



ELIOT PORTER: Ocotillo, Las Arrastras de Arriola, Baja California

*Sierra Club Bulletin*  
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FRONT COVER: The photograph on the cover of this month's *Bulletin* is from BAJA CALIFORNIA AND THE GEOGRAPHY OF HOPE, with text by Joseph Wood Krutch and photography by Eliot Porter.

"BAJA CALIFORNIA IS A WONDERFUL EXAMPLE of how much bad roads can do for a country." This observation is cribbed from something I wrote after one of my early visits to that long, lonely, and beautiful peninsula. . . .

Bad roads act as filters. They separate those who are sufficiently appreciative of what lies beyond the blacktop to be willing to undergo mild inconvenience from that much larger number of travelers which is not willing. The rougher the road, the finer the filter. Today any traveler who undertakes to drive a four-wheeled vehicle the length of the peninsula from border to cape will discover, not so very far below San Felipe, that the filter becomes very fine indeed.

The moral of this discussion of bad roads is not what the advocates of maximum accessibility and unlimited development try to saddle the rest of us with. It is not that "the people" should be kept out of the areas which are properly theirs and that these areas should be reserved for a privileged few who happen to have rather unusual tastes. No one in his right mind objects to recreational areas and maximum accessibility for them. The moral is simply this: development of recreational facilities and the presence of large crowds transforms any natural area into something quite artificial. Despite all the talk about multiple use, some uses are incompatible with others. Quiet contemplation cannot be practiced on the borders of a lake full of speed boats and water skiers. We must either accept as inevitable a near future in which contact with unspoiled nature has become impossible nearly everywhere within the boundaries of our country or, on the other hand, recognize the distinction between those remaining natural areas which should, and those which should not, be developed. . . .

It is probably true that more people prefer recreation areas than prefer areas that remain as nature made them. But the recognition of minority rights is no more undemocratic when those rights have to do with tastes and esthetic preferences than it is when they involve political opinions. In Baja the minority can be joined by anyone willing to pay the very small price required to enter areas not served by good roads.

When roads are too good, too wide, and too fast, they not only become eyesores themselves but are, at the same time, invitations to those who have no real interest in what they lead to. Nor is it always popular demand which is responsible for their construction. Road builders, dam builders, and predator poisoners constitute a special interest group with a voice they should not have in national affairs. It is to their advan-

tage to keep busy. Too often they build roads or dams for which there is neither real need nor real demand. . . .

Most of Baja California lies within the boundaries of the Sonoran Desert, and its scenery has important affinities with Southern Arizona, much of which is part of the same desert. . . . It is the combination of the familiar and the strange which makes the region so unusually attractive to those for whom the desert has a special fascination.

The strange is very strange, even to a man from Arizona. The giant cardon cactus takes the place of the Arizona saguaro; the grotesque elephant tree with its tapering and contorted branches attracts the attention of the least observant traveler, as does the boogum tree. Off the west coast schools of gray whales make their annual pilgrimage to their breeding grounds in Scammon's Lagoon, and they sometimes round the cape to sail up into the Sea of Cortez. In the bluest of skies the man-of-war bird opens or closes its long twin tail feathers; long lines of pelicans sail majestically by; and blue or brown-footed boobies plummet from high headfirst into the sea.

The chances are that large areas of Baja will remain for a long time unspoiled, but even so, the Mexican government may soon have to decide (as our government still has not decided) whether it is worthwhile to call a halt to certain kinds of exploitation which already threaten the things which, once lost, can never be recovered. An American company evaporating salt on a very large scale near Scammon's Lagoon is proposing to deepen the shallow water where the gray whales breed and may bring about the extinction of a spectacular species, a species once believed destroyed by whalers but now making a fine recovery just where the salt company wants more salt. Until a year or two ago there was, I think, no wildlife refuge in all Mexico. Now a beginning has been made with the sanctuary on Baza Island where commercial egg collectors threatened to destroy two species, the elegant tern and Heermann's gull, birds which breed there and, except for a few individuals, nowhere else. More recently still, the government has begun to discuss the possibility of making Tiburon Island near the mainland a game preserve. Hopefully the government will continue this trend, and will take over when Baja California's roads cease to be bad enough.

JOSEPH WOOD KRUTCH  
from his introduction to  
*Baja California and the Geography of Hope*

*A High-Light Trip to Baja California is scheduled for May 12-18, 1968. (See November 1967 Bulletin, and watch for complete details in the February issue.)*

## NEWS OF CONSERVATION AND THE CLUB

**Congress is defied by Georgia-Pacific, which seeks in "legislation by chain-saw" to define the boundaries of the Redwood National Park**

Georgia-Pacific, the world's second largest lumber company, has in quick succession (1) cut redwoods within the boundaries of the Redwood National Park as tentatively defined by Senate-passed S. 2515; (2) rejected a request by Congressman Jeffery Cohelan and 34 other members of the House of Representatives that Georgia-Pacific refrain from cutting in areas that the House might wish to include in the park; (3) bulldozed roads and prepared for logging in the matchless Emerald Mile, immediately south of the S. 2515 boundary; (4) trumpeted that YES, AMERICA'S MAJESTIC REDWOODS HAVE ALREADY BEEN SAVED! in full-page advertisements in eleven newspapers; (5) sought to defend its actions in mailings to customers, stockholders, and security analysts.

Cutting within the S. 2515 boundaries occurred within a mile of Redwood Creek on the ridge between two of its tributaries, Elam and McArthur creeks. Georgia-Pacific has since said that until final determination of the park boundaries is made, it will respect the S. 2515 boundaries. But in rejecting the 35 Congressmen's request to refrain from cutting in other areas that might still be included within the Redwood National Park, Georgia-Pacific asserted that "it is necessary for us to do some harvesting in this area in order to run our plants on an economically sound basis. For the above reason and in the interest of our employees, our stockholders, and good forest management, and indeed as a corporate citizen, we respectfully must decline your request." *The New York Times* commented editorially that "it takes a good deal of arrogance to announce an antisocial policy and then prate about being a 'corporate citizen.'"

**Board of Directors urges land management agencies to bar incompatible uses of de facto wilderness**

The Sierra Club Board of Directors met December 9-10 with all 15 members present. To insure that de facto wilderness will not be compromised by incompatible development before formal wilderness designation can be considered, the Board resolved that: "The Sierra Club urges the National Park Service, the U.S. Forest Service, the Bureau of Sport Fisheries and Wildlife, and the Bureau of Land Management to maintain as wilderness their Class V areas (wilderness type areas under the Bureau of Outdoor Recreation classification system), as well as those parts of their Class III areas (natural environment areas) and Class IV areas (unique natural areas) which are wilderness under the definitions of the Wilderness Act, and those areas recommended for wilderness classification or management by responsible citizen's groups; and to prevent developments inconsistent with wilderness until decisions are made on the ultimate management of these areas. Further, the Sierra Club requests that these agencies (1) solicit suggestions from the public before making land management plans applying BOR classifications; (2) give public notice of proposals to adopt such plans; (3) hold public hearings on such plans if requested; (4) provide for public notice and opportunity for hearings if significant changes are proposed."

**Board seeks preservation  
of Kentucky's Red River,  
Nevada's Pyramid Lake,  
and California's  
Kern Plateau wilderness**

The Board of Directors has acted to protect threatened areas in Kentucky, Nevada, and California. It voted unanimously to support the Great Lakes Chapter and its Kentucky Section in their opposition to a Corps of Engineers' dam that would inundate 16 miles of the scenic Red River Gorge in Kentucky (see story beginning on page 22). In another unanimous vote, the Board resolved that "the Sierra Club supports efforts to assure flowage into Pyramid Lake, Nevada, which will be sufficient to maintain the scenic, recreational, and ecological values of the lake." The lake's level has already dropped seriously because of irrigation works on the Truckee River, which feeds it. (But Interior Secretary Udall has authority to regulate withdrawals from the Truckee to assure the lake the flow it needs.) The Directors also resolved without a dissenting vote that "the Sierra Club urges the establishment of a Southern Sierra Nevada Wilderness in accordance with boundary proposals of the final report of the Kern-Kaweah Chapter, 'Wilderness in the Southern Sierra Nevada,' dated June 1, 1967. To help protect the northeastern portion of this wilderness, the Sierra Club urges that there shall be no further extension of any road into the drainage of Cottonwood Creek or Little Cottonwood Creek." The area in question is on the Kern Plateau, south of Sequoia and Kings Canyon National Parks.

**Secretary Udall bars  
transmountain road in  
Great Smoky Mountains  
National Park, but  
yields reluctantly on  
road passing through  
Sequoia National Park  
for access to Disney  
resort at Mineral King**

In the face of considerable pressure, Interior Secretary Udall has withheld approval of a proposed transmountain road that would have bisected wilderness areas in Great Smoky Mountains National Park, in North Carolina and Tennessee. With obvious reluctance and chagrin, however, the Secretary gave permission for a road to cross part of Sequoia National Park, in California, giving access to a projected year-round resort at Mineral King. An enclave of national forest land almost entirely surrounded by the national park (and by wilderness), Mineral King is slated to be developed by Disney Enterprises. The dead-end access road is to be built at public expense by the State of California. According to press reports, Secretary Udall chided conservationists for failing to bring more pressure to bear on Secretary of Agriculture Orville Freeman (whose department administers Sequoia National Forest, of which Mineral King is a part). An Agriculture press release says that Freeman and the Disney interests have agreed to strive "to enhance the natural beauty and environment of the Mineral King area and do no harm to the Sequoia National Park." A tall order!

**Conservation opportunity  
beckons as threat of dams  
in Grand Canyon recedes**

Colorado's *Grand Junction Sentinel* probably follows water developments in the west as closely as any newspaper. The *Sentinel* reports that interests that have been insisting upon dams in Grand Canyon are now discussing Colorado River legislation that would leave the Canyon intact. If that is so, the time may be fast approaching when bills to enlarge Grand Canyon National Park can be expected to receive serious consideration.

**Congressman John P. Saylor  
is awarded first annual  
Bernard M. Baruch Prize**

The first annual Bernard M. Baruch Prize for outstanding contributions to conservation was awarded to Congressman John P. Saylor of Pennsylvania by the Belle W. Baruch Foundation. Mr. Saylor led the fights for the Wilderness Act and the Land and Water Conservation Fund Act. He has been and continues to be particularly active in two causes that are close to the club's

heart: the establishment of a Redwood National Park worthy of the name, and the defense of Grand Canyon. He has introduced a bill to enlarge Grand Canyon National Park to include and protect the entire Canyon. Indeed, Mr. Saylor has been a standard bearer in virtually every conservation battle of national importance for many years.

**San Rafael wilderness bills passed by Senate and House in different versions; final enactment, delayed by dispute over 2,000-acre area, will be first implementation of Wilderness Act of 1964**

The San Rafael Wilderness Bill (S. 889) would make the first addition to the National Wilderness Preservation System since the Wilderness Act itself was passed in 1964. Slightly different versions were passed by Senate and House. The House version would add a 2,000-acre area that was strongly recommended by conservationists because it is a rare transitional life zone, the site of some of the best-preserved Indian pictographs in the country, and habitat of the endangered California condor. The Forest Service insists that the area is needed for its fire suppression program (which was tailored for a mass recreational development plan that has been abandoned). In conference committee, the Senate version omitting the 2,000-acre area was accepted. But in what was regarded as at least a temporary victory for conservation, the House deferred consideration of the report of the conference committee, which could be asked to reconsider the matter. Congressman Saylor said "I feel that the Forest Service simply does not want to see its proposal amended by Congress in response to citizen-conservation requests." *The New York Times* asked "What is the use of soliciting the public's opinions if this slight and well-documented revision in the very first plan submitted by the Forest Service is to be adamantly resisted on the bureaucratic grounds that the Forest Service's proposal is perfect as presented, and must be controlling?" The USFS attitude would make sense if a vital principle were at stake, but none is evident. There is ample justification for the 2,000-acre addition, and so far, no convincing argument against it.

**Groups organized to support study of the park potential of the Oregon Cascades, and to preserve Hells Canyon**

Those interested in the Oregon Cascades and the Hells Canyon region may wish to contact two newly-formed organizations. The Committee for a Volcanic Cascades Study (P. O. Box 22172, Portland, Oregon 97222) was organized to support a bill introduced by Senator Wayne Morse, S. 2555, which would authorize the National Park Service to study the area's park potential. The Hells Canyon Preservation Council (P. O. Box 691, Idaho Falls, Idaho 83401) rallied to save the nation's deepest gorge from the threat of High Mountain Sheep Dam, on the Snake River. The club has sought an Oregon Cascades study for almost a decade, and it believes Hells Canyon should not be dammed.

**Change instituted in club's membership renewal system**

Until now, the Sierra Club has had a standard membership year; all memberships expired simultaneously, and all renewal dues became payable at the same time. From now on, however, each member will be billed for renewal of membership on the anniversary of the month in which he joined the club.

**Admission fee waived for full-time students enrolled in accredited schools**

The Board of Directors has voted to waive the \$5 admission fee in the case of applicants for membership in the Sierra Club who state that they are enrolled as full-time students in accredited schools.

## President's Message: The Club Advertising Effort

The morning of Friday, June 10, 1966, dawned happily for the Sierra Club. While much was wrong in the world of conservation, much was right in the club's particular world. There was obviously a quietly but steadily growing public recognition—and support—for the club's efforts. Membership had reached 39,000, and an average of 850 new applications were coming in each month. In the first five and a half months of the year, gifts and bequests had amounted to \$125,000. The public's knowledge of its own interest and stake in the struggle for the redwoods, for the North Cascades, for the Grand Canyon, was increasing. The day before, in fact, the first of a series of ads destined to take prizes in advertising circles, to be reprinted without the initiative of the club in numerous publications, and unquestionably to gain great understanding and support for Grand Canyon had been published in major newspapers across the country.

"Now Only You Can Save Grand Canyon From Being Flooded . . . For Profit," the historic headline ran. First reactions to the ad were highly favorable. It looked like a day for rejoicing.

But a quiet man in a business suit was to change all that. He acted only as an agent in one of the club's most historic events—and a year and a half later he remains nameless and faceless. A few hours after the ad appeared that day, he walked into the Mills Tower in San Francisco with a letter in his hand. The letter gave notice to the club that its tax status was—as of that moment—being investigated by the Internal Revenue Service. Pending the decision of the IRS, tax deductibility could no longer be assured to donors of contributions to the club. In effect, the club was being judged guilty until proved innocent. Such action had never previously been undertaken by the IRS against any public organization.

After the first stunned moment of surprise, there was a tremendous reaction. The news rated banner headlines. A gift of \$4,500 was cancelled. Calls of outraged support came streaming in. While many opponents of the club were doubtless pleased, the more sensible were shocked at what seemed to them the public spanking of a public service group which had done no major wrong—except to oppose the Administration. Editorials acknowledged that *no* public organization—be it a religious, charitable, educational, or scientific group—could any longer be certain of tax deductibility in the light of such unpredictable IRS action, and in view of the extraordinary vagueness of the IRS regulations and the remarkable range of possible interpretation in their administration.

At the outset of the IRS investigation, it was almost a foregone conclusion that we would be judged guilty of "attempting to influence legislation." It was also a foregone conclusion that the club would fight such a decision—to the Supreme Court, if necessary. To date, both actions have occurred as predicted, and our appeal is still being considered by the IRS.

If the "Now Only You Can Save Grand Canyon" ad injured our financial status, it gained us an immeasurable amount of public interest, sympathy, and support. But should we have been so injured? Is such an ad primarily an attempt to influence legislation?

We believe not. Our appeal against the IRS decision is based in part on this. Our activities are, in the words of our attorney Garry Torre: "for education to convince the public, land owners, public utilities, government administrators and courts of the wisdom of using natural resources in a rational manner. . . . Indeed a small, pathetically small portion of the club's [activities] . . . have been devoted to supporting or opposing particular legislative solutions. . . ."

We can only conclude that if the club's activities can be condemned under the statute and regulations as exceeding the educational functions of the club, then the statute and regulations are proscribed by the first amendment of the Federal Constitution.

EDGAR WAYBURN



## Sierra Club Bulletin

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... TO EXPLORE, ENJOY, AND PROTECT  
THE NATION'S SCENIC RESOURCES ...

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*THE SIERRA CLUB*,\* founded in 1892, has devoted itself to the study and protection of national scenic resources, particularly those of mountain regions. Participation is invited in the program to enjoy and preserve wilderness, wildlife, forests, and streams.

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# ADDRESS AT THE DIAMOND JUBILEE BANQUET

by Dr. Stanley A. Cain

Assistant Secretary for Fish and Wildlife and Parks  
Department of the Interior

ONE OF THE MOST PLEASANT CONSEQUENCES of being an Assistant Secretary is that of substituting for Secretary Udall when his duties as a Cabinet officer prevent him from participating in such meetings as this.

I bring you his warm and heartfelt greetings. He wanted very much to be here, for he counted it an honor and a privilege to be invited to address this meeting on this particular occasion. I heartily share his feelings.

In thinking about what I should say tonight, my first thoughts were that this was an occasion for great eloquence, for a glowing restatement of the principles which guide us, for some ringing call to greater action. On reflection, however, I decided against that sort of talk. You are not strangers to eloquence. Indeed, some of the most eloquent language ever spoken has been voiced in your presence by your own people. And certainly some of the most lucid and thought-provoking language ever written has come from the pens of John Muir and subsequent members.

If I may be permitted a personal note, the first gift from the girl who became my wife was a beautiful, sensitive portrait of John Muir.

So what I have to say for the Department of the Interior is not eloquence but thanks for the Sierra Club! In our view we have no stauncher friend, no more useful critic. But, as you might expect from us, we also offer a bit of advice.

Looking back over your bright history, it is not difficult to imagine what our remaining natural world would be like had the Sierra Club not come into existence when it did—if it had not broadened its interest from the Pacific Coast to the entire country, and even beyond.

Your club's history is the history of conservation. From your original battles against "the mountain termites" in Yosemite's high country to Hetch Hetchy, to Split Mountain and Echo Park, to the Colorado and the Redwoods, to the North Cascades and Point Reyes, to Kauai, and even to remote Aldabara Island in the Indian Ocean, you have carried the banners of one of mankind's broadest and most sensitive interests.

We recognize our enormous debt to you. We owe to you not only many areas in our National Park System, but the integrity of many areas in the system itself. We owe to you the stimulating trend in publications, which has set the pace for widespread improvement in form, content, and beauty—even in my own Department. As an example, compare In-

terior's present annual reports with those of the past. We owe you the guiding example of intelligent, organized private action on behalf of broad issues bearing on future public benefit.

A few weeks ago in Washington, a low-key but nonetheless joyous ceremony marked the birth of this nation's 200th million citizen. If I had been consulted, I would have argued that it should have been a day of national mourning. Several years ago Secretary Udall addressed you on this subject, in the light of the problems an expanding population holds for all of us who want some of the natural world to remain as the good Lord made it. I am certain these problems occupy much of your private concern. They are of great official concern too.

It seems to me this whole problem area presents all of us with clear-cut lines for future action. The statistics have given us the key, and the trends have been clear for some time.

A few years ago I belonged to the Smokey Mountains Hiking Club. Some of the older members, jealous of their status, proposed a category of membership to be called "Veteran Hikers." To qualify, one had to climb 50 peaks, each of 5,000 feet or more in height. Quite naturally, the first to qualify as a veteran hiker was a 15-year-old boy. And so our advice, as illustrated by this little anecdote, is this: we're living in a world of young people, and we must address ourselves to them.

Today more than one fourth of our 200 million people are under 15. Indeed, they are under 13, according to a recent news magazine. I would not advocate the techniques of Madison Avenue to talk to young people—even though these techniques are obviously successful in selling many products. But Madison Avenue knows where the market is, and we must recognize that this is our market too. Young people are not only our customers, they are our hope. Here, you have again led the way. Sierra Club activities for youth groups are an important part of your total effort.

It is gratifying to note the expansion of your local work, now measured by 21 chapters, including the latest, the Mackinac in Michigan. At the local level is a most fertile area for teaching young people to appreciate the values of the landscape. You have the organization and the know-how to talk to youth, and I can promise you the keen interest and full cooperation of our Department in any such programs.

Most people of your generation, and mine, tend, I think,

to identify the Sierra Club as a mountain organization. You are that, of course, but you are much, much more—and always have been.

In addition to the club's effective defense of parks, the young world of today should know also of your vigorous and effective work in the protection of wildlife and wildlife refuges, and the many endangered species you have fought to save against man-caused hazards.

They should know of your work to develop areas for public recreation as well as to protect nature. They should know of your effort to maintain the delicate balances in all of life that give it purpose and meaning, and permit it to exist. They should know that your organization is one with brains and muscle—and not only the kind of muscle needed to climb mountains, but that to influence decisions in the public interest.

To a young world looking for viable causes, you should

have a special appeal. I think you should tell them more about the club and what it stands for.

Youth needs examples and heroes. To a generation yearning for an antidote to blatant commercialism and exploitation, your causes could be the answer. There is eternal youth in the vigor and wisdom of your leaders, whatever their place in time. And for the sake of not being misunderstood, for all of my appeal for a greater interest in youth, youth cannot supply the leadership, only the motivation for it. At the same time, I remember the couple in their seventh decade who hiked the full length of the Greenstone Trail in Isle Royale National Park. After all, John Muir was no kid when he was most active in the High Sierra. And many of us here tonight have snow on the mountain.

It is a personal privilege to be here with you, and I hope many of us will still be working with you when you celebrate your centennial.

## Reminiscences of the Early Days

by Francis P. Farquhar

THE SIERRA CLUB in its early days was quite different from the Club as it is today—different in the scope of its activities, in its way of doing things, in its publications; but not in the idealism of its members and their devotion to the cause of conservation. From the beginning, inspired by the leadership of John Muir, members of the Sierra Club were active, and effective, in promoting the establishment of the Forest Reserves in the Sierra and were an important influence in the creation of Yosemite National Park and Sequoia National Park.

One of the most effective means of stimulating and organizing Sierra Club members for these endeavors was the series of summer outings in the High Sierra, originated and directed by William E. Colby. He believed that the way to arouse enthusiasm in people for the wonders of the mountain country was to bring them to an intimate knowledge of it. Not only was this accomplished to a high degree through these outings, but the members were thus brought into close association and came to know each other. No need in those days to publish descriptions of candidates for election to the Board of Directors—everyone knew who Colby, LeConte, Tappaan, Huber, McDuffie, and Aurelia Harwood were and had confidence in them.

There were other great names in the leadership in the Club in its early days besides those just mentioned. There were such well-known figures as David Starr Jordan and Vernon Kellogg, and Professor William Dudley of Stanford, Professor George Davidson of the U.S. Coast Survey, and Professor Henry Senger of Berkeley. Later came Edward T. Par-

sons, as Colby's right-hand assistant on the outings. He brought from the Mazamas the "mass mountaineering" that crowded fifty to a hundred people at a time in the summits of Mount Lyell and Mount Whitney. Other, more orthodox climbing was exemplified by James S. Hutchinson, James Rennie, and later by Bestor Robinson, Dick Leonard, Jules Eichorn, Dave Brower, Lewis Clark, and the incomparable Norman Clyde.

While most of the members of the Sierra Club in the early period lived in the San Francisco Bay region and in the Los Angeles area, there were a few notables from elsewhere. Robert Price, of Reno, Rodney Glisan, of Portland, and Lulie Nettleton, of Seattle, constituted "chapters" all by themselves.

The character of the Club in its early period is best expressed in its publication, the *Sierra Club Bulletin*. It was fortunate from the beginning both in its editors and its printers. The first editor was Professor Cornelius Beach Bradley, father of our recent President, Harold Bradley. (It is interesting to note that Harold Bradley contributed an article to the *Bulletin* as long ago as 1911.) There followed in succession President David Starr Jordan, of Stanford, then Elliott McAllister, and for a number of years Dr. William F. Badè. The early volumes of the *Bulletin* contained, besides articles on the High Sierra, a number of important articles on natural history and various scientific subjects. Among the contributors were Professor Alexander McAdie, Vernon Kellogg, J. G. Lemmon, and the poet, Harriet Monroe. The High Sierra was described and illustrated by J. N. LeConte, Theodore Solomons, and Bolton Coit Brown. Then came the definitive geological studies of François Matthes.

The printing of the *Bulletin* at the very beginning came



into the hands of C. A. Murdock, a pioneer in fine printing in San Francisco. When he retired it was carried on by the firm of Taylor and Taylor, famous for its fine typography and presswork. In its illustrations the *Bulletin* was equally distinguished: LeConte, Huber, Edward Gleason (of Boston), great practitioners of black-and-white mountain photography, leading up to the superb work of Cedric Wright and Ansel Adams.

The Sierra Club has had great days in its early period, and

will continue to have them in this new and expanded period. But let us not forget the beginnings.

[*Dr. Farquhar served as a Director of the Sierra Club from 1924 until 1951, when he became an Honorary Vice President. He was President of the club in 1933-35 and 1948-49, and edited the Bulletin from 1926 until 1946. His reminiscences appeared in the printed program of the Diamond Jubilee Banquet, December 9.*]

## The President's Diamond Jubilee Message

JOHN MUIR left a rare legacy. He had both perception and eloquence—a dual gift given to only a few. He heard the glad tidings of the mountains, and he captured them in the written word as no one else has done. His writings, his journals and his articles are like great music: they improve with each encounter. Anyone who loves the beautiful places of the earth can turn and return to Muir's words for enrichment and refreshment.

His perception went far beyond the glad tidings of the mountains. He did not use the phrase "conflicting demands for land use," but he was among the first to recognize this issue and to come to grips with it. He saw clearly that natural beauty had a value of its own—for its own sake and for the sake of all people—and he made among the earliest and most eloquent attempts to define that value and to measure it against the values of the market place.

John Muir was a gentle man, a wanderer, an artist, a loner, a man who shunned the trappings of civilization, and who set his spirit free in the splendid solitude of pure wilderness. He envied the mountain quail: "Able to live on pine and fir buds," he wrote, "they are forever independent in the matter of food, which troubles so many of us and controls our movements. Gladly, if I could, I would live forever on pine buds, however full of turpentine and pitch, for the sake of this grand independence." "Of the forests, the lakes, the meadows and glad singing streams," he wrote again, "I should like to dwell with them forever . . . Even if not allowed to roam and climb, tethered to a stake or tree in some meadow or grove, even then I should be content forever. Bathed in such beauty, watching the expressions varying on the faces of the mountains, watching the stars, watching the circling seasons, listening to the songs of the waters and winds and birds, would be endless pleasure."

But when the lakes and meadows and streams were threatened, he came down from the high places and forgot that he was not a fighter. With perception and eloquence, he opened the Sierra Club's first great conservation battles—for Yosemite and for Hetch Hetchy he marshalled the forces, and he paced the legislative halls instead of the alpine meadows. He recognized that for people to understand, they must be made aware, and he turned his pen to making people aware.

His intelligent advocacy, his perseverance and his articulate leadership set the standard for our conservation battles today.

Muir was far ahead of his time, a time profoundly different from ours. In his world, a man could walk where no one else had walked before. He could find a new peak and conquer it and know he was the first to make it his own—the first to see from that particular vantage point how the earth spread out at his feet. Muir's world still had abundant clean air, uncut forests, and wild joyous waters. His world still had horizons stretching without limit.

Muir could not have known how the world would be a scant half century after his death. How more, and more, and more of us would have found and tamed and used and altered the vulnerable land with little concern . . . and less understanding. He could not have guessed how we would smother our soil under concrete, pollute our every great river, befoul our atmosphere, use our shorelines for garbage, and re-plant the orchards he knew with row houses. He never heard the words "smog" and "slurb" and "sonic boom." He never knew that we would—so late, but at last—begin to see the finiteness of the planet earth, of our land, our water, our living space, of the very air we breathe.

Certainly he could not have dreamed how the club he helped found with so much enthusiasm and delight to meet immediate crises in his beloved Range of Light ("To explore, enjoy and render accessible the Sierra Nevada") would grow to such size and strength and effectiveness. And how the concern of that club would broaden to reach far beyond single areas and single issues to embrace man's whole environment, and the maintenance of its quality.

Our Diamond Jubilee comes at a fitting time to recall John Muir and all he did, and the beautiful and useful legacy he left us. Never have we faced a greater challenge, a greater battle, and never have the stakes been higher—the redwoods, the North Cascades, all of our wilderness, and parks, and above all a beautiful, livable world to bequeath our children, and theirs. And never have our chances for success been brighter, even though the times are stormy indeed.

John Muir loved storms. He rejoiced in them and found strength in their energy and grandeur. I think, somehow, that his great spirit is with us now.

EDGAR WAYBURN



George Dibble

*Right: Dr. Stanley A. Cain, Assistant Secretary of the Interior and principal speaker at the Diamond Jubilee banquet.*



John Flannery

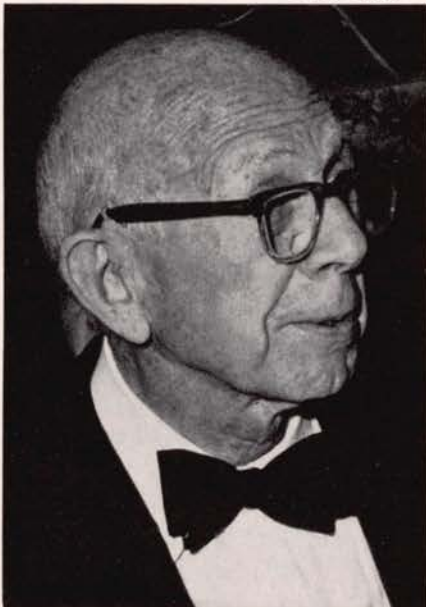
*Top: Norman Clyde, the all-time great of Sierra Nevada mountaineering.*

*Right: Mrs. Carrie A. Burlingame, 92, a member of the Sierra Club for more than 40 years.*



John Flannery

George Dibble



*Left: Phil S. Bernays, a member of the Sierra Club since 1905 and its tenth President.*

*Right: One of many displays, this one contained, among other things, John Muir's field glasses.*



John Flannery

*Below: President Edgar Wayburn holds "Sierra Club cup number one," with the soot of John Muir's campfires still on it. Bob Moore of the National Park Service, who brought the cup to the banquet, stands at left.*

George Dibble



*Right: Distinguished photographer Ansel Adams, a member of the Sierra Club for more than 40 years and a Director since 1934.*



John Flannery

## The Diamond Jubilee Celebration

Fairmont Hotel, San Francisco, December 9, 1967

George Dibble



*Left: Executive Director David Brower, seated, and President Edgar Wayburn*

*Below: Diamond Jubilee Chairman Claudia Doerr pauses at head table to greet Francis P. Farquhar, the Sierra Club's eleventh President.*



George Dibble

# Tribute to the Presidents and Directors

by Harold Gilliam

AS THE FIRST 75 YEARS of our club have been reviewed, you have noted how many members have served its interests by diligent work in a volunteer capacity. There have been thousands in the ranks, living and dead, who have done so, and we pay tribute to them as we meet here tonight.

Foremost among them are the men and women who accepted the responsibility of high office and have served on the club's board of directors, particularly as its presidents. Our first president and board members, beginning in 1892, were leading citizens of California, men of mighty stature, the "movers and shakers" of this State in its formative decades. Their devotion to the high purposes of this organization gave the Sierra Club, from the beginning, an eminent standing in the affairs of this Commonwealth and ultimately in the affairs of the Nation. In the decades that followed, they were succeeded by men and women of equal stature and dedication.

To be a director of the Sierra Club is no easy task. It means long arduous hours of work and preparation; frequent meetings, often extended far into the night by the pressures of urgent business; immense sacrifice of personal interests, of the demands of their professions, of the needs of family life. For this tireless devotion we cannot too strongly express our gratitude tonight.

Any volunteer organization requires a continuity of history, of tradition, of performance, of leadership. Without these qualities, this club could not have survived and would not have become a major force in the world of conservation. Without these qualities, this club will not survive in the future. Consequently, as we honor the men and women who have served the club in the past in positions of leadership, may we also look to the future and think of those unknown and even unborn who must follow in their footsteps and expand on their work if this organization is to maintain its high tradition and to spread its influence and purposes abroad in the land in ever-widening circles.

In a moment you will see pictures of each of our presidents, who will represent the far greater number of members and directors to whom we are paying tribute. There is not time tonight to call the long roll of honor of all our directors from

the beginning, but as our past presidents now pass in review before us, may we have in mind all those leaders who have served throughout the past three quarters of a century—those who stand in our history like the great granite peaks along the crest of the Sierra, for these are truly men to match our mountains.

Will all Sierra Club directors who are with us tonight, past and present, please stand to receive our deep and devoted appreciation?

*[Harold Gilliam, author and columnist on conservation for the San Francisco Chronicle, was unable to appear as scheduled on the Diamond Jubilee banquet program. He sent his tribute to the program committee with this note: "I greatly regret that contractual commitments in Washington, as a consultant to the President's Council on Recreation and Natural Beauty, prevent my being present on the auspicious occasion of this Diamond Jubilee of the organization of which I have been an enthusiastic member for many years, an organization that I feel above all others is doing work that will provide a richer life and more abundant opportunities for my own grandchildren and their descendants for centuries to come."]*

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Of the 25 Presidents the Sierra Club has had since 1892, eleven were present at the Diamond Jubilee Celebration:

Phil S. Bernays, 1931-33  
Francis P. Farquhar, 1933-35; 1948-49  
Lewis F. Clark, 1949-1951  
Harold E. Crowe, 1951-53  
Richard M. Leonard, 1953-55  
Alexander Hildebrand, 1955-57  
Harold C. Bradley, 1957-59  
Nathan C. Clark, 1959-1961  
Edgar Wayburn, 1961-64; 1967-  
William E. Siri, 1964-66  
George Marshall, 1966-67

## The Celebration Was a Sell-Out

WHEN THE DIAMOND JUBILEE COMMITTEE had its first meeting, it was impossible to guess how many members would attend the celebration. We hoped for 600. A floor plan was made up for 800. It had to be changed to 1,160 a week before the dinner, and the day before, it was changed again to 1,230. At the dinner, attendance was announced as 1,302.

Oldtimers traveled from afar to attend the memorable event. At least 75 Gold Star Members, with continuous memberships of 40 years or more, were present. Included among them were:

Phil S. Bernays, a former President whose membership

dates back to 1905—earlier than any other member's according to club records.

Mrs. William F. Badè, widow of the club's fourth President, and Mrs. Walter L. Huber, widow of the seventh.

Helen LeConte, daughter of the club's second President, who, as a girl, was bounced on John Muir's knee.

Mrs. Genevieve Knoll Sully and Mr. and Mrs. Arthur Jordan, who remember Muir.

Walter Muir, grandson of the club's founder and first President.

Many other members with recollections of the club's early days were present; I wish that space permitted me to mention them all.

Sifting through club archives for display material that would best portray the first 75 years . . . insuring "front row" seating for Gold Star Members . . . creating a handsome souvenir program to commemorate the event . . . coordinating a 3½-hour program featuring a dozen speakers . . . bringing 1,300 people, decorations, displays, and equipment together harmoniously . . . tape recording the program for posterity—all this required the combined efforts of a tireless team of volunteers. Those who contributed most generously of their time and talent include:

Ruth and Harold Bradley, who made their home available for committee meetings and a dress rehearsal of the banquet program. Ruth also offered research assistance to all speakers.

Charlotte Mauk, who, with Harriet Parsons and Lewis Clark, spent countless hours selecting historical photographs and memorabilia for display.

Phil Faulconer, who photographed such material for slide presentations.

Simon Miedema, who created a 5-foot replica of the Sierra Club emblem containing a live redwood, and who arranged for pine tree centerpieces at each table and redwoods flanking the entrance.

Peggy Wayburn, who provided invaluable publicity assistance and, when called upon, was never too busy to give advice and guidance.

Bill Owen, who assisted with publicity and general planning, and who assumed responsibility for all audio-visual equipment.

Harriet Parsons, who, with the aid of George Homsey and the cooperation of chapter personnel, assembled interesting displays of chapter activities.

John Schagen, who created a map that traced the growth of the club to its present size.

Alice Barbour, whose Special Seating Committee, helped by Tena Catena, did an excellent job of attending the Gold Star Members present.

Sonja Thompson and Jennie Mae Daily, who helped mail more than a thousand special invitations.

My thanks also to members of the headquarters staff who helped in various ways to make the Diamond Jubilee Banquet an event worthy of the occasion. We are indebted to

the DeYoung Museum, and to Butterfield & Butterfield, who loaned display cases for the exhibits.

CLAUDIA DOERR  
Chairman, Diamond Jubilee Committee

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The imagination required to plan a celebration such as this one—and the perseverance, tact, and grueling work required to bring it off triumphantly—defies description. Others helped immeasurably, to be sure, but the success of the Diamond Jubilee Celebration is preëminently the success of the person who accepted over-all responsibility for it: Claudia Doerr.

EDGAR WAYBURN

## William Zimmerman, Jr., 1890-1967

WILLIAM ZIMMERMAN, JR. for the past third of a century was a quiet, forceful, and effective conservationist and humanitarian. He brought to the conservation movement a rare combination of a deep understanding of the land and the human issues involved, administrative ability, and a capacity to gain the confidence of others based on his wide knowledge, fine sense of humor, idealism, and integrity.

During the 1930's, Bill was drawn into the wilderness conservation movement through two major programs. The first was through his appointment (as representative of the Bureau of Indian Affairs) to the President's Quetico-Superior Committee when it was established in 1934. The second was his helping to carry through the detailed proposals of Robert Marshall (1901-1939) for the classification of some 4½ million acres of de facto wilderness in Indian reservations as 12 roadless areas and four wild areas.

It was not until the mid-1950's, however, that Bill became closely associated with the organized conservation movement. He was a member of the Council of The Wilderness Society, 1955-62, and for the greater part of that time was its vice president and chairman of its executive committee. During his last years, he was the Society's honorary vice president.

A new opportunity opened for Bill in 1963, at a time when most men retire from active life. He became Washington representative of the Sierra Club and of the Trustees for Conservation. He filled these positions with distinction until his death last September. His years of experience and vast knowledge and extensive acquaintanceship in Washington, and the high respect in which he was held "on the Hill" and in the administrative agencies, made him an effective advocate of the conservation program of the Sierra Club in the nation's capital.

He was well known to Sierra Club members through his informed, objective "Washington Office Reports" in the *Sierra Club Bulletin*. Occasionally in these reports he expressed his own deep feelings as when in discussing the Ecology Study Bill he wrote:

"It is a cliché in conservation and welfare circles to con-

trast our spectacular efforts to propel man into stellar space with our limited, hesitant investment in social research. It is surely no exaggeration to predict that unless more attention is paid, and soon, to mother earth, we may find ourselves following the Mayas and other prodigal civilizations into oblivion. . . . Our ravaging is a bit more complex than the Mayas' was, but perhaps in the long run it may be more deadly. And we really know little more than they did about what we are doing." (Oct. '65 SCB.)

There is much that could be added about Bill Zimmerman as a man, and about his contributions to the conservation movement and to the nation. Probably the finest expression of his outstanding qualities is the following editorial from *The Washington Post*, September 29, 1967:

"The death of William Zimmerman, Jr., stills an authentic and persuasive voice in the sphere of conservation. A gentle and clear-visioned man, he spent most of his life working for protection of our natural environment. For many years his influence was felt in high Government circles; he served as assistant commissioner of Indian affairs and associate director of land management in the Interior Department. After his retirement from Government he continued to work as a consultant, striving to protect natural resources, to extend the National Parks System and in general to keep man from destroying the earth that sustains him. The passing of this gentle crusader leaves a void in the conservation movement that will not readily be filled."

GEORGE MARSHALL

## Washington Office Report \_\_\_\_\_ by W. Lloyd Tupling

THE FIFTH LONGEST SESSION OF CONGRESS since World War II adjourned at 6:50 p.m., December 15, leaving unresolved the decisions on a vast array of conservation legislation. The Senate had worked 200 days and the House of Representatives 188 days, but year's end showed little conclusive action on natural resource matters.

Indeed, Congressional leaders were hard put to cite examples of accomplishment in the enactment of measures in their "resource buildup." Two were noted—S. 814, establishing an eight-member National Park Foundation to encourage and accept donations of money and property to the National Park Service, and H.R. 12121, extending to June 30, 1970, the time for a final report to the President and the Congress by the Public Land Law Review Commission.

The Senate had a most productive record because of the tight schedule adhered to by the Senate Committee on Interior and Insular Affairs. But in law-making as in most human endeavor, no points are credited for gaining half the distance to the goal. The Second Session of the 90th Congress convenes on January 15, 1968, with a voluminous carryover confronting members of the House Committee on Interior and Insular affairs.

Before going into some reasons for this legislative pile-up, here is an abbreviated Conservation Scorecard for the First Session:

- S. 20, to establish a seven-member **National Water Commission** for comprehensive review of national water problems and programs. Passed the Senate February 6. Passed the House July 12. Awaits Senate-House conference committee action.
- S. 25, to establish the **Great Salt Lake National Monument** in Utah. Passed the Senate July 13 and referred to the House Interior Committee.
- S. 119, to establish a **National Wild and Scenic Rivers**

**System.** Passed the Senate August 8 and referred to the House Interior Committee.

- S. 778, to establish the **Apostle Islands National Lakeshore** in Wisconsin. Passed the Senate August 21 and referred to the House Interior Committee.

- S. 889, to establish the 143,000-acre **San Rafael Wilderness Area** in California. Passed the Senate and House. Conference committee action pending at adjournment.

- S. 1004, to authorize \$768 million for construction of the **Central Arizona Project** in Arizona and New Mexico and \$360 million for five projects in the Upper Colorado Basin, but with no dams in the Grand Canyon. Passed the Senate August 7 and referred to the House Interior Committee.

- S. 1267, to establish the **Sawtooth National Recreation Area** in Idaho. Passed the Senate November 9 and referred to the House Interior Committee.

- S. 1321, to establish in the state of Washington the **North Cascades National Park**, the Ross Lake National Recreation Area, the Lake Chelan National Recreation Area, and the Pasayten Wilderness Area, and to modify the Glacier Peak Wilderness Area. Passed the Senate November 2 and referred to the House Interior Committee.

- S. 2515, to establish a two-unit, 64,000-acre **Redwood National Park** in California. Passed the Senate November 1 and referred to the House Interior Committee.

No announcement of 1968 hearing schedules has been made, but Chairman Wayne Aspinall of the House Interior Committee was quoted in the press as saying that sessions would be scheduled "early in the year" on the Central Arizona Project, the Redwood Park bill and the North Cascades Park bill. Traditionally, the committee conducts field hearings before acting in Washington. Prospects are for hearings in California on redwoods in the latter part of March, and hear-

ings in Washington State on the North Cascades later in the spring.

The Senate Interior Committee will undertake hearings on proposals for development of oil shale deposits and for the inclusion of three new areas in the National Wilderness Preservation System. These are: the 36,000 acres of primitive mountain terrain in the Angeles National Forest 35 miles northeast of Los Angeles, the 95,000-acre Mount Jefferson wilderness in Oregon's Willamette, Deschutes, and Mount Hood National Forests, and the 680,000-acre Washakie wilderness in Wyoming's Shoshone National Forest.

Lest the impression be left that some members of Congress may have been somewhat remiss during 1967, the heavy backlog reflects a reality that has pervaded all activity in the national capital this year. The \$2-billion monthly cost of the Vietnam war and international pressures on the integrity of the dollar brought widespread retrenchment of federal projects. Since early fall, agencies have been operating under a freeze order on new construction contracts and supplies. The demands for economy brought cutbacks in personnel and programs of administrative agencies. Moreover, past Congresses have been generous in approval of new parks and scenic developments, leaving to some distant period of affluence the question of actual appropriations.

In 1968, the curb on resource-oriented projects may become worse. President Johnson seeks a one-dollar cut in authorized expenditures for every dollar that Congress grants in new tax revenue. Protection of the environment, scenic enhancement, parks, and open space are likely victims of budget paring because of the inflexible costs of debt service, social security, veterans benefits, and national defense items.

Thus, in 1968, our nation's policy-makers face conditions that are difficult to reconcile. Widespread popular support exists for preservation of natural areas, and this is coupled with a population explosion that adds urgency to the need for action. Yet war-bred fiscal and inflationary pressures sustain arguments for delay.

Which influence will move the Congress in 1968?

*W. Lloyd Tupling has joined the Sierra Club staff as Washington Representative after 12 years as administrative assistant to Senators Richard L. Neuberger and Maurine Neuberger of Oregon.*

*Born in Saskatoon, Canada, in 1915, Tupling studied journalism at the University of Oregon and worked as a United Press staff correspondent in Salt Lake City, Boise, and Seattle before serving as a war correspondent in the Pacific during World War II. He married Gladys Battleson, a Montana girl, in 1938. The Tuplings have four children.*

*Between 1946 and 1953, when he became manager of the National Hells Canyon Association, Tupling published a weekly pictorial newspaper in Idaho. In 1954, he worked in Oregon and Idaho election campaigns; this led to his joining Senator Neuberger's staff in Washington, where he handled natural resource legislative matters.*

## IMPORTANT NOTICE TO CLUB MEMBERS

The latest hike schedule of the San Francisco Bay Chapter contains a "paid political advertisement," signed by two dozen club members, urging the election of a five-man slate to the Board of Directors in the club's April elections.

We call attention to this because members who see the ad, or hear about it, are likely to jump to one or another of two mistaken assumptions: (1) that the ad was a violation of established club policy, or (2) that a similar ad could now appear without being in violation of club policy.

The committee that paid for the ad, and the editor who accepted it, did not violate policy *as it existed at that time*. On December 10, however, the Board of Directors adopted longstanding recommendations of the Sierra Club Council, which follow:

**No Sierra Club lists, files, facilities or personnel in any location shall be made available to or used by anyone for purposes of electioneering.**

**Organized campaigning in any form for any nominee is contrary to club policy.**

The background and qualifications of candidates for election to the Board will be outlined in a leaflet mailed to members with their ballots. In the past, such "Statements of Qualifications" have been edited for uniformity under the direction of the Nominating Committee. Many feel that the unintentional result of such impartial editing has been to make all candidates sound equally worthy, giving the electorate little basis for choice. In an attempt to solve this problem, the Board of Directors decided that "Statements of Qualifications" shall include "the candidate's name, his residence, present and regular occupation, positions he has held within the Sierra Club and other relevant organizations, and, in an additional 300 words or less, such other information regarding his experience, attitudes, and qualifications as he believes would enable the voters to determine his fitness for directorship. The up-to-300-word statements submitted by candidates are not to be edited. It is hoped that these firsthand statements will prove useful to members in their appraisal of the candidates and their qualifications.

# USES AND ABUSES OF With Particular

*Dr. Neuzil, an Assistant Professor of Civil Engineering at the University of Delaware, holds B.S. and M.S. degrees in Civil Engineering from the University of Washington. On a fellowship from the Automotive Safety Foundation, he attended the Institute of Transportation and Traffic Engineering, University of California, Berkeley, and was awarded his Doctorate in Civil Engineering there. Dr. Neuzil is a member of the American Society of Civil Engineers and of the Institute of Traffic Engineers. He formerly taught at the University of Colorado, and until his move east, he was active in the Rocky Mountain Chapter of the Sierra Club. The following article is a condensation of Dr. Neuzil's more comprehensive paper, Highway Location Economics. Although this article deals specifically with highway projects, readers will note that much of it is also applicable to other types of public works, such as dams, that are commonly justified on the basis of benefit-cost analyses.*

CONSERVATIONISTS who oppose highway routings through wilderness or scenic areas are too often defeated by their own neglect or lack of understanding of economic factors. This article is a primer on highway economic analysis. I hope that it will better enable conservationists to verify whether the routings they oppose are unwise from an economic, as well as from an environmental, point of view.

There are usually several possible alternate highway routes, and ideally, these are evaluated and compared with respect to design features, traffic service and safety, financial and economic factors, and environmental impact. Highway officials place great emphasis on the comparative economics of alternate routes because other factors lend themselves less readily to quantitative analysis. But even within the limited scope of their studies, these officials often neglect the basic principles of modern highway economic analysis and are slow to make use of current research.

The criterion most commonly used in economic analyses by highway agencies is the benefit-cost ratio. The benefit part of the ratio consists of anticipated savings to motorists in the form of lower *user cost*. User cost is based on the type and the length of the route, traffic estimates, and the unit cost of vehicle operation. Operating costs vary according to type of vehicle, expected average speed, volume of traffic relative to designed capacity, gradients, and curvature. A rather arbitrary "cost" of the motorist's travel time is often added to mechanical operating costs such as fuel, oil, tire and brake wear, and so on. The cost factor in a benefit-cost ratio consists of *highway cost*. Highway cost is the sum of

the initial cost (right of way plus construction, converted to an annual basis) and the annual maintenance cost. The route with the lowest highway cost is assumed to be the most economically desirable unless it can be shown that a more expensive alternate would produce offsetting savings in the form of lower user cost.

"Intangible" costs and benefits are seldom treated in economic analyses. Such factors as air pollution, community impact, and the impact on scenery and wildlife are difficult to quantify, but are no less important than the tangible costs and benefits; they should be considered as part of the total route evaluation procedure.

A proposed highway routing in the Colorado Rockies will serve as an example. The map shows two alternate routes for Interstate 70 just west of the Continental Divide, about 75 miles west of Denver. The Vail Pass route would for the most part follow the right of way of existing U.S. 6. The Red Buffalo route, farther north, would traverse national forest land of true wilderness character, and is strongly opposed by the Colorado Open Space Coordinating Council. (COSCC indicates that the Red Buffalo route would consume about 7,000 acres and destroy the wilderness quality of perhaps 25,000 adjacent acres in the Gore Range-Eagles Nest Primitive Area.) Design and cost characteristics of the two alternates are given in Table 1, which includes maintenance and user costs for sections of U.S. 6 that will remain in use.

TABLE 1  
DESIGN AND COST CHARACTERISTICS OF ALTERNATE FREEWAY ROUTES\*

	Vail Pass Route	Red Buffalo Route
Route Length	27.3 miles	16.5 miles
Average Grade	3.1%	5.1%
Design Speed	50 mph	50 mph
Initial Cost:		
Roadway	\$17,514,000	\$19,079,000
Pavement	2,650,000	1,652,000
Twin tunnel	.....	41,211,000
Right of way	2,639,000	1,153,000
Total	\$22,803,000	\$63,095,000
Initial Cost Converted to Annual Basis, C	\$ 1,112,000	\$ 2,708,000
Annual Maintenance Cost, M	\$ 102,000	\$ 200,000
Total Annual Highway Cost, C + M	\$ 1,214,000	\$ 2,908,000
Annual Road User Cost	\$11,750,000	\$ 8,457,000

\* Source: Colorado Department of Highways, *Interstate Highway Location Study, Dillon to Dowd, Colorado*, May 1964, revised April 1966.

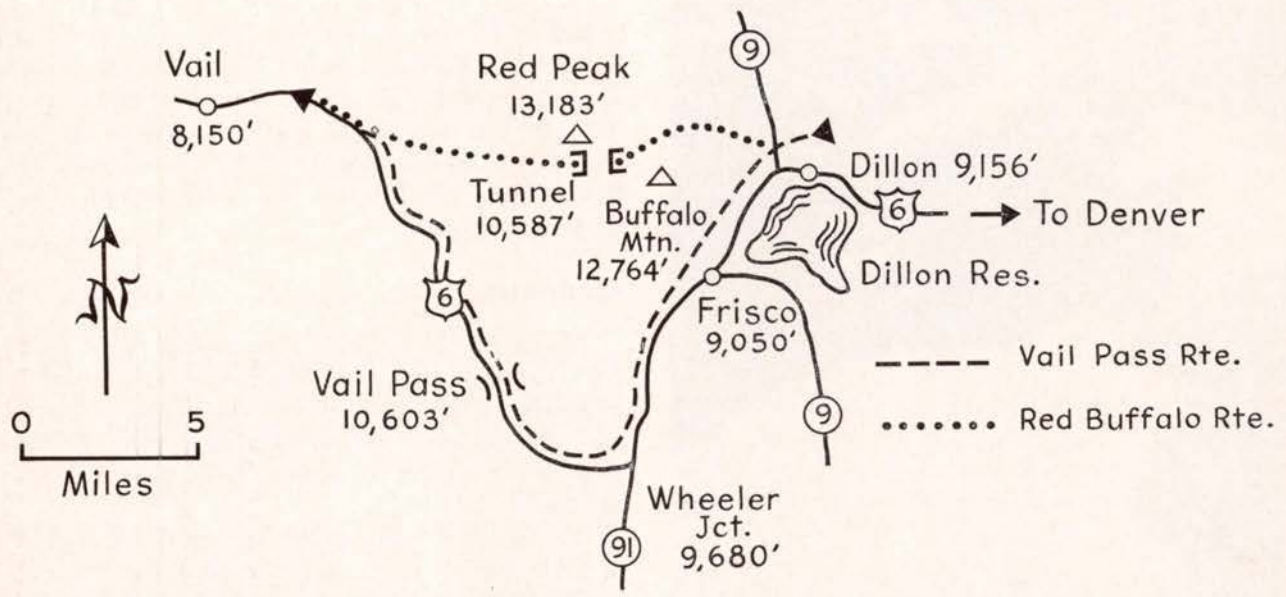
The Red Buffalo route is nearly 11 miles shorter than the Vail Pass route, but has much steeper grades. The effect of steep grades on speeds, particularly truck speeds, reduces the



# HIGHWAY BENEFIT-COST ANALYSIS

## Reference to the Red Buffalo Route

by Dennis R. Neuzil



significance of this distance saving. Furthermore, only east-west through traffic would benefit; local traffic, and through traffic to and from state highways 9 and 91, would be better served by the Vail Pass route. The Red Buffalo route would leave considerable traffic on U.S. 6, a two-lane highway. More freeway service to satisfy total traffic demand in the route corridor would be provided by the Vail Pass route. Close examination of the Highway Department's alignment data reveals that unlike the Red Buffalo route, the Vail Pass route could be designed for speeds of 60 to 70 mph at little or no additional construction cost. Since the two alternate routes do not offer equal traffic-service potential, the utility of economic comparisons is much reduced.

The Red Buffalo route, costing \$40 million more, would be nearly three times as costly to construct as the Vail Pass route. But according to Highway Department estimates, it would justify itself economically because of user savings. The benefit factor of the department's benefit-cost ratio is obtained by deducting the estimated annual user cost of the Red Buffalo route (\$8,457,000) from the user cost of the Vail Pass route (\$11,750,000), yielding an indicated annual benefit of \$3,293,000. The cost factor of the department's benefit-cost ratio is obtained by subtracting the annual highway cost of the Vail Pass route (\$1,214,000) from the annual highway cost of the Red Buffalo route (\$2,908,000), yielding an indicated annual cost differential of \$1,694,000.

The benefit-cost ratio of the Red Buffalo alternate is thus calculated to be:

$$\frac{\text{Benefit } \$3,293,000}{\text{Cost } \$1,694,000} = 1.94$$

This means that for each additional dollar of annual highway cost (over and above the annual highway cost of the Vail Pass alternate), the Red Buffalo route is expected to save motorists \$1.94 in user costs.

The break-even point for benefit-cost ratios is a value of 1.00. A ratio of less than 1.00 indicates that the higher-cost alternate would be economically disadvantageous—that added highway costs would exceed user savings. But note that in actual practice, the minimum acceptable benefit-cost ratio may be higher than 1.00 because most highway agencies have a tremendous backlog of high-economic-yield projects. If other projects with benefit-cost ratios greater than 2.00 would exhaust available funds, for example, a project with a benefit-cost ratio of between 1.00 and 2.00 cannot be justified.

### INTEREST RATES

Other things being equal, the lower the interest rate used in economic analyses, the higher the resulting benefit-cost ratio—and the greater the likelihood that a higher-cost alternate will seem economically attractive. Because annual cap-



*Multi-million-dollar tunnel would be drilled under this pass if Red Buffalo route for Interstate 70 were adopted. All photos for this article are by Willard Dean.*

ital costs were based on an interest rate of only 3.5 per cent, the Highway Department's benefit-cost ratio of 1.94 significantly overestimates the economic feasibility of the Red Buffalo route. Such a low interest rate is unreasonable today. Since state highway funds are obtained from the highway user, highway improvements should earn a return on the investment of these tax dollars equal to that which the motorist could obtain from private investment of comparable risk were highway taxes not collected. (The interest rate the motorist pays for financing his car, home, or other purchases also serves as a good guide to the minimum rate of return that should be obtained from highway improvements.) Many savings and loan associations pay 5 per cent interest, and conservative stocks and bonds may pay 6 to 8 per cent.

The interest rate used in benefit-cost analysis should be comparable to that obtainable from conservative private investments. Authorities on highway economics believe that 6 per cent is currently an appropriate *minimum* value. Where investment costs are high and there is a greater than normal possibility that cost and traffic estimates may be unreliable, consideration should be given to interest rates of 7 or 8 per cent. Line 1 of Table 2 demonstrates the effect of interest rate on the benefit-cost ratio for the case at hand.

TABLE 2  
EFFECT OF INTEREST RATE AND STUDY LIFE UPON  
BENEFIT-COST RATIO, RED BUFFALO VS. VAIL PASS ROUTE

	3.5%	Interest Rate 6%	8%
1. Highway Department Study Life (Pavement, 20 yrs.; roadway, 40 yrs.; tunnel and right of way, 60 yrs.)	1.94	1.28	0.99
2. Author's Recommended Study Life (Pavement, 15 yrs.; roadway, tunnel and right of way, 30 yrs.)	1.46	1.10	0.91

Raising the interest rate from 3.5 to 6 per cent drops the benefit-cost ratio from 1.94 to 1.28, significantly reducing the apparent economic desirability of the Red Buffalo alternate. At 8 per cent interest, the Red Buffalo route becomes economically unfeasible. The validity of a benefit-cost ratio may be called into question whenever an interest rate of less than 6 per cent was used.

#### STUDY LIFE

The anticipated useful life of a proposed public works project is called its study life. Assumptions as to study life are necessary for the calculation of the annual capital cost of each alternate route. Other things being equal, the longer the study life, the lower the annual capital costs and the higher the benefit-cost ratio.

It is important to distinguish between physically useful life and economically useful life. A proposed highway may have a probable structural life of 40 years or more, but if after 20 years we find that a new highway can serve traffic more economically, then from an economic standpoint the new highway should be built. Thus the old highway is not fully amortized; funds invested in it are not fully recovered, and the result is a "sunk cost" that is written off as an economic loss to highway taxpayers. This has been the fate of many rural highways, especially in mountainous areas, and even some of our urban freeways have had to be so substantially reconstructed because of outdated design features that, in effect, they have been replaced at great cost. The highway engineer who assumes that current technology will serve acceptably 40 to 60 years from now is simply naive.

For the Red Buffalo route, the Colorado Highway Department assumed useful lives of 20 years for pavement, 40 years for roadway, and 60 years for tunnel and right of way. Since the tunnel itself accounts for 65 per cent of the project's initial cost, and the tunnel plus roadway account for 95 per cent of the initial cost, the use of study lives of 40 and 60 years strongly biases the benefit-cost ratio in favor of the Red Buffalo alternate.

Considering the dynamic changes in transportation demand and technology, such lengthy study lives cannot be justified. Sixty years ago, highway travel was virtually nonexistent. Within the space of about 20 years, interurban electric railroads came and went. Traffic forecasts cannot be considered reliable for more than about 20 years ahead. What logic is there in comparing user benefits for 20 years with highway

costs that are spread out over up to 60 years? A wise approach to study life is the rule that either physical life or economically useful life should be used, *whichever is the shorter*. A study life of 20 to 30 years is the longest that can be reasonably justified.

Table 2 shows the effect of using realistically shorter study lives in the analysis of the Red Buffalo route. At 3.5 per cent interest, the benefit-cost ratio falls from 1.94 to 1.46. The benefit-cost ratio also declines at higher interest rates, but not so markedly. One important effect of the interest rate is thus apparent: as the interest rate is increased, other assumptions (such as study life) become less critical in their effect on the benefit-cost ratio. The use of higher interest rates in benefit-cost analyses provides a safety factor, decreasing the danger that the alternate route selected will prove to have a much lower benefit-cost ratio than originally estimated.

#### SYSTEM COSTS

When a new highway is opened, the volume and pattern of traffic on existing roads is usually altered. Sections of these existing roads must often be relocated. This results in changed user costs on the affected roads, and each alternate route for a proposed freeway usually has a different effect on the user costs of existing roads. The user cost of the new freeway—whether it be the Red Buffalo or the Vail Pass route—must include the user cost for traffic that would remain on U.S. 6. Similarly, the highway cost of the new route should include the cost of reconstruction and maintenance required on U.S. 6.

#### AVERAGE USER COST

Because annual user costs increase over time as traffic increases, it is necessary to calculate an equivalent average annual user cost for proper determination of the benefit-cost ratio. Some agencies use as an average value the user cost associated with the estimated traffic at the half-way point in the study life. This procedure usually results in overestimation of the benefit-cost ratio. Basic compound-interest formulas can easily yield the true average annual user cost. In its analysis of the Red Buffalo route, the Highway Department did not properly estimate the average annual user cost, which resulted in a larger benefit-cost ratio than can be justified on the basis of the forecasted traffic volumes.

#### TRUCK USER COSTS

User costs for truck traffic are usually determined by assuming that the typical truck will travel at the same speed as passenger cars, and that its operating costs will be equal to some specified number of passenger cars. The Colorado Highway Department assumed in its Red Buffalo route analysis that a truck's operating costs would equal those of eight passenger cars—a figure significantly higher than the maximum value of six suggested by the American Association of State Highway Officials. Trucks account for only about 12 per cent of the estimated traffic, but the cost equivalence of

one truck to eight cars gives a heavy weighting to truck user costs.

Available data indicate that the ratio of truck operating cost to passenger car operating cost increases as steepness of grade increases. The Red Buffalo route is much steeper than the Vail Pass route, but the department used the same truck-to-car cost ratio for both freeway routes. The savings in truck user cost afforded by the Red Buffalo route is thereby overestimated, producing a higher benefit-cost ratio than will occur in fact. The value of the truck-to-car cost ratio should be adjusted for each alternate according to its gradient characteristics.

The mechanical portion of truck user costs—fuel, oil, tires, brakes, and so on—can be approximated by a carefully considered truck-to-car cost equivalence. The traveltime component of truck user cost, however, should be evaluated separately by more accurate methods, especially where the alternates differ significantly in gradient. Truck speeds for different lengths and steepness of grade can be estimated, and can be used in estimating traveltime for trucks over a route. The department did not follow this procedure; it merely assumed that the cost factor of eight cars per truck held good for traveltime costs as well as mechanical operating costs for both routes. This produced an apparent savings in annual traveltime for trucks of \$660,000 for the Red Buffalo route over the Vail Pass route. But when the author computed travel-

*Valley of Willow Creek, looking east, with Red Buffalo Mountain on right. Red Buffalo route would climb steeply to tunnel's mouth in trees at right center.*



time cost by the method recommended above, he found the savings to be only \$40,000 per year. This means that the Highway Department's benefit-cost ratio should be reduced from 1.94 to 1.59. When a 6 per cent interest rate and 30-year study life are used as the author recommends, the benefit-cost ratio declines from 1.10 to 0.90 (indicating that the Red Buffalo route is not economically feasible).

**TRAVELTIME COSTS**

The assignment of monetary value to traveltime savings is a subject of much debate among students of highway economics. Not all time savings result in benefit to road users and the economy at large, and the sum total of a few minutes saved by many vehicles over many years is not a completely meaningful figure. Nevertheless, it is generally agreed that dollar values should be assigned to traveltime for trucks. The unit cost of traveltime should vary with the type of truck. Values of \$3 per hour or more have been used for heavy trucks, and in some cases, a value of \$5 per truck-hour might be reasonable.

Traveltime cost for passenger cars is another matter. Business trips by auto might be given some time value, but there is less support for assigning value to non-business traveltime. The value an individual places on his traveltime varies from person to person—and for any particular person, varies depending on the purpose of the trip, the weather and traffic conditions, the scenery along the route, and so on. Thirty per cent or more of rural traffic is recreational, with higher percentages in the west and major recreation areas. Much of the traffic on major rural routes moves on weekends, especially near urban centers, and pleasure drivers are a substan-

tial component of this traffic. The easiest way for a "Sunday driver" to maximize time savings, if traveltime were really of value to him, would be to stay home. The author believes that traveltime cost should be assigned to no more than half of the passenger car traffic on rural highways, particularly for highways through scenic and recreation areas.

Mechanical operating costs are often greater on new rural freeways than on the old highways they replace, because operating costs rise sharply as speed increases. Rural freeways have been justified economically, in such cases, solely by arbitrarily assigning \$0.75 to \$1.50 or more per vehicle-hour to all passenger car traveltime savings.

Table 3 shows the effect of alternate treatments of traveltime cost. The unit cost of traveltime was taken at \$4.85 per hour for trucks and \$1.55 per hour for passenger cars.

TABLE 3  
ANNUAL ROAD USER SAVINGS AND BENEFIT-COST RATIO FOR  
RED BUFFALO ALTERNATE FOR VARIOUS TREATMENTS OF  
TRAVELTIME COST

	Annual Road User Savings (a)	Benefit Cost Ratio	
		3.5% (b)	6% (c)
1. Allowing Traveltime Cost for all Vehicles:			
A. Highway Department Estimate	\$3,293,000	1.94	1.10
B. Author's Estimate	2,683,400	1.59	0.90
2. Allowing Truck Traveltime Cost + 1/2 Passenger Car Traveltime Cost	2,481,900	1.47	0.83
3. Allowing Truck Traveltime Cost Only	2,280,400	1.35	0.76
4. No Allowance for Traveltime Cost	2,241,100	1.32	0.75

(a) Based on author's estimate except for I.A.  
 (b) Interest rate with study lives of 20, 40, and 60 years for pavement, roadway, tunnel and right of way respectively.  
 (c) Interest rate with study life of 15 years for pavement and 30 years for all other elements.



*Valley of Gore Creek, looking West. If adopted, Red Buffalo route would traverse north side of valley.*

The author's estimate of user savings (line 1B) is about \$610,000 less than the Highway Department's (line 1A). The difference is accounted for primarily by the author's more accurate assessment of truck traveltime cost. With the low interest rate and long study lives used by the department, the effect of alternate treatments of traveltime cost is even more pronounced than it is under the author's assumptions. Again, it is evident that realistic assumptions as to interest rate and study life provide a safety factor, reducing the sensitivity of the benefit-cost ratio to variations in other assumptions such as traveltime cost. If highway agencies would report the results of the type of analysis shown in Table 3, the criticality of arbitrary traveltime assumptions could then be evaluated. Highway commissions and concerned laymen could then weight the traveltime factor as they saw fit, an opportunity not readily available when only one benefit-cost ratio is reported.

#### SENSITIVITY TO ESTIMATION ERRORS

The sensitivity of a benefit-cost ratio to estimation errors is not apparent when highway agencies report a single ratio based on a single set of fixed assumptions, as most agencies do. But a benefit-cost ratio can be affected greatly by a single faulty estimate. For example, a tunnel similar to the Red Buffalo tunnel is to be built a few miles to the east on Interstate 70. The Highway Department has just revealed that the lowest bid on this tunnel was \$54.1 million—27 per cent higher than the department's own estimate of \$42.5 million. The expected construction cost of this tunnel (before bids were revealed) was used as a basis for estimating the construction cost of the Red Buffalo tunnel, which, therefore, is probably underestimated also. If the construction cost of the Red Buffalo tunnel should turn out to be 10 per cent above estimate—not 27 per cent, as in the case of the other tunnel—then this factor alone would cause the Highway Department's benefit-cost ratio to drop from 1.94 to 1.79. If, in addition, average annual traffic was overestimated by 25 per cent, the department's benefit-cost ratio would decline to 1.43.

Calculations such as these showing the sensitivity of benefit-cost ratios to possible estimation errors can be made easily enough, but rarely are. The cost of sensitivity analyses is trivial; the possible cost of failing to make them is not.

#### SUMMARY

Benefit-cost ratios are merely estimates of the comparative economic utility of alternate routes, and they are no more reliable than the assumptions on which they are based. For example, the Colorado Highway Department concludes on the basis of its set of assumptions that the Red Buffalo route has a benefit-cost ratio of 1.94 and is economically justified. On the basis of the same raw data, but using other assumptions, the author concludes that the Red Buffalo route has a benefit-cost ratio of 0.90, at best, and is economically unfeasible.

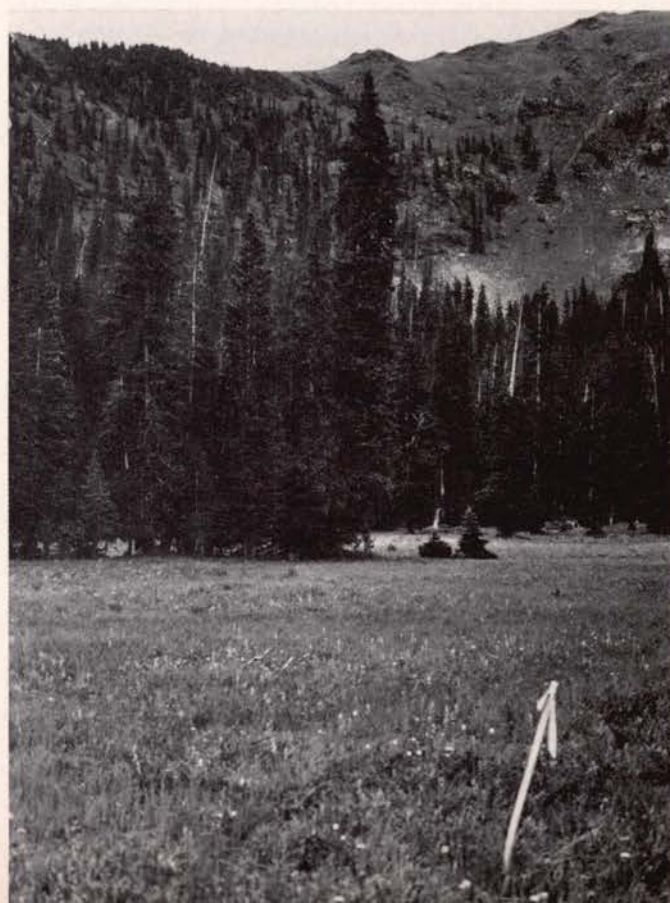
Even if its reputed benefit-cost ratio is high, a proposed freeway's economic utility need not be conceded by oppo-

nents so long as the assumptions underlying its benefit-cost ratio are obscure or unreasonable. To repeat, the assumptions that should be most carefully scrutinized are these:

*Interest rate.* The assumption of an unreasonably low interest rate is particularly damaging because it makes an economic analysis critically sensitive both to the *overestimation* of benefits and useful life and to the *underestimation* of costs. The minimum interest rate currently recommended for highway economic studies is 6 per cent. Whenever a lower rate is assumed, the benefit-cost ratio will be biased in favor of a higher-cost alternate. The assumption of an interest rate much below 6 per cent is, by itself, enough to cast serious doubt on the whole economic analysis of which it is such a crucial part.

*Study life.* The economically useful life of a highway project should be assumed to be no more than 20 years, preferably; in no case should a useful life of more than 30 years be assumed. Whenever a highway agency assumes a useful life of more than 30 years, the validity of its benefit-cost analysis may be challenged.

*Traveltime costs.* Traveltime for trucks should be estimated on the basis of the length and steepness of gradients on alternate routes, not on the basis of an arbitrary truck-to-car ratio. Traveltime cost should be assigned to no more than 50 per cent of passenger car traffic on rural highways, and the same value is a conservative guideline for urban highways. The effect on the benefit-cost ratio of making no allowance for traveltime cost should be computed and reported. Whenever a monetary value is placed on traveltime for all traffic, including pleasure drivers, the benefit-cost ratio is overstated.



Meadow in valley of Gore Creek, and ridge that would be tunneled for Red Buffalo route. The engineer's stake was planted by the Colorado Highway Department.

# CORPS OF ENGINEERS' DAM IMPERILS KENTUCKY'S RED RIVER GORGE

by James E. Kowalsky

"The Red River Gorge is one of the great untamed beauty spots in the country which we must do all we can to save." JUSTICE WILLIAM O. DOUGLAS

*Mr. Kowalsky, an Instructor in Music at Union College, Barbourville, Kentucky, is Chairman of the Kentucky Section of the Sierra Club's Great Lakes Chapter.*

**E**ASTERN KENTUCKY is a country of steep hills and narrow valleys. Much of the rugged topography of the Cumberlands is covered by second-growth hardwoods that give it the appearance that Daniel Boone and the earliest settlers must have known when they lived, fished, and hunted in what was perhaps the finest hardwood forest on the continent.

Northward from the Tennessee line, the Daniel Boone National Forest encompasses the heart of the celebrated frontiersman's bountiful hunting grounds. Among the national forest's most interesting features are its many natural arches, carved through countless years by wind and water. More than 30 have been counted. No other area in the United States, except southern Utah, can claim as many. Some 25 of these natural arches are in the scenic Red River Gorge, an enchanting place where meadows once sank beneath the weight of buffalo herds and wild turkeys flocked in such numbers that they couldn't all fly at once. The Red (a tributary of the Kentucky River) still pours pure water through the gorge it created, whose rapids now comprise the longest and most spectacular stretch of whitewater remaining in the Commonwealth.

Little has changed since Boone's day, basically. But the charming, 12-mile Red River Gorge Drive now winds through a lovely portion of the gorge and reveals its bottomland beauty to many thousands of motorists. Well-constructed foot trails offer leisurely and lengthy hikes through forest solitudes—through laurel and rhododendron clusters, along tributary streams, and on up to the picturesque overhangs and arches at the head of many side gorges.

You enter another world when you tramp down Forest Service trail number 219 to Swift Camp Creek. Here are the heady sights, sounds, and smells of wilderness. The creek ripples by, parted here and there by huge boulders. There are other creeks, too—Indian, East Fork, Gladie, Wolfpen, Chimney Top, and many others, some nameless. Each is a little different; each lets you feel you've discovered a lost paradise. The natural quality of the place is enhanced by its rich history. Only last year, tucked under an immense rock ledge in

the gorge, a little shack was found that is believed to be Daniel Boone's.

The Red River Gorge as Boone knew it, as we know it, and as the future could know it, is marked for destruction. A dam for flood control and water supply was authorized by Congress years ago. Unfortunately, the proposal did not engage conservationists' attention at the time, and the Corps of Engineers is scheduled to begin construction in March 1968.

"You're too late," proponents of the dam cry nervously, "you should have objected sooner." But the Sierra Club in Kentucky (organized in February 1967) has rallied support for delay to permit restudy of the project. Records of hearings—dating back as far as 1954—reveal little concern for natural values to be lost and little if any attempt to explore alternatives. Although alternatives to a dam on the Red exist—and good ones—a hurried Congress dropped this \$11.1 million boondoggle into the pork barrel without sufficient information or consideration.

During its brief existence, the Sierra Club in Kentucky has created enough of a storm to elicit this rueful comment from Governor Edward T. Breathitt: "If you think you have troubles," the governor told an Ohio audience, "you should be a governor with the Sierra Club after you." We take this as a compliment, but the club is not alone in its opposition to the dam. The influential *Louisville Courier-Journal* carried this editorial comment on October 17, 1967:

The opposition to the dam planned for the Red River has become too substantial to be ignored. All over the state, and even from respectable groups outside the state, objections are being voiced to the project that would destroy one of Kentucky's most scenic wild regions.

These are not frivolous objections, and the objectors are not self-interested people. They are fighting to preserve a great natural asset of Kentucky, and they have convincing evidence that the dam will not be in Kentucky's best interests.

They are certainly not opposed to the purposes of the dam—flood control and water storage for central Kentucky cities. But they argue, and again with impressive supporting evidence, that both flood control and water storage could be achieved more efficiently through other construction, and without the damage to the Red River Gorge from the dam proposed by the Army Engineers.



No one argues that Clay City does not need flood relief, or that Lexington and Frankfort don't need a source of future water supply. But as an official of the Kentucky chapter of the Sierra Club has pointed out to Governor Breathitt, the Red River dam is not the best way to gain these desirable needs. Clay City, as the Engineers admit, can be protected by a floodwall. There are other sites on the Red River where water could be stored without destroying the picturesque gorge. And there are numerous sites on forks of the Kentucky River where dams would produce more flood control and more water storage than the proposed Red River site.

Governor Breathitt should not allow the destruction of the Red River Gorge to dim his sound record on conservation. He has taken a constructive step in appointing a committee to study Kentucky's wild rivers and report to the incoming governor on their preservation. But he owes it to his own deserved reputation to go a step farther in defending the Red River.

The Sierra Club asks only that all other alternate sites be carefully studied before final approval for the Red River dam is given. Why shouldn't the governor ask Secretary of the Interior Udall, whose concern for natural beauty is unquestioned, to visit the Red River

area, and to approve a federal study of the proposed dam and of alternate sites? The governor's prestige in conservation circles would almost assure that the study would be made, and a study by Secretary Udall would put to rest the many troublesome questions that continue to cast doubt on the Red River dam.

Another voice that commands respect has been raised in defense of the Red River Gorge. Calling it "one of the great untamed beauty spots in the country which we must do all we can to save," Supreme Court Justice William O. Douglas led 400 protest marchers to the gorge November 18, 1967. The protest was widely reported in the press and drew national attention to the issue. [*A photograph in The New York Times of November 20 shows a counter-demonstrator whose car bore a sign reading "Sierra Club Go Home." But Kentucky is home to an important Section of the club—Ed.*]

The U.S. Fish and Wildlife Service has also raised a dissenting voice. It says the dam would create conditions "extremely adverse" to a habitat that supports significant and increasing numbers of large and small game. A fluctuating reservoir on the Red and its many tributaries—clear, rocky, mountain streams—would diminish fishing for muskie, wall-

**Photographs by Michael T. Vaughan**



eye, and trout in a state where very little remains. The Red is, for about four miles in the gorge, the *only* significant stretch of whitewater left in Kentucky.

Governor Breathitt's plan to preserve some of Kentucky's free-flowing streams, referred to by the *Courier-Journal*, now

seems to offer small hope. Initially, in 1966, the Red was included in the plan; later in the same year, without publicity, it was inexplicably excluded. More recently, the governor said the Red would not be considered for preservation as a free-flowing stream. Senator John Sherman Cooper has suggested that the Corps of Engineers make a study of stream preservation, but considering the Corps' basic orientation, many of us have our doubts about this proposal.

Kentucky has been a heaven on earth for dambuilders, who are turning it into something else for the rest of us. How can we protect what is left of Appalachia's beautiful rivers and gorges? Seventeen more reservoirs have been proposed for the region; these would obliterate short whitewater stretches around Devils Jum on the South Fork of the Cumberland, the Cumberland above the falls, the Rockcastle, Kinniconnick and Tygarts Creeks, and the South Fork of the Kentucky. Several longer stretches of whitewater were drowned when the Nolin River was dammed, and short stretches on the Green and the Little Sandy will soon go under.

Too many have disregarded too long the effect of these destructive dams on the Commonwealth's great natural beauty. This cannot continue; greater responsibility must be shown in water resource planning, here and elsewhere. Kentucky has had enough!

The Bureau of the Budget should be asked to delay the Red River project while it is restudied with integrity and consideration for *all* factors involved. These factors include alternate sites and alternate devices for flood control and water storage, future developments to be expected in water technology; and not least, the intangible but priceless values we must place upon disappearing areas of irreplaceable natural beauty.



*Top: Swift Camp Creek Trail, one of many footpaths in the Red River Gorge and its tributary side canyons.*

*Left: Upper Red River Gorge, in area that would be inundated by Corps of Engineers' dam.*



*Newly-discovered Red Byrd Arch, one of the two dozen natural arches in the area, would be flooded if dam were built.*



The tragic loss of the Red River Gorge, Kentucky's most beautiful scenic resource, appears to be imminent. Construction of the dam is slated to begin in March. Aroused conservationists have succeeded before at the eleventh hour, however, in reversing the "inevitable." Members of the Kentucky Section are not giving up, but we will need help.

*[At its December 9 meeting in San Francisco, the Sierra Club Board of Directors resolved that: The Sierra Club believes*

that the portion of Kentucky's Red River in the Daniel Boone National Forest which is upstream from the East Fork of Indian River should be preserved as a free-flowing river. For this reason, it opposes a dam which the Corps of Engineers plans to build there. Moreover, as a matter of sound public planning, no further steps should be taken toward construction until the scenic and natural values of the river's gorge are fully understood and feasible alternatives to the dam are thoroughly explored.]

*Alcove behind Red Byrd Arch, another spot whose beauty and mystery would be drowned if Kentucky's finest remaining free-flowing river were converted into a reservoir.*



# Toward an Underwater Wilderness System

by Frederick Eissler

*Mr. Eissler, a school teacher and resident of Santa Barbara, California, is a Director of the Sierra Club.*

**F**ARSIGHTED LEGISLATION introduced by 23 Senators and Representatives would extend the principles of the historic Wilderness Act to offshore areas.

The Marine Sanctuaries Study Bills would authorize the Secretary of the Interior, in a two-year, million-dollar research program, to devise the most feasible means of designating an underwater wilderness system in "selected parts of the Nation's natural tidelands, bays and estuaries, outer continental shelf, seaward areas, and lands and waters of the Great Lakes."

Spurred by projected oil exploitation in the Santa Barbara Channel and off Cape Cod—both specifically designated for study under the legislation—the bills would provide for a moratorium on mineral exploration and exploitation in regions being reviewed as potential sanctuaries. Until completion of the two-year study, "the Secretary of the Interior shall not issue or renew any license, permit, or other authorization for the exploration, development, mining or other removal of any minerals (including gas and oil) from any part of the outer continental shelf under study as a possible marine sanctuary."

Reading like a conservation bill of rights, the measures would insure citizen participation in the study. "The Secretary shall cooperate and consult with other interested Federal agencies as well as other interested public and private organizations and shall coordinate his studies, to the extent feasible, with all other applicable planning activities related to the areas under consideration. In conducting the studies, the Secretary shall schedule hearings in areas contiguous to the proposed sanctuary sites, for the purpose of receiving views on the establishment of such marine sanctuaries."

Editorial comment nationwide has been favorable. For example:

"The Sierra Club correctly points out that the move is not prompted by any desire to keep oil companies from developing potential resources. But experience in the unchecked exploitation of land wilderness areas demonstrates the wisdom of planning now to save the best underwater areas . . . not least along New England's rocky shore." (Providence, Rhode Island, *Journal*.)

"Man has only begun to learn about the potential beneficence of the sea, and he will not learn as much as he should unless some areas of undersea wilderness are protected from

mineral exploitation and shore pollution." (St. Louis, Missouri, *Post-Dispatch*.)

"It won't be long before man starts re-creating his land environment under the sea, and the job of Congress is to see that he doesn't re-create his problems as well." (Baltimore, Maryland, *Sun*.)

Identical Marine Sanctuaries Study Bills have been introduced by:

**California Congressmen** George E. Brown, Jr., Phillip Burton, Edward R. Roybal, Burt L. Talcott, and John Tunney; **Georgia Congressman** Benjamin B. Blackburn; **Illinois Congressman** Robert McClory; **Massachusetts Senators** Edward W. Brooke and Edward M. Kennedy; **Massachusetts Congressmen** William H. Bates, Edward P. Boland, Frank T. Bow, Silvio O. Conte, Hastings Keith, and Thomas P. O'Neill, Jr.; **Michigan Senator** Philip A. Hart; **Michigan Congressman** Jack H. McDonald; **New Hampshire Congressman** Louis C. Wyman; **New Jersey Congressmen** James J. Howard, Peter W. Rodino, Jr., and Frank Thompson, Jr.; **New York Congressman** Seymour Halpern; **Rhode Island Congressman** Robert O. Tiernan.

The marine sanctuaries bills have been referred to the **Senate Committee on Commerce** (Senator Warren G. Magnuson of Washington, Chairman, Senate Office Building, Washington, D.C.) and the **House Committee on Merchant Marine and Fisheries** (Congressman Edward A. Garmatz of Maryland, Chairman, House Office Building, Washington, D.C.)

[*The following resolution was adopted at the May 6, 1967, meeting of the Board of Directors:* "The Sierra Club supports measures to protect the scenic and ecological values of the coastal and shore region of the Santa Barbara Channel. Among these protective measures should be a moratorium of at least a year on oil development from the Ventura County line to Point Conception and a federal oil sanctuary from the existing State of California sanctuary to the Channel Islands."

*At its meeting of July 29, 1967, the Executive Committee discussed the question of marine sanctuaries in general. It decided that the establishment of marine sanctuaries, after surveys during which there should be moratoria on exploration and development in potential sanctuary areas, was consistent with Sierra Club policy. This decision was approved by the Board of Directors at its December 9, 1967, meeting.* —Ed.]

## Karl Onthank, 1890-1967

Karl Onthank's passing signifies the closing of an era in conservation. Growing up as he did in the time of Muir and Pinchot, he was imbued with the perception of the unity of conservation.

Karl accordingly was a truly catholic conservationist, as few of us seem to be anymore. Preëminently he was a park and wilderness man, but he also became deeply involved in problems of water, reclamation, and forestry. He served successively as Chairman of Oregon's Water Resources Board and as President of the Oregon County Park Association.

Beginning in a time when Muir was still alive, Karl—and his wife Ruth, who was his partner in all he did—was hiking across roadless stretches of Oregon's Cascade crest country, into Crater Lake National Park and other wild places he loved. Over a span of many decades, he and Ruth became the vital center of con-

servation in Oregon—and in the Northwest and wider areas, too. For three decades the Federation of Western Outdoor Clubs prospered under his counsel, particularly during his term as President. He was the leader who stubbornly resisted Forest Service attempts to shrink the Three Sisters Wilderness. That losing battle in the mid-fifties alerted a whole generation of conservationists to the changing attitudes of the Forest Service.

Perhaps Karl's greatest legacy is the introduction to conservation that he gave so many young people. Both at the University of Oregon, which he served for 40 years, and in countless organizations, he communicated a sense of excitement and concern about the out-of-doors that led to lifetime commitments to its preservation. Scores of active workers in conservation today owe their introduction to him. I am grateful to be among them.

MICHAEL McCLOSKEY

## Book Reviews

**THE MAN WHO WALKED THROUGH TIME.** By Colin Fletcher. A. A. Knopf, New York. 239 pages, illustrated. \$5.95.

Colin Fletcher told me about his plan to walk the length of Grand Canyon, and I wanted desperately to escape routine and go with him. We talked about it seriously and worried over maps together. But when I asked for a two-month leave of absence, I was turned down immediately—both at home and at the office. Colin eventually went alone.

From the start, his idea was to experience first-hand some of the great expanse of time exhibited by the strata of the Canyon walls. He knew the Canyon to be a beautiful and primitive place, but what really mattered about Grand Canyon was time—about two billion years of it.

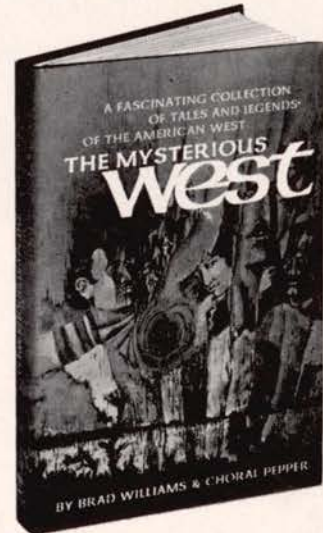
The whole adventure was “impossible.” People nowadays take float trips

through Grand Canyon because it's “impossible” to walk through. People don't try to study the whole of Grand Canyon because it's “impossible” to comprehend more than a fraction of its geographical extent or its geological age. Some might say it's “impossible” to write a readable and credible account of such a journey for people who never experienced anything remotely like it.

Fletcher may not have accomplished the impossible, but in *The Man Who Walked Through Time*, he provides us with a fascinating account of his trip. He argues masterfully for the preservation of places like Grand Canyon where the spirit can soar toward the heights of the impossible. Fletcher's Canyon journey is an intellectual one as much as it's a physical one; and insofar as he increases our appreciation of this formidable piece of landscape, he has succeeded in his task. The book is spiced with Fletcher's thoroughly practical approach to staying alive and happy in a sometimes hostile environment.

ROBERT V. GOLDEN

## New factual evidence on the legends of the West



by Brad Williams and Choral Pepper

This book examines many little-known stories and legends that have emerged from the western regions of North America.

Included are such phenomena as the discovery of a Spanish galleon in the middle of the desert; the strange curse that rules over San Miguel Island; the discovery of old Roman artifacts buried near Tucson, Arizona; the unexplained beheading of at least 13 victims in the Nahanni Valley; and many other equally bewildering happenings. Elaborate confidence schemes and fantastically imagined hoaxes are documented, along with new factual evidence that seems to corroborate what were formerly assumed to be tall tales.

Illustrated with photographs, this fascinating survey of Western Americana will be welcomed by all readers interested in the folklore and history of the United States.

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**EXPERIENCES WITH LIVING THINGS: An Introduction to Ecology for Five-to-Eight-Year-Olds.** By Katherine Wensberg. Beacon Press, Boston. 143 pages, illustrated. \$4.95.

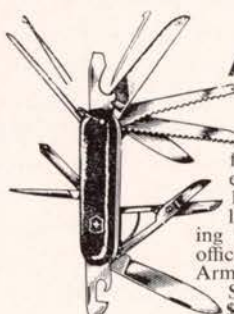
**THE LIVING COMMUNITY: A Venture into Ecology.** By S. Carl Hirsch. Viking Press, New York. 128 pages, illustrated. \$3.50.

Good conservationists start young. Biographies of men who have contributed most to the preservation of wildlife and the natural scene tell how in their early years—through hiking, camping, or simply in backyard exploration—their interest in nature had its exciting beginning.

Ecological perspective, the recognition of "the great chain of being," makes for the strongest conservationists. To discover relationships, natural causes and effects, and processes—this after all is what ecology is about; this is the biggest step toward Aldo Leopold's land ethic, an ethical attitude toward the land.

As Dr. Dorothy Spoerl suggests in her foreword to Miss Wensberg's book, we should seek to open up for the child "the truly spiritual concept of the interrelationships and the interdependence of all living things." And because children are eager to learn about their natural environment, there can be an early introduction to ecology. Dr. Spoerl believes that "the underlying reason for teaching ecology to the children of early elementary age is our conviction that the children who grow up with some understanding of the intricate interweaving of the web of life will always feel more a part of the universe."

Wensberg's *Experiences With Living Things* is planned as a guide for teachers and nature club leaders. "Experiences" with a variety of animals, birds, and insects are provided. Each chapter—based on the life pattern and environment of a single living thing, be it earthworm or mole or woodpecker—offers general information, suggestions for experiences,



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references for further study, and a short story (with sometimes a song) to summarize the children's study project.

*The Living Community* by Hisch reminds us that Thoreau was a self-appointed inspector of the doings of nature, and it would help children become the same. This is less a field book and guide, more a popular statement of the philosophy of ecology for older young people (sixth through eighth grades, or thereabouts). Under such interesting titles as "Town in the Forest," "Beings Need Beings," "Voyage to the Past," "The Orderly Wilderness," "Man in Command," and "Learn and Live," Hisch develops the ecological interpretation of nature. The final chapter, "No Place Like *Oikos*," refers to the Greek word and concept that embraces the entire earth as man's home. The author finds that Thoreau made the point best: "What is the use of a house if you haven't got a tolerable planet to put it on?"

FRED FERTIG

## Letters

### SKI TOURING

IN A REVIEW in the November issue of the *Bulletin*, David Bradley describes Caldwell's *Cross-Country Ski Book* as the only book in English on the subject. He and others might be interested in *Nordic Touring and Cross-Country Skiing* by Michael Brady, published by Dreyers Forlag, Oslo. It is available from Recreational Equipment, Seattle, for \$2.15. Brady's treatment of equipment and waxes is more comprehensive than Caldwell's, and technique is illustrated with sequential drawings.

GEORGE G. PERKINS  
Valdez, Alaska

### MINERAL KING

I BECAME A MEMBER of the Sierra Club because of your outing trips, books, conservation, and Clair Tappaan Lodge—in

essence, because of the activities. In recent years, the club's conservation activities have become frenetic. I am particularly disturbed by your stand on Mineral King, and must raise my voice in dissent. As a member of the Far West Ski Association, I intend to fight the Sierra Club in the hope that the Mineral King project will go through. Incidentally, I have read the article by Mr. McCloskey in the November *Bulletin*.

As far as I am concerned, the only forward action recently taken by the club was to support PG&E in their effort to build an atomic plant. Most everything else is negative and against.

WILLIS C. SCHAUPP  
San Francisco, California

I HAVE A SUGGESTION for anyone who opposes the Sierra Club stand on Mineral King. Don't get your information second hand. Go to Mineral King. Hike up to Timber Gap, sipping water from the numerous mountain springs along the way.

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When you get to Timber Gap, look around at the mountain peaks that surround you. Look down at the valley before you, which is Mineral King. Then see if you honestly feel that *anything* should be changed. I will respect any decision you make under those circumstances.

ELIOT WIRT  
San Jose, California

#### BOARD AND ELECTORATE

THE RECENT FINE ARTICLE ON our election procedures by Raymond J. Sherwin prompts me to make two suggestions.

Most members of the club would join me in allowing each Board member to determine for himself whether circumstances justify his absence from a meeting. Nevertheless, the electorate has a right to know if it is being represented. *Why* a member of the Board misses a meeting is his business, but *that* he missed is the business of all of us. I suggest that at election time, a cumulative attendance record be published in the *Bulletin* showing attendance at all Board meetings of the previous term. We have had Board members who missed many meetings.

Second, I suggest that at election time the Nominating Committee select about a dozen issues of importance on which the Board has divided during the previous term and publish in the *Bulletin* the vote of each member of the Board on each issue. Surely incumbents should be willing to "stand on the record," surely the electorate has a right to know how it was represented, and surely most members do not now know the pattern of voting by the different members of the Board. Abstentions should also be shown; we have had Board members who chronically found it difficult to make up their minds.

MILTON HILDEBRAND  
Davis, California

#### CAMPFIRE SITES

WHAT TO DO about wilderness campfire sites? In recent issues, Edwin Braun and Milton Hildebrand both make valid points, and these points are contradictory. Mr. Braun says that we are getting too many fire sites in the wilderness and that we should start obliterating them; Mr. Hildebrand says that we don't want

a pile of charcoal under every rock. This dilemma admits a fairly obvious solution: those who don't like to see so many fire sites and those who don't like to obliterate them should both resist the temptation to contribute new ones. There are already a hundred times more fireplaces than camping parties in the Sierra Nevada. Must we have such a wide choice of second-hand fireplaces? Might not some of us like to see a stretch of lakeshore without one?

MICHAEL LOUGHMAN  
Berkeley, California

#### HOPE FOR DIAMOND HEAD

I WOULD LIKE TO SPEAK for all Hawaii conservationists in thanking the *Sierra Club Bulletin* for the excellent coverage of our Save Diamond Head campaign.

According to the city clerk of Honolulu, the issue generated the largest volume of mail ever received by the City Council. The Councilmen were duly impressed, and if the vote were taken tomorrow, the Diamond Head high-rise builders would go down to defeat.

We haven't won the battle yet, but the first few skirmishes are a clear victory. The job now is to keep the pressure on.

ROBERT WENKAM  
Honolulu, Hawaii

#### IMPROVING THE SCB

THE BULLETIN usually is not very satisfying. I have several suggestions for the type of material that would be of most interest to me. 1) As painful as the idea is, wilderness must be managed and the managers must select from an infinite number of possible management plans. Wilderness advocates need enough technical knowledge to be able to participate in this planning, and the *Bulletin* could be of great service in publishing articles by professional ecologists and others that would provide an introduction to such knowledge. 2) It might be more profitable to present a well-rounded view of wilderness controversies, rather than a one-sided presentation of the club's position. The idea is not to be fair to our opponents, but to keep our members truly informed. This requires that they have a good understanding of our oppo-

nents' positions. I find it offensive to be written down to as if I were a member of the vulgar public needing to be persuaded. 3) I would like to know more about the practical politics of decision making on conservation issues. How are decisions made, and what are the factors that influence the results? What was the inside story on the decision not to dam the Suchandsuch River, and who played what role? I realize that it might be inadvisable to make any public statements about some of these questions.

I hope that the club will continue to be so effective in the battle against the exploiters, but I hope that it realizes that the legal protection of wilderness is just the first and perhaps the easiest step in providing true and permanent wilderness for all of us.

WALTER SHEPPE  
Lusaka, Zambia

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"AS LONG AS THE RIVERS SHALL RUN and the grass shall grow" was used in many Indian treaties to say "forever" in a way that both the conquered tribes and the United States government could understand. But that forever was too often only a few short years, years in which alien greed, disease, and drink succeeded where force of arms had failed in destroying the Indian spirit. Many Indian nations were to find the rivers of their tribal domains fettered like themselves, often in violation of the guarantees of their treaties. In the Dakotas alone, seven Indian reservations were partly flooded by dams on the Missouri River. As recently as 1963, Kinzua Dam unnecessarily and unjustifiably flooded the heart of the homeland of the Senecas, land guaranteed to be theirs forever. The protests of the Indians went unheeded by Congress.

The Navajo Country is not safe from those who see its gorges only as damsites and who justify their plans for exploitation on engineering criteria—often dubious—and who all too frequently ignore social, aesthetic, and even economic considerations. Glen Canyon Dam crippled the Colorado and the San Juan, the major rivers of the Navajo Country. It covered with thousands of acres of slack water one of the most magnificent canyon complexes on this planet, Glen Canyon, the place no one knew. Not even the Navajos knew their wild Glen Canyon country well enough to realize the loss they would sustain with its passing. Now, however, they have awakened to the danger their wild rivers face, and are becoming increasingly aware of the value of their scenic resources. They have begun to resist the attempts to snuff out the life of their last living rivers.

In 1957 the Navajo Tribe created a Tribal Park Commission, charged with identifying scenic areas and making recommendations for the creation of Navajo Parks. Seven Navajo Tribal Parks have been established, three of which protect the Marble Gorge of the Grand Canyon.

In August 1966, the Tribal Council passed a historic resolution condemning the proposed Grand Canyon dams and the promoters who were ready to carry on the tradition of drowning Indian land without the consent of its owners. As the Council discussed the resolution, Howard Gorman, long-time Navajo Councilman said: *Crops can be replanted. Stock can reproduce. So can human beings. But the land is not like these. Once it is taken away, it is gone forever.*

This book is about that land, about what man has done to it and for it, what it has meant to some men and what it can continue to mean, if protected, to generations yet unborn.

STEPHEN C. JETT  
from *Navajo Wildlands*

RUSKIN SAID, with the invention of the steam engine: "There was always more in the world than a man could see, walked he ever so slowly. He will see no more by going fast, for his glory is not in going but in being."

Do you see Monument Valley now by whizzing past its monuments on a paved road, taking lunch in Tuba City or Kayenta, and spending the night in Moab? Or are its greatest rewards still reserved for those who take the dusty little dirt road that goes down among the great buttes and who feel the rocks and sand under their wheels and feet? I recommend especially the great reward of winter time, when there may be a light skiff of snow in the dune shadows. This reward is even greater if you have also experienced Monument Valley in the heat haze and dust of mid-summer. The crisp winter air is then a special elixir. . . .

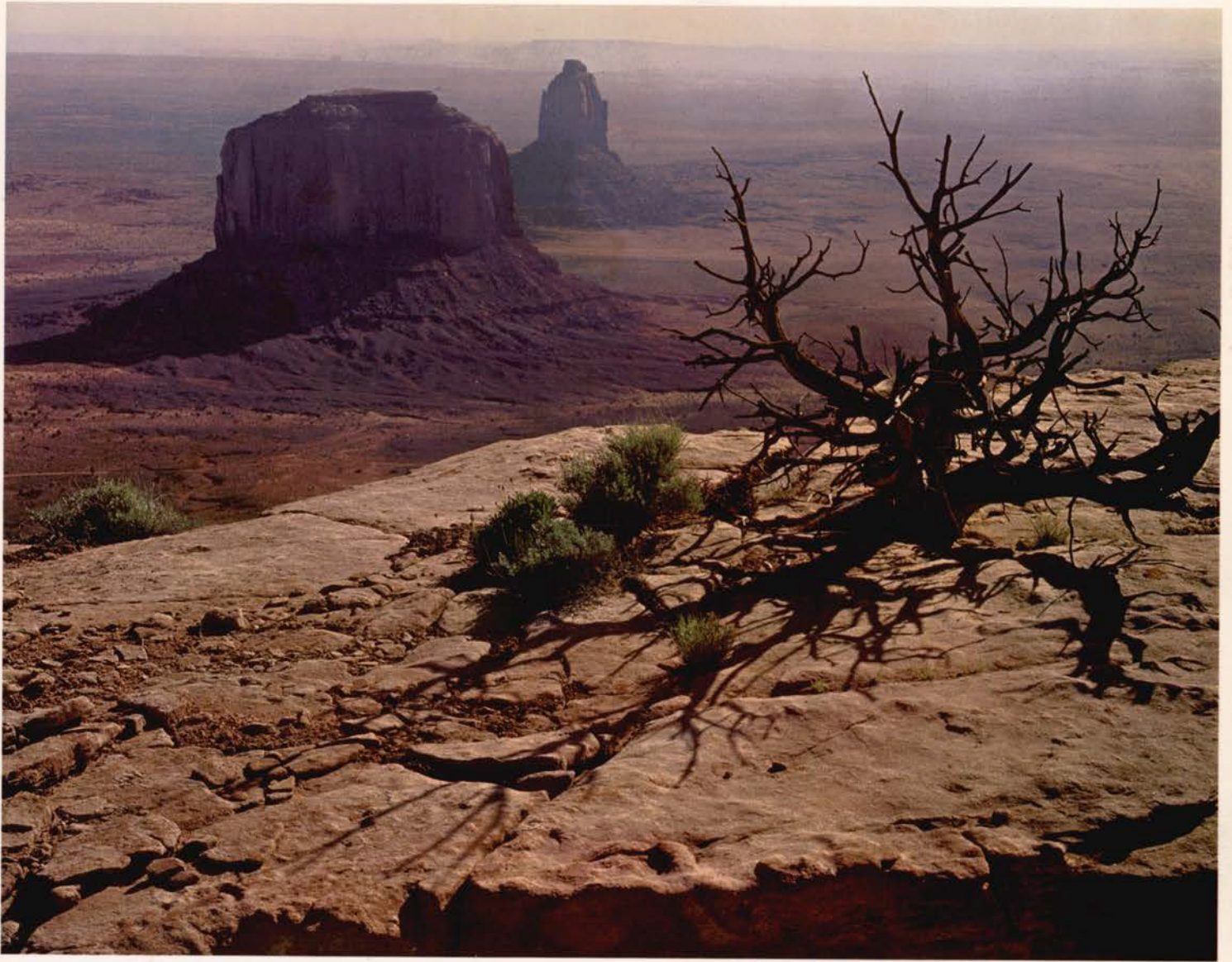
I begin to see when I leave the car behind. The immensity of the Navajo country, however, made working with the car essential in many places. Nevertheless, the times I remember with the most pleasure are those when we were walking somewhere—on the White House Trail, or walking around Navajo Mountain into the canyons of the Rainbow Plateau, or backpacking to Keet Seel. These were the wilderness experiences, and the others are pale. . . .

I think of the land of the Navajos as a living entity of moods—of light moments and gloomy. Above all I think of color—color constantly changing with the light, color that infused the life of the people who have passed over this land.

Overpoweringly, this place testifies to man's transitory nature—and yet confirms his continuity. That continuity may end if this should ever cease to be a land of time enough and room enough. The automobile could obliterate both, and, along with them, the wilderness experience.

PHILIP HYDE  
from *Navajo Wildlands*

BACK COVER: The scene of Monument Valley is from *NAVAJO WILDLANDS*, with photographs by Philip Hyde and text by Stephen C. Jett.



*Monument Valley from Mitchell Mesa.*

