, but neither would do the killing itself. The bald eagle act prescribes a $5,000 fine and/or one year imprisonment for anyone convicted of molesting the national bird, but shooting remains the single greatest cause of bald-eagle deaths. In addition, their populations are threatened by contamination of the food chain by pesticides, PCBs and heavy metals, all of which hinder reproduction. Finally, increased levels of clearcutting and other kinds of development are constantly reducing suitable bald-eagle habitats.

Once known to breed throughout the United States, the bald eagle is now severely restricted to but a few pockets in the Southeast, upper Midwest, Pacific Northwest and Alaska. In the north, their greatest challenge comes from harsh winters. As fish and other foods become scarce, some individuals migrate south to open waters; others remain in the north to scavenge for carrion. On rare occasions, when fish are plentiful, bald eagles, which are normally fairly solitary, will form large flocks. In Southeast Alaska, some 2,000 bald eagles may gather at a time.

In this, the Bicentennial year, it is appropriate to pay a tribute to the bald eagle, our national symbol. It may not be a proud and mighty bearer of arrows and olive branches, but it is a bird of majestic proportions and awesome beauty. Our best gesture of respect would be to understand at last that the bald eagle is not a fierce killer, but a bird of humble habits that now depends on us for survival.

*Victor Banks is chief exhibit writer for the Field Museum of Natural History in Chicago.*

*Tupper Ansel Blake*

Horseshoe *(Continued from page 41)*

ment. And though no longer advocating full Trail Peak ski development, the Forest Service wrote this plan, as it says, to "also leave open the future option for more intensive winter sports development."

Unwilling to foreclose another option of habitat, wildlife and wilderness protection, the Sierra Club continues its opposition to the road and development. Along with other conservation groups and the State of California, we have appealed the Forest Service's decision. And we have renewed our efforts to create the Golden Trout Wilderness, a large expanse of still unprotected wilderness in the southern Sierra, which includes Horseshoe Meadows.

Fortunately, Senator John Tunney (D-California) has introduced a Golden Trout Wilderness bill, and Senator Frank Church (D-Idaho) and Representative Morris Udall (D-Arizona) have marked the Golden Trout Wilderness for instant protection in their Endangered American Wilderness Act. These bills, like those to add Mineral King to Sequoia National Park, clearly signal the public's and hence legislators' growing awareness of the value of our natural heritage and the urgency to protect what's left. Only the Forest Service is slow to change, still advocating Mickey Mouse development schemes for the great American wilderness.

This latest example at Horseshoe Meadows evokes a 1969 *New York Times Magazine* article and the realization of how little the Forest Service has changed in the intervening years: "Perhaps, then, the truest value of Mineral King [substitute Horseshoe Meadows] is that it stands as the latest crass example of abuse of public land by the very agents to whom we entrust that land. One wonders how long America must tolerate such stewardship."

Please write to Senators Tunney, Udall and Church to push the wilderness legislation they've outlined, with a copy to Douglas Leisz, Regional Forester, California Region, U.S. Forest Service, 630 Sansome Street, San Francisco 94111. **SCB**

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Wint, Juanita Alvarez: Protectionists, managers and exploiters. F 76: 26-27.

*Space limitations have prevented us from printing a detailed index of news items which appeared in the* Bulletin *during 1976. If you need such an index, please write us and we'll be glad to send you one. The Editor.*

Statement required by the Act of Congress of August 24, 1912, amended by the Acts of March 3, 1933, July 2, 1946, June 11, 1960 (74 STAT .208), and October 23, 1962, showing the OWNERSHIP, MANAGEMENT AND CIRCULATION of the *Sierra Club Bulletin,* published ten times yearly at San Francisco, California —for December, 1976.

1. The names and addresses of the publisher, editor, and executive director are: Publisher: Sierra Club, 530 Bush St., San Francisco, California; Editor: Frances Gendlin; Executive Director: Michael McCloskey.

2. The owner is the Sierra Club, an incorporated non-profit membership organization, not issuing stock; Brant Calkin, President, 338 E. deVargas, Santa Fe, New Mexico 87501; Lowell Smith, Treasurer, 800 20th Street South, Arlington, Virginia 22202.

3. The known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amounts of bonds, mortgages, or other securities are: NONE.

The average number of copies of each issue of the publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was 137,717.

(Signed) Frances Gendlin







# ATTENTION LETTER WRITERS!!!

"What can I do to help?" is a question we frequently get in the Club's Conservation Department. One answer is to write letters. We are now creating a "Letter Writers' Group" composed of people who want to help with the Club's national campaigns to influence federal legislation and administrative policies.

The well-written letter is a key tool for conservationists, and the Club needs a group of people who can be depended upon when issues demand fast action. The Club continually appeals to its members to write letters on critical issues through the weekly *National News Report,* but the *NNR* is sent to Club leaders who are often too busy to write. Ideally the "Letter Writers' Group" would consist of people not already overworked with Club issues, who wish to help, and can be depended upon to write a letter on short notice three or four times a year. Congressional action often demands a fast response, so when a letter or phone call is needed, it will be needed quickly—within three days of receiving a request.

We especially need people from areas where the Club has few members, such as Montana or rural Iowa. In those areas where we have many members, such as urban California, our need is less critical, and you should have a special desire and commitment before signing up for the "Letter Writers' Group."

How we use this list will depend on what issues arise, how many people sign up, how long it takes to get the new system working, and which Congressional districts are important to given issues. So, if you don't hear from us right away, please don't get discouraged.

Please fill out the following form completely if you want to help.

Send to: Conservation Department
Attn. Campaign Assistant
The Sierra Club
530 Bush Street
San Francisco, CA 94108

Home Phone _____
Office Phone _____

Name _____ Membership Number _____
(from *Bulletin* label)

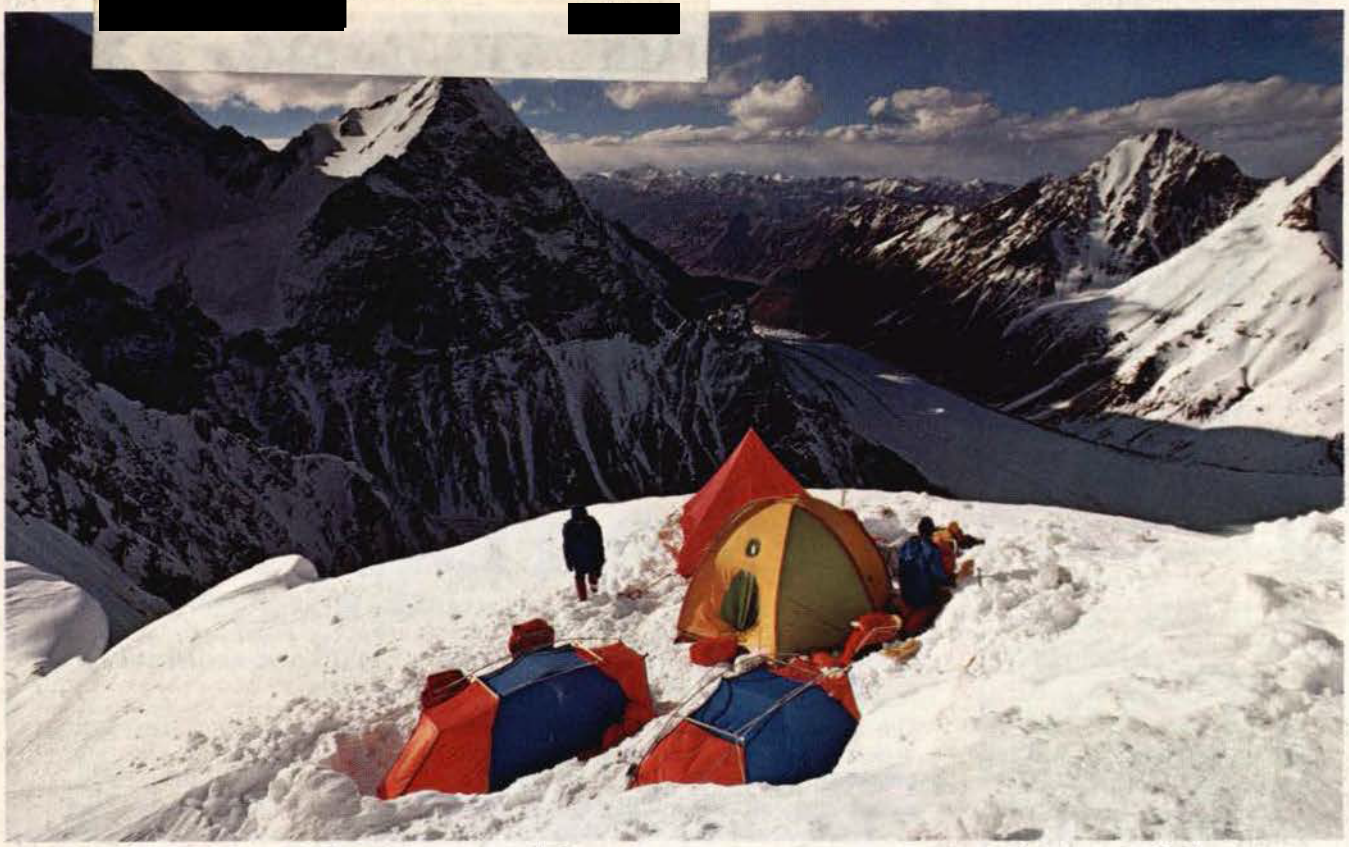
Address _____ City _____

State _____ Zip _____ Phone _____

Name of Congressman _____ District Number _____

SPECIAL INTERESTS (circle relevant categories)

GENERAL
ALASKA
ENERGY: General Nuclear OCS Coal Conservation Solar and Alternatives
FORESTRY
LAND USE PLANNING: General Coastal Agricultural
NATIONAL PARKS
POLLUTION: Air Water Toxic Substances
POPULATION
PUBLIC LANDS
WATER RESOURCES
WILD RIVERS
WILDERNESS
WILDLIFE
OTHER _____



# "On K-2, the second highest mountain in the world, blizzard conditions kept us zipped in our sleeping bags of *Dacron® fiberfill II*... day and night for six days...."

## JIM WHITTAKER, leader of the 1975 American assault on K-2.

"We were using a man-made fiberfill at altitudes where down had always been the traditional choice.

"But our sleeping bags and parkas of 'Dacron' fiberfill II performed perfectly. Just as I expected them to.

"Don't get me wrong. I'm not anti-down. In dry cold you can't beat it. But down can collapse when it gets wet. It can lose its ability to insulate. 'Dacron' fiberfill II is different. It can be fully saturated, and then wrung out and, like wool, still provide some insulation.

Unique hollow filaments of "Dacron" fiberfill II

"On the K-2 expedition, we encountered most of the wet conditions on the approach march. And we simply draped our sleeping bags on top of the tents to dry.

"But it was at Base Camp (17,500 ft.) that the real test came. We had to live in our sleeping bags day and night for six days. And we appreciated every one of those 500 miles of hollow fibers that ran through every pound of 'Dacron' fiberfill II.

"Du Pont's 'Dacron' is the only fiberfill that has these hollow fibers. It's interesting to note that caribou is one of the best furs for arctic wear...and this fur has hollow follicles. Hollow fibers add loft without weight. And loft helps determine warmth.

"It's a pretty smart idea. And 'Dacron' fiberfill II proved it...on the second highest mountain in the world."

You'll find most manufacturers of sleeping bags offer Dacron* polyester fiberfill II in quality-constructed models. Usually at very affordable prices. For a list of suppliers and more details on the advantages of hollowfill write us: Du Pont, Dept. SB, Fiberfill Marketing Division, 308 E. Lancaster Ave., Wynnewood, Pa. 19096.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Du Pont makes fibers, not sleeping bags.