

Sierra Club Bulletin

JULY-AUGUST 1966



JOHN V. YOUNG: *Lake Powell*

A Portent of Things to Come in Grand Canyon?

“To have a deep blue lake where no lake was before
Seems to bring man a little closer to God”

from LAKE POWELL, JEWEL OF THE COLORADO
published at public expense
by the BUREAU OF RECLAMATION

See *Why Grand Canyon Should Not Be Dammed*, page 8

NEWS OF CONSERVATION AND THE CLUB

Scenic rivers system proposed by Saylor

Congressman John Saylor of Pennsylvania has introduced a Scenic Rivers Bill (H.R. 14922) of greater scope than the Wild Rivers Bill passed by the Senate. Parts of 16 rivers would immediately be designated "scenic river areas": the Salmon, Clearwater, Rogue, Rio Grande, Eleven Point, Cacapon, Shenandoah, Green, Klamath, Missouri, Skagit, Flathead, Hudson, Wolf, Saint Croix, and Suwannee. Another 67 streams would be studied; federal agencies would be prohibited from building dams on these rivers until studies had been completed and Congress had had an opportunity to add them to the system.

Tallest redwood found in Redwood Creek watershed

A redwood tree 385 feet tall — 17 feet taller than the previous record holder — was found during the week of June 8–15 by a survey team led by forest research consultant Rudolf Becking. In the same area, the Redwood Creek watershed favored as the site of a national park by most conservation groups, Dr. Becking and his team also discovered record-height trees of four other species: douglas fir, grand fir, western hemlock, and red alder. Dr. Becking certainly does not overstate the case when he says that "rarely have such justifications for the establishment of a national park been found elsewhere in the nation."

Bill introduced to permit lobbying by conservation groups

Shortly after the tax-deductibility of donations to the Sierra Club was questioned by the Internal Revenue Service (see page 5), Congressman John Tunney of California introduced a bill to prevent conservation organizations from losing their tax-exempt status because of efforts to influence legislation.

Glen Canyon film barred by National Park Service

Sierra Club President George Marshall sent the following telegram on June 20 to George Hartzog, Director of the National Park Service: "Through telephone conversation, John M. Davis, Superintendent, Yosemite National Park, confirmed that today he requested Yosemite Park and Curry Company to stop showing Sierra Club moving picture on Glen Canyon. He said he took this action because this film presents a point of view contrary to Department of Interior policy, and added that a film of this kind cannot be shown by a concessionaire under contract to the National Park Service. On behalf of the Sierra Club, I protest this censorship and urge you to reverse Superintendent Davis' action and permit showing of this film in Yosemite National Park both by the private Yosemite Park and Curry Company and by the National Park Service."

Bills would create a Channel Islands national park

Bills that would establish a Channel Islands national park (off Santa Barbara, California) have been introduced by Congressmen Phillip Burton of San Francisco (H.R. 16190) and Ken Dyal of Los Angeles (H.R. 16191). Additional House introductions are expected, and Senator Gaylord Nelson of Wisconsin has indicated that he will introduce a similar bill. The park would include Anacapa, San Miguel, Santa Barbara, Santa Cruz, and Santa Rosa Islands, and would extend one nautical mile offshore.

TV show on Grand Canyon available for broadcast by other TV stations

Executive Director David Brower and member Laurence Moss, a nuclear engineer, were scheduled to appear on an hour-long airing of the Grand Canyon controversy broadcast by educational TV station KRMA, Denver, on July 26. Congressman Craig Hosmer and Commissioner of Reclamation Floyd Dominy were to represent pro-dam opinion. Videotapes will be available to other educational TV stations (on request from Cal Raines, KRMA-TV, 1261 Glenarm Place, Denver, Colorado) or to commercial stations that will show it without commercials. A film version will be available after mid-August from Ruth Weiner, 1484 South Eudora Street, Denver.

New film on redwoods is available from club

Zero Hour in the Redwoods, a 16mm. color film with an optical soundtrack and running time of 18 minutes, is available from the club. Produced by members James B. and Veda Linford, the film shows why we need a *real* redwood national park and emphasizes that the opportunity to create such a park will vanish unless it is seized very soon.

Club's Board of Directors takes action on dues . . .

The following actions, not previously reported in the *Bulletin*, were taken by the Sierra Club's Board of Directors at its May meeting: *Created* a Student Membership for all students between ages 12 and 25, *proposed* a new dues schedule (Regular \$12, Spouse \$6, Junior \$5, and Student \$5), and *scheduled* a fall election for ratification or rejection of the proposed dues by the membership. *Reaffirmed* its policy that the Nipomo Dunes should be preserved, and *resolved* that with certain provisos, Diablo Canyon would be a satisfactory alternative site for a Pacific Gas & Electric Company powerplant. *Resolved* to conduct studies leading toward the establishment of a basic policy on nuclear power and other power resources. *Urged* the California legislature to re-examine the Forest Practice Act to determine whether its announced conservation goals are being attained and whether those goals are broad enough, and *requested* an investigation of worsening logging practices in redwood country. *Endorsed* the objectives of H.R. 13508 (Ottinger) to protect the scenic and recreation resources of the Hudson River and establish a three-year moratorium on the licensing or planning of projects within one mile of the river by the Federal Power Commission, the Secretary of Commerce, the Atomic Energy Commission, and the Corps of Engineers. *Endorsed* the objectives of H.R. 11236 (Tenzer) to establish a Long Island National Wetlands Recreation Area on condition that habitat protection be given priority over recreational development. *Endorsed* a National Park Service proposal for a 379,984-acre national park in the Sawtooth Mountains of Idaho, including Sawtooth Valley and Stanley Basin, with the statutory wilderness core of the existing Primitive Area augmented as the club suggested in 1963. *Endorsed* H. R. 14176 (Saylor) and companion bills that would enlarge Grand Canyon National Park. *Resolved* to support Scenic Hudson's defense of Storm King Mountain by filing an *amicus curiae* brief when the case comes before the U. S. Supreme Court. *Urged* all states to adopt taxation policies that recognize that the highest and best use of open space lands may be their continuance as open space, as exemplified by Senate Constitutional Amendment #4 (Farr) in the 1966 California legislature.

. . . Nipomo Dunes and Diablo Canyon . . .

. . . nuclear power . . .

. . . forest practices . . .

. . . the Hudson River . . .

. . . Long Island wetlands . . .

. . . the Sawtooths . . .

. . . Grand Canyon . . .

. . . Storm King . . .

. . . and open space lands



Strong Words Betray a Weak Case

First thing you know, the Sierra Club has the temerity to put ads in the paper saying Grand Canyon should not be dammed. Next thing you know, Congressman Udall of Arizona rises in the House of Representatives to defend the Republic against the Sierra Club. And before you know it, the Internal Revenue Service is drafted into the crusade to make the world safe from (and expensive for) posy-pickers. But we're getting ahead of ourselves. Back to The Honorable Morris K. Udall's elocutionary exercise.

"Mr. Speaker, I rise today to express shock and indignation at the dishonest and inflammatory attacks made in Washington and New York newspapers this morning against the Colorado River Basin Project Act, a bill I have introduced along with 36 of my colleagues from Arizona and California. While I have a high regard for many of the people who comprise the Sierra Club, the sponsor of these advertisements, I must say that I have seldom, if ever, seen a more distorted and flagrant hatchet job than this."

A disappointingly slow start, but give the man a chance. Soon we hear that the ads are (take a deep breath): "phony . . . extremely misleading . . . deliberately and flagrantly misleading . . . inflammatory . . . replete with falsehoods and distortions . . . false . . . ridiculous . . . wild . . . inflammatory . . . inflammatory . . . irresponsible . . . offensive . . . ill-conceived . . . utterly and completely false. . . ." Connoisseurs may cavil at the over-reliance on "inflammatory." But the art of invective has fallen on hard times, and Udall the Younger does show promise.

The Gentleman from Arizona (as he is known by colleagues in the House) shows rather less promise as a logician. The inflammatory ads were described as "extremely misleading," for example, because they identified a picture of Grand Canyon—get this—as a picture of Grand Canyon. Mr. Udall is certain that the average reader will imagine that he is looking at a picture of Grand Canyon *National Park*, and moreover, he is certain that the Sierra Club wants people to imagine that they are looking at a picture of the national park. That the caption is accurate is beside the point; what matters is what Mr. Udall imagines readers will imagine, and what Mr. Udall imagines the Sierra Club wants readers to imagine. Follow?

Mr. Udall's complaint is rather quaint coming from a man who, by his own admission, uses the words "Grand Canyon" when what he really means is "Grand Canyon *National Park*." This unorthodox but useful device enables him to assert that neither of the proposed dams in Grand Canyon would be in Grand Canyon.

Artificial shorelines of the reservoirs in Grand Canyon would fluctuate on hydroelectric demand, say the dam ads. "This is false," Mr. Udall counters. "Both of these dams are to be operated at constant levels." According to the Bureau of Reclamation, one reservoir would fluctuate four vertical feet, the other, ten. (This is enough, at low water, to expose acres of mud at the shallow upper ends of the reservoirs.) We hope the Congressman, who is less than nine feet tall, will never be caught wading in a "constant" reservoir when its level rises ten feet.

If you've an appetite for more, Congressman Udall's speech may be found in the *Congressional Record* of June 9. Or his staff can no doubt provide you with a copy.

Memorable as it is, in its way, Mr. Udall's speech fails to make a case for damming Grand Canyon. But pro-dam constituents shouldn't be too harsh in their judgment of the Arizona Congressman; if you think it's easy to make a silk purse out of a sow's ear, try it.

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

John V. Young of Los Alamos, New Mexico, contributed this month's cover photograph of upper Lake Powell, the reservoir behind Glen Canyon Dam, and suggested that it be captioned with a quote from the Bureau of Reclamation's publication, *Lake Powell, Jewel of the Colorado*. A living river flushes out debris washed down from side canyons; a reservoir collects it.

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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.

DIRECTORS

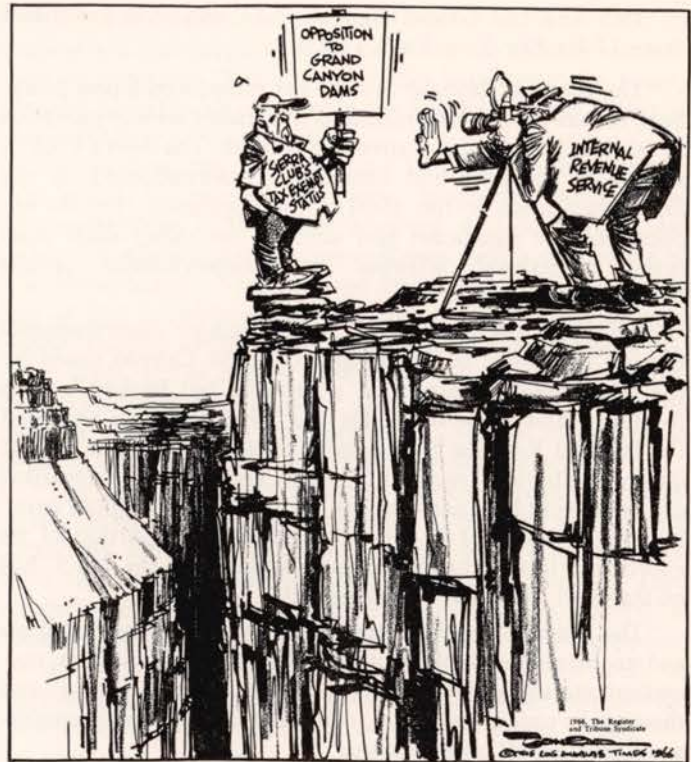
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"Back just a little further . . . back . . ."



Conrad cartoon reprinted from the *Los Angeles Times* by permission of the Register and Tribune Syndicate.

Internal Revenue Service Used As a Political Weapon Against the Sierra Club—and Against Grand Canyon

FULL-PAGE ADVERTISEMENTS by the Sierra Club urging defeat of proposals to dam Grand Canyon appeared in *The New York Times* and the *Washington Post* of June 9. A leading Congressional advocate of the Grand Canyon dams immediately contacted an official of the Treasury Department, according to unverified and probably unverifiable reports. Within 24 hours, in any event, the San Francisco office of the Internal Revenue Service had sent a hand-delivered letter to the Sierra Club warning that *as of that date*, donations to the club might be ruled non-deductible.

At issue is an IRS regulation saying that organizations in the club's tax status may not engage "substantially" in efforts to influence legislation. Neither the IRS nor the courts have ever defined what level of activity is "substantial." The advertisements in question cost less than one percent of the club's budget for 1966.

Although IRS spokesmen insisted that the action was "routine," its speed certainly was not. (Vice president Edgar Wayburn quipped that the government had never been known to act so fast except in national emergencies.) And the retroactive feature of the IRS action was unprecedented. If the IRS

rules after investigation that donors to the club may no longer deduct the donations from their taxes, the non-deductibility will not date from the time of the IRS ruling, but from June 10. In effect, a penalty was imposed before any investigation or determination of "guilt." Shooting from the hip, the IRS contrived to discourage potential donors quite as effectively as if it had already conducted an inquiry and ruled against the club.

The club has been injured, but it has not been crippled or silenced. Officers of the club have announced their firm determination to continue defending Grand Canyon as vigorously as before, if not more so. And ironically, the use of IRS as a political weapon has backfired against the users. It produced a torrent of favorable publicity for the club in publications large and small throughout the land. More important, it alerted millions of people for the first time to the menace of dams in Grand Canyon.

It is a temptation to editorialize at greater length on the IRS action, but others have done that for us and we will be satisfied to quote a few of them.

"IRS and the Grand Canyon," an editorial published June 17 by *The New York Times*:

"The Internal Revenue Service has introduced a new procedure for tax-exempt organizations that raises serious questions of fairness and administrative due process. The Sierra Club, a society of energetic and outspoken conservationists, is the first organization to run afoul of this regulation; but its implications are significant and ominous for many other non-profit educational, scientific and conservationist groups throughout the nation.

"Last week the Sierra Club ran newspaper advertisements to alert the public to the danger to Grand Canyon posed by the dam-building features of a pending bill backed by the Administration. The day after the advertisements appeared the Internal Revenue Service notified the club that as of that date contributions would no longer necessarily be regarded as tax deductible. Under the law, an organization cannot enjoy tax-exempt status if it devotes a 'substantial' portion of its efforts and income to politics or lobbying, but the I.R.S. has no standard definition of 'substantial.'

"The practical result of the I.R.S. action will be to put an end to most contributions to the Sierra Club until its tax-exempt status is re-confirmed, if ever. This is a new and thoroughly unfair procedure, comparable to inflicting punishment before guilt is established.

"Tax exemption is undoubtedly a privilege. But it is a life-giving privilege that once granted should not, in effect, be suspended for an indefinite period of time at the discretion of an administrative officer prior to any investigation or hearing.

"Any organization concerned with live public issues could be similarly curbed by the threatened loss of tax exemption.

"In the present fight over the Grand Canyon dams, conservationists are bucking the Reclamation Bureau, a powerful bureaucracy which lobbies Congress and the public tirelessly and shamelessly with the public's own money. Since Secretary of the Interior Udall, an Arizonan, supports the Reclamation Bureau's position, he has silenced several other agencies in his department which, if permitted, could present a strong, factual case against the dams. Under these circumstances it is such private organizations as the Sierra Club that defend the public interest.

"The Internal Revenue's attempt to restrict the club is a gratuitous intervention in this controversy. Under the guise of strict tax regulation it is making an assault on the right of private citizens to protest effectively against wrongheaded public policies. The Internal Revenue Service's action looks suspiciously like harassment and intimidation."

"Politics and People," by Alan L. Otten, in the July 14 edition of *The Wall Street Journal*:

". . . Or consider the Sierra Club, a conservationist group which took two full-page newspaper ads opposing an Administration-backed bill for Colorado River power projects that would flood part of the Grand Canyon. The Internal Revenue Service, in an extraordinary departure from its snail's-pace tradition, reacted with an instant warning to the public that donations to the Sierra Club might no longer be tax-deductible.

"In the past, the IRS would investigate a complaint, then make a decision; whichever way the decision went, contribu-

tions made in the meantime were deductible. The tax laws require that deductions be denied only if an organization devotes a 'substantial part' of its effort to lobbying—and who can say at once whether two ads constitute a 'substantial part' of an organization's effort? The new IRS procedure clearly threatens to dry up an organization's funds without any formal finding of guilt; even if the IRS should finally rule in the organization's favor, much damage would already have been done.

"Commissioner Sheldon Cohen argued that the service had no alternative under the law, and that the Sierra Club's particular stand had nothing to do with the IRS action. The IRS was simply going to try to move faster in all cases from now on, he asserted. Yet people couldn't help wondering about the swiftness of the policy switch, and whether IRS would have moved equally fast against an organization taking ads in support of an Administration stand."

From a commentary by Cecil Brown broadcast June 21 and 22 over educational TV station KCET, Channel 28, Hollywood, California:

"Every American taxpayer is supposed to shiver and tremble every time the Internal Revenue people raise their voice in warning, or waggle their finger in reprimand. And the income tax officials devote a good part of their time admonishing, instructing, and whipsawing the taxpayer.

"The power of the Internal Revenue Service to inflict punishment on the taxpayer—mental and financial punishment—is immense. Usually, the power that government bureaucrats have is built into the Federal regulations that define their duties. That's only partly true with the income tax officials . . . they can be mighty freewheeling.

"Sometimes government bureaucrats become obsessive and too eager to waggle a finger, and too anxious to throw their weight around. But, there's a built-in check-rein. The history of a democratic society shows that when Federal power becomes too arrogant, it begets taxpayer resistance. And then it behooves the taxpayer (through his Congress) to try to bring the bureaucrats down a peg or two. That might be what is in store for the Internal Revenue Service after its newest foray into the field of tax deductions.

"The Internal Revenue Service is newly involved in a matter of intense interest to Californians, and to people in the West. The income tax people are now mixed up in a fight for the preservation of natural beauties of our nation. In this case, it appears that the Internal Revenue Service has joined another arm of the U.S. government to snuff out some of the scenic wonders of this nation.

"Here's the background:

"The Sierra Club of San Francisco is a noted and energetic organization that tries to conserve the wilderness areas of the United States. It is often engaged heavily and vigorously in the conservation battle for this obvious reason—private groups and money-hungry companies and government grabbers are usually trying to over-run the natural beauties of America.

"The unspoiled wonders of America seem to cry for despoilation, so all kinds of people want to chop down the redwoods. They want to pollute the streams so no fish can live in them. They want to slice off the top of mountains, as though a natural peak is an affront to civilization. And they want to turn beautiful valleys into wastelands of subdivisions. Gen-

erally, the despoilers of American beauty win out, and the proof of that is visible on the scarred and pitted face of America.

"The Sierra Club, headquartered in San Francisco, is one of those organizations that fights the strenuous fight on the side of natural beauty. In the course of making that fight, the Sierra Club ran a full-page newspaper ad on June 9th. It aimed to alert the public to the danger now facing that great wonder of the world, the Grand Canyon.

"The danger comes because the Reclamation Bureau of the Department of the Interior wants to build several dams in the Grand Canyon. In some places, the back-up of water will submerge the Canyon by 500 feet.

"The headline on the advertisement read: 'Now Only You Can Save Grand Canyon From Being Flooded—For Profit.' Within 24 hours after that Sierra Club advertisement appeared, the Internal Revenue Service notified the Sierra Club that as of that date (meaning immediately), financial contributions to it would no longer necessarily be regarded as tax deductible. . . .

"Now the Sierra Club is one of the nation's oldest and most influential conservation groups, and its officials were shocked that the Internal Revenue Service acted within 24 hours after its advertisement appeared, and, in effect, snuffed out contributions. . . .

"It's quite evident that the Internal Revenue Service didn't have to reach a decision in order to guillotine its victim. As *The New York Times* pointed out, the moment the Internal Revenue Service took action, the practical result of that action, without investigation or hearings, was to put an end to most contributions to the Sierra Club. . . .

"Fortunately, for the Sierra Club, it has among its 40,000 members a number of Congressmen, who, it is assumed, are not afraid to meet the Internal Revenue Service eyeball to eyeball.

"Obviously what is called for is to determine whether the Internal Revenue Service is extraordinarily eager to cooperate with the Reclamation Bureau to flood a sizable portion of the Grand Canyon. . . .

"Now if the people of California are in fact awakening to the need to preserve natural beauty, then the role of the Internal Revenue Service in that battle could be tremendously significant. And, in fact, it already is.

"It may be that it will be necessary for the people to awaken to the threat and power of the Internal Revenue Service to inflict grave damage on the beauty of this state, and the nation. It's worth noting that the income tax officials have quite an ability to make a taxpayer tremble. When the internal revenue men suddenly cracked down on the Sierra Club for taking a newspaper ad to arouse opposition to those dams in the Grand Canyon, that crackdown would be about enough to choke off contributions to the conservation group. It could be a knockout punch. The fact is the Internal Revenue Service could become the destroyer of all kinds of groups fighting for conservation—groups such as Los Angeles Beautiful, California Tomorrow, the National Audubon Society, The Wilderness Society, the Izaak Walton League, the National Parks Association, and many others.

"All of them are trying to preserve our scenic wonders. All of them are non-profit. All of them depend on contributions that are tax deductible. . . .

"The *Los Angeles Times* pointed out that the crusade for beauty was once laughed off by politicians as a hobby of posy-picking dowagers. Not any more. No longer can the beauty crusade be taken so casually in the legislative halls, either in Sacramento or in Washington.

"It's evident that President and Mrs. Johnson have turned into two of the toughest and most determined crusaders for the preservation of the nation's beauty. And here in Los Angeles, five months ago, Governor Brown held a conference on California beauty. Nine hundred fifty delegates attended, and out of that conference came 50 recommendations to save the scenic wonders of this state. And many of the proposals that were made at the beauty conference will require legislation. So the conservation groups are going to have to support, push, educate, and promote that legislation. But the stone wall in front of them could be the Internal Revenue Service.

"The way the Internal Revenue Service is operating, a non-profit conservation group is supposed to promote beauty until somebody introduces a bill in Congress or in a state legislature—a bill that would damage or destroy that beauty. Then at that point when the danger to beauty is at its greatest, in time of the peak peril, that conservation group is supposed to save its tax-deductible status by crawling into a shell, by saying nothing about that pending legislation. Apparently, under the tax regulations, the conservation group is supposed to allow the despoilers, the human landhogs, and the self-seeking exploiters to get away with their assault on beauty, to succeed in their game of scarring and insulting the American landscape.

"That is not fantasy. That's the kind of punishment, restraint, and devastation that the Internal Revenue Service has attempted to wrap around the conservation group, the Sierra Club.

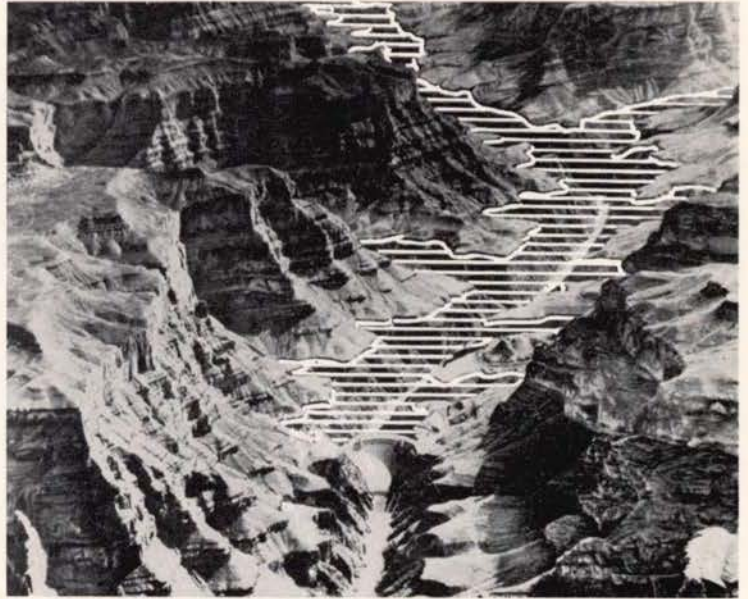
"That happened because the Bureau of Reclamation wants to build dams in the Grand Canyon, and the Sierra Club took a newspaper ad to appeal to the public to help prevent that danger to one of America's great natural beauties.

"It seems to me what the Internal Revenue Service has done, in this case and under its tax code, is to put in jeopardy the battle for beauty in America."

Bastian cartoon courtesy of *San Francisco Chronicle*.



Bridge Canyon (or Hualapai) damsite in Lower Granite Gorge of Grand Canyon. Original photo was by the Bureau of Reclamation, which retouched it to show shorelines of the proposed reservoir. After further retouching to show the reservoir area more clearly the photo was published in Newsweek, by whose courtesy it is reproduced here.



Why Grand Canyon Should Not Be Dammed

Are the proposed dams in Grand Canyon needed to divert water to central Arizona?

No, the dams are not needed and would not be used to divert water. They would be used only to produce electricity for sale. Water would be diverted to central Arizona from existing Lake Havasu, behind Parker Dam, hundreds of miles further downstream on the Lower Colorado.

Are the dams needed to finance the rest of the project?

No. Commissioner of Reclamation Floyd Dominy testified at Congressional hearings that if the Central Arizona Project were built and financed without either of the Grand Canyon dams, the project would pay for itself and accumulate a "small remaining surplus of about \$100 million" by the end of the project's 50-year payout period. Evidence presented at House hearings shows a possible \$800 million surplus.

Where would construction capital come from?

From the federal government. The government would be repaid only 90 percent of the principal and about 75 percent of the interest that the government itself has to pay when it borrows money for the Bureau of Reclamation's use.

Where would the revenues for repayment come from?

About 10 percent of total costs would be charged to "non-reimbursible benefits," such as recreation and the mitigation of wildlife losses, for which there would be no repayment. These costs would be borne by taxpayers in all parts of the country, whether they shared in the "benefits" or not. As for the rest, revenues for repayment would come from water sales and the sale of power generated by existing Hoover, Davis, and Parker dams after they have paid themselves off. Even

under the Bureau of Reclamation's optimistic assumptions, proposed dams in Grand Canyon would contribute comparatively little during the project's payout period. Construction of the Central Arizona Project proper could begin immediately with firm assurance of revenues from water sales and Hoover-Parker-Davis power sales. The inclusion of unnecessary dams in Grand Canyon would make the whole project speculative, vulnerable to technological and economic trends unfavorable to hydroelectric power.

How much would the dams cost?

The Bureau of Reclamation's estimate is about \$1.2 billion for construction costs and interest payments, which is far more than the cost estimate for waterworks of the Central Arizona Project itself. We can assume that the Bureau's estimate was calculated to make the dams as palatable as possible. And the estimate was made several years ago, during which time construction costs have risen appreciably.

The dams would certainly be expensive, but might they not be economical in relation to other sources of power?

Only by the Bureau of Reclamation's reckoning, which, not for the first time, is faulty. The Bureau compares costs not with the most economical available alternative source, but with a hypothetical "most likely" alternative of its own choosing. And it postulates that a much higher rate of interest on construction capital would be charged to the alternative source than the Bureau itself would be required to pay. It charges taxes to the alternative, but not to itself. By such means, the Bureau stacks the deck in its own favor. Competent economists have testified that on the basis of a fair comparison, the proposed Grand Canyon dams are not economically justifiable.

Doesn't the Southwest need power the dams would produce?

The Southwest will need more power, but the power increment need not come from dams in Grand Canyon. The new generating capacity of Grand Canyon dams would supply less than five years' growth needs in the Southwest, then still other sources would be needed. A coal-fired thermal plant on the Kaiparowitz Plateau of southern Utah, already licensed, will have nearly two and one half times the installed capacity of Bridge and Marble dams combined. For a detailed account of prospects for abundant, low-cost electricity from coal-fired plants in the Southwest, see *Markets for Far Western Coal and Lignite* by Robert W. Nathan Associates.

What are the prospects for nuclear power?

Proponents of the dams try to make out that nuclear power is still pie in the sky. Not so. The TVA has contracted for a nuclear powerplant which, under the terms of General Electric's 12-year guarantee, will generate power for only 2.37 mills per kilowatt-hour. The plant will be in the heart of coal mining country, where nuclear power might be supposed to be at a competitive disadvantage. Trends in the nuclear power industry indicate that dams in Grand Canyon, with their 6 mill peaking power, would be noncompetitive before they could be completed and put into operation.

What about arguments that hydroelectric plants are superior for the production of peaking power?

Since a pumped storage plant can convert base-load power into peaking power for about 2 mills per kilowatt-hour, it is unreasonable to suppose that peaking power could find a market at 6 mills when base-load power at less than 4 mills becomes generally available. A combined thermal and pumped storage facility would have all the advantages of a conventional hydroelectric plant for the production of peaking power, would cost less, would produce cheaper power, and could be built closer to load centers (with lower transmission losses and costs.) Sections of the country that lack hydroelectric resources

Marble Gorge damsite, where reservoir would be more than 300 feet deep. Photograph by Joe Munroe.



nevertheless manage without difficulty to satisfy peak-load requirements. So could the Southwest.

Would the proposed dams flood Grand Canyon?

The Canyon is a mile deep, and no dam yet conceived by man could flood it in the sense of filling it to the brim.

Is it accurate, then, to say that Grand Canyon would not be flooded by the proposed dams?

No. We speak of areas as "flooded" when rivers rise above normal high water and are no longer contained within their natural banks. More than 130 miles of Grand Canyon's inner gorge would be flooded to a depth of as much as 650 feet.

Advocates of the dams insist that their only effect on Grand Canyon National Park would be the 13 miles of reservoir backed into the park by Bridge Canyon dam.

This completely disregards the serious damage that Marble Gorge dam would inflict along the river within the national park, which will be discussed later. It also ignores another fact: that Bridge Canyon reservoir would create a new base level, forcing the river to raise its channel upstream and deposit silt for perhaps 15 or 18 miles above the head of the reservoir. Total extent of the violation of the national park caused by Bridge Canyon dam would not be 13 reservoir miles, but ultimately, about 30 miles of wall-to-wall silt deposits covered with tamarisk tangles.

Proponents of the dams say that the proposed reservoirs could not be seen from any frequently visited tourist overlook.

Casual tourists go where the maps tell them to, and know nothing of other overlooks that can be reached without great difficulty. And there is full visibility of the Canyon from many of the 50 jet flights per day that now pass over it. To make new viewpoints available would be infinitely less damaging to the Canyon's wilderness heart than to flood out 133 miles of living river. The proposed dams would put an end to float trips down the river, and their reservoirs would impair the use of existing foot trails. In any event, you don't have to see the Canyon's unspoiled inner gorge to appreciate its existence.

How significant a part of Grand Canyon is the inner gorge?

If there were no outer canyon walls rising thousands of feet higher, the inner gorge would still be a wonder of the world. Scientifically, educationally, and recreationally, the river itself and the narrow life zones on either side of it are unique and vital features of Grand Canyon. To say that the Canyon's heart is unimportant because it isn't often seen is analogous to saying that the cambium of a plant, or the spinal cord of a vertebrate, is unimportant because it isn't externally visible.

How many miles of reservoir would the dams create?

Bridge Canyon (or Hualapai) dam's reservoir would be 93 miles long, backing water completely through Grand Canyon National Monument and 13 miles into Grand Canyon National Park. Marble Gorge dam would back water 55 miles to the foot of Glen Canyon Dam, flooding the first 40 miles of the Colorado's course through Grand Canyon. New reservoirs in the Canyon would flood 133 river miles.

How many river miles would remain undisturbed?

None. The river would still flow through the 104 miles between Marble Gorge dam and the head of Bridge Canyon reservoir, and for a number of miles between Bridge Canyon dam and the head of Lake Mead. But the regimen of the river and the Canyon's ecology would be seriously disturbed in these areas. River level would rise and fall as much as 15 feet every day as water was alternately held back and released for the on-again-off-again generation of peaking power. Recreational use of the river would probably be impossible.

Wouldn't the dams at least preclude future hydroelectric developments that might be even more damaging?

No. There's a plan to divert the Colorado through a tunnel from Marble Gorge to a powerplant at Kanab Creek, at the head of Bridge Canyon reservoir. A mere token trickle would be permitted to flow in the Colorado's natural channel through Grand Canyon National Park.

Is this Kanab Diversion scheme compatible with full utilization of a powerplant at Marble Gorge dam?

The Bureau of Reclamation says it is not, and this transparent attempt to induce a false sense of security is frightening. Actually, there is no reason why the intake of the diversion tunnel could not be placed below Marble Gorge dam to capture water that had already passed through the dam's turbines. There is enough difference in elevation between the intake of such a tunnel (above 2800 feet) and a powerplant at Kanab Creek (below 2000 feet) to engage any hydroelectric engineer's attention. If the sanctity of Grand Canyon National Park is violated by Bridge or Marble dam, we may be sure that powerful interests will lobby incessantly for the Kanab Diversion—or simply for another dam on the mainstem of the Colorado above Kanab Creek, backing water further into Grand Canyon National Park.

Assuming the dams and the Kanab Diversion were built, what would the river's course through Grand Canyon be?

The first 40 miles from Lee's Ferry to Marble Gorge dam would become slack-water reservoir (as would the last remnant of Glen Canyon, upstream); from Marble Gorge dam to Kanab Creek, 104 river miles, nearly all the river's flow would be diverted underground; from Kanab Creek to Bridge Canyon dam, 93 miles, the Colorado would be dead water; from Bridge Canyon dam to Separation Canyon, water regulated by the dam would flow in its normal channel for three miles; from Separation Canyon to Grand Wash Cliffs, the Colorado would either be a regulated river or a reservoir (depending on the level of Lake Mead). The Colorado would cease to exist as a living force in the Grand Canyon it created.

How would the Southwest's water supply be affected by the dams?

The dams would waste water in an arid region that has none to spare. About 100,000 acre-feet per year would be evaporated from the surface of the new reservoirs, enough to supply the municipal needs of a city the size of Phoenix. (Hoover Dam, needed to control the river, loses up to 1,000,000 acre-feet per year; the power dam at Glen Canyon will waste up to 750,000 acre-feet per year in needless evaporation.) An unpredictable but large amount of water would percolate into

the basins of the new reservoirs. Since the gates were closed at Glen Canyon Dam, about one-third of the water that has flowed into its reservoir has seeped into the floor and walls of its basin. Geological conditions are comparable or perhaps worse at Marble Gorge damsite, where independent geologists (and government geologists who are discouraged from speaking out) fear that cavernous limestones would cause great water losses.

What about water quality?

Evaporation of water from a reservoir raises the concentration of impurities in the water remaining for downstream users. Relations with Mexico are already strained because the mineral content of Colorado River water is so high when it reaches our southern border that it is unsuitable for agricultural or other uses.

How long would it be before the reservoirs silted up?

The experts on this are in the Geological Survey, which is not given the freedom to speak out that the Department of the Interior grants to its dambuilding sister agency, the Bureau of Reclamation. Scattered evidence suggests that with silt retention dams on the Paria and Little Colorado—and without abnormal floods that would vastly increase the river's carrying capacity—the life expectancy of dams in Grand Canyon might be 120 years. In other words, if Bridge, Marble, and the silt retention dams had been built at the time of the Gold Rush (and Glen Canyon Dam, when Harvard University was 120 years old), *all five dams* would now be silted full, and their reservoir areas would be covered with phreatophyte jumbles. Grand Canyon would be a dead place. Claims that the dams would ever earn surpluses are based on fragmentary geological and hydrological data, and on shaky economic assumptions. Claims that the dams would earn many millions of dollars per year over a lifespan of two or three centuries are not to be believed.

If the Interior Department is convinced that the project is sound and defensible, why does it discourage testimony by Interior agencies other than the Bureau of Reclamation? Why hasn't the missing testimony been sought out in hearings?

We ask ourselves the same questions.

What physical damage would be done by dams in Grand Canyon?

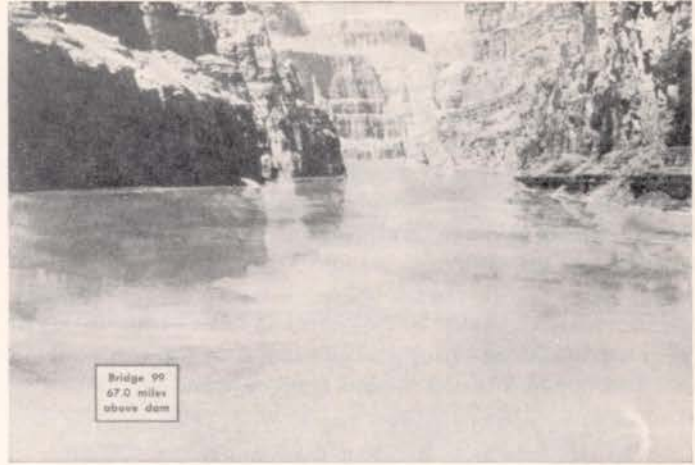
The living river would be converted into dead reservoirs for much of its length.

Processes that created the Canyon would be halted, and the foremost living laboratory of geology and stream erosion would be turned into a static museum piece.

Sandbars, beaches, dunes, and talus slopes would be drowned in reservoir areas, inundating most places level enough to provide footing for wildlife and campers. Plant and animal life could exist only at the mouths of certain side canyons and a few other places where the shore would slope gradually enough down to the water.

The ecology of the inner gorge would be disrupted, and this would seriously disturb the ecology of the entire Grand Canyon.

Invaluable archaeological, geological, and scenic displays would be submerged or rendered inaccessible.



Left: Granite Gorge of Grand Canyon as it looks now, 67 miles above Bridge Canyon damsite. Right: Retouched photo shows how same scene would look if Bridge Canyon dam were built. The photo was taken by Commissioner of Reclamation Floyd E. Dominy.

Daily fluctuations in reservoir level would produce zones of desolation, hostile to all forms of life, between high and low water.

Access roads would disfigure the scene, as would power transmission lines.

Much of the "most revealing single page of earth's history anywhere open on the face of the globe" would be erased, and the meaning of the rest would be distorted and obscured.

Would there be damage along the river between reservoirs?

Yes, serious damage. Reservoirs relieve the river of its burden of sediment, which is the raw material needed for the renewal and rebuilding of riverside habitat.

Other things being equal, a clear-flowing stream is capable of picking up and transporting more sediment than one that is already heavy laden. So clear water released by the dams in sudden surges would be incapable of rebuilding streamside habitat but would have a greatly heightened capacity to erode and destroy it.

Flash floods wash down huge boulders and debris from side canyons into the Colorado's channel, tending to choke it. An untamed river can flush out these obstacles in periodic flood stages, but even the sudden surges of water released by the dams probably could not. The tendency would be for riverside habitat to be degraded and ultimately destroyed, and for the river to be increasingly choked with artificially caused "natural" dams, turning it into a series of pools and forbidding rapids.

The alternate holding back and release of water from the dams, necessary for the generation of peaking power, would cause daily fluctuations in river level downstream as great as 15 feet. Most plant and animal habitat in the inner gorge is within a few vertical feet of river level, so the result of daily scouring of the channel would be havoc—zones of devastation on both sides of the river even worse than the ones that would ring the reservoirs at low water.

Damage downstream from the dams would be fully comparable to damage in the reservoir areas. Most of this damage would be inflicted within the boundaries of Grand Canyon National Park.

If dams would be unnecessary, uneconomic, and destructive, what motivates the supporters of H.R. 4671?

Rank and file support for the bill in Arizona and elsewhere rests on the erroneous belief that the dams are a necessary part of plans to bring Colorado River water to central Arizona. Though you wouldn't know it to hear them talk, principal sponsors of the bill know better. They have another incentive. The bill would be a step toward massive interbasin transfers of water from the Columbia to the Colorado. This would bring water to the Southwest at the expense of the Northwest—and at multi-billion-dollar expense to taxpayers in all parts of the country, whether they would benefit or not. That's not all. The bill would relieve the Colorado Basin states of their obligation to share the Colorado's water with Mexico, shifting this obligation onto taxpayers of the U.S. generally. The scheme is a brazen attempt by the Colorado Basin states to escape an obligation and, at the same time, to secure an exclusive regional advantage at the rest of the country's expense. Steps toward importation of water from the Northwest are the most attractive feature of H.R. 4671 to most Southwestern officials. Significantly, most supporters of H.R. 4671 vehemently oppose a National Water Commission, which would study water problems in a national rather than a selfishly regional context.

Interior Secretary Udall intimated in late June that it might be necessary to "compromise" by abandoning Bridge Canyon dam and the water-import feature of the bill, in order to gain enough support for the rest. Is this an acceptable compromise?

If someone threatened to put two bullets through your heart, would you consider one bullet an acceptable compromise? Either of the dams would inflict a mortal wound on the Canyon; a second dam would be overkill. If splitting the difference were to be regarded as the proper basis for compromise, conservationists would be at a perpetual disadvantage: they cannot advocate fewer than zero dams in Grand Canyon.

What about recreational values of reservoirs in the Canyon?

One of the great experiences available to modern man, the boat trip on the living river from one end of the Canyon to the other, would be extinguished for all time. In its place, we would be given a little more of a common commodity. Reservoir recreation is already in plentiful supply at lakes Powell, Mead, Mojave, and Havasu, not to mention other reservoirs in the same region.

Organizations in support of saving Grand Canyon and opposed to the Grand Canyon dams:

CITIZENS COMMITTEE ON NATURAL RESOURCES, 712 Dupont Circle Building, Washington, D.C. 20036.

COLORADO MOUNTAIN CLUB, 1400 Josephine St., Denver, Colorado 80206.

DEFENDERS OF WILDLIFE, 809 Dupont Circle Building, Washington, D.C. 20036.

FEDERATION OF WESTERN OUTDOOR CLUBS, 616 Fifteenth Avenue, San Francisco, California 94118.

GRAND CANYON WORKSHOP, 1484 S. Eudora, Denver, Colorado 80222.

IZAACK WALTON LEAGUE OF AMERICA, 1326 Waukegan Road, Glenview, Illinois 60005.

NATIONAL AUDUBON SOCIETY, 1130 Fifth Avenue, New York, New York 10028.

NATIONAL PARKS ASSOCIATION, 1300 New Hampshire Avenue, N.W., Washington, D.C. 20036.

NEW MEXICO WILDLIFE AND CONSERVATION ASSOCIATION, Box 1542, Santa Fe, New Mexico 87501.

SIERRA CLUB, Mills Tower, San Francisco, California 94104.

THE WILDERNESS SOCIETY, 729 Fifteenth St., N.W., Washington, D.C. 20005.

TRUSTEES FOR CONSERVATION, 251 Kearny St., San Francisco, California 94108.

WILDLIFE MANAGEMENT INSTITUTE, 709 Wire Building, Washington, D.C. 20005.

What do you say to the argument that reservoirs would create a "water highway" enabling hundreds of thousands to view the Canyon's inner gorge?

Reservoirs would bring immediate and irremediable losses for the sake of a temporary and questionable gain—as would the flooding of Michelangelo's Sistine Chapel murals to allow Vatican tourists to float closer to the ceiling. The living river is itself a "water highway" whose use has increased many-fold in recent years and could multiply again if demand rises. Trails bring still other thousands to the river and other viewpoints below the Canyon rims.

Lake Mead at high water already creates a reservoir "highway" through the lower 40 miles of Grand Canyon, but few have taken advantage of it. (It is hard to get through the mud barrier below the Canyon; moreover, a float trip down the river is a far superior recreational experience.) Reservoirs would drown many of the exhibits that make the Canyon bottom worth reaching. And since many of the Canyon's other finest exhibits are accessible from the river but not from the

rim, the elimination of downriver float trips would deny future generations many of the opportunities that can make a visit to Grand Canyon a supreme recreational and educational experience.

We are told that a river trip can be enjoyed only by the "healthy and wealthy few." Any comments?

A river trip can be strenuous, but need not be; children and octogenarians have enjoyed it as passengers. River trips are available at an all-inclusive cost per day lower than the cost of renting an outboard motorboat for a day's excursion on nearby Lake Powell. Boating parties that own their own river-powered boats have made three-week river trips for \$125 per person; compare this with the cost of boat rentals at Lake Mead and Lake Powell marinas, plus the cost of meals and accommodations.

Isn't a river trip through Grand Canyon pretty dangerous?

The river runner must treat the river as respectfully as the mountaineer treats his mountains. The rewards to those who seek a challenge is great. Accidents can happen—and often do on nearby lakes Mead and Powell. The walls of reservoirs in Grand Canyon would rise vertically from the water through much of their length, and the sheer-sided reservoirs could easily become deathtraps for boatmen in trouble.

Proponents say that Bridge Canyon dam was provided for in legislation that created Grand Canyon National Park.

This is not quite a partial truth. The legislation mentions no specific dam or reservoir site. It does provide "That *whenever consistent with the primary purposes of said park*, the Secretary of the Interior is authorized to permit the utilization of areas therein which may be *necessary* for the development and maintenance of a Government *reclamation* project." [Emphasis added.] The "whenever consistent" clause, not in Representative Hayden's original draft of the bill, was inserted at the insistence of an earlier Secretary of the Interior in order to protect Grand Canyon National Park. This point, clearly enunciated in a careful analysis by the Conservation Law Society of America and widely disseminated, has never been negated by dam proponents but has been consistently ignored.

What, as defined by law, are the primary purposes of the national park?

The primary purposes are "to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations." Either or both of the proposed dams would not conserve, but instead would impair scenery, natural and historic objects, and wildlife within Grand Canyon National Park.

Do you deny that the proposed dams are "necessary reclamation projects" under the law?

Certainly. The dams' sole purpose would be to generate electricity (and optimistically, dollars). They would divert no water for irrigation and would serve no reclamation function. Nor are they needed in any way to make possible the reclamation objectives of the Central Arizona Project.

What about Grand Canyon National Monument?

The analysis of the Conservation Law Society of America makes it clear that President Hoover's proclamation establishing Grand Canyon National Monument "makes no provision express or implied for any authority in the Bureau of Reclamation to utilize any area within the monument for reservoirs for reclamation or power purposes."

How do proponents of Bridge Canyon dam justify the fact that it would flood the inner gorge through the monument?

Proponents base their flimsy case on a letter from a former Director of the National Park Service, and have not asked him for his interpretation of the letter. (Horace Albright is very much alive, and a defender of Grand Canyon's integrity.) The letter said: "As I see it, the Bridge Canyon Project is in no way affected by the Grand Canyon National Monument proclamation. . . . While I did not handle this personally, I am absolutely certain that the men who did handle it for me kept the project in mind in formulating the Grand Canyon National Monument plan." In any event, a former Park Service Director's letter, written after the fact, obviously does not have the force of a Presidential proclamation—or of a subsequent Congressional amendment protecting national monuments from dams.

If they build two unnecessary dams in Grand Canyon for commercial purposes, what would that mean to the nation as a whole?

The damming of Grand Canyon would have not merely nationwide, but world-wide repercussions. America's invention of the national park idea is, in the eyes of the world, an effective refutation of charges that we are "crassly materialistic." Our much-admired National Park System is the exemplar on which many others have been modeled, and Grand Canyon is a vital part of it. The U.S. is a signatory of the Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere, which solemnly pledges that the national parks of signatory nations "shall not be subject to exploitation for commercial profit. . . ." Nation-wide and world-wide, the principle of park preservation is at stake. If America's most celebrated scenic resource and nature sanctuary can be exploited for commercial purposes, what chance will there be to protect parks and wilderness reserves that are less well known, here or anywhere else? A very slim chance, that's all. *And that's not enough.*

How dangerous would a precedent for park violation be, so far as the United States alone is concerned?

Each of the following areas administered by the National Park Service contains one or more surveyed damsites: Arches and Dinosaur National Monuments; Big Bend, Glacier, Grand Canyon, Grand Teton, Kings Canyon, Mammoth Caves, Yellowstone, and Yosemite National Parks. Good damsites are getting scarce, and two of the most powerful government agencies are in the dambuilding business: the Bureau of Reclamation and the Corps of Engineers. If a precedent for park violation were set by construction of either Bridge Canyon or Marble Gorge dam in Grand Canyon, we may be sure that the Bureau and the Corps would agitate constantly for permission to exploit damsites in other national parks, national monuments, and wilderness areas.

Marble Gorge of Grand Canyon, by Joe Munroe.

What would you say is Grand Canyon's highest and best use?

Decades ago, there was some reason to suppose that parts of Grand Canyon should be reserved for possible hydroelectric or reclamation development. We know now that such development is neither a national nor a regional necessity. We therefore endorse bills introduced by Congressmen Saylor, Dingell, Reuss, Schmidhauser, and Cohelan to prohibit all dams and diversions in an enlarged Grand Canyon National Park that would include the entire Canyon. (Saylor's H.R. 14177 and companion bills would set aside from publicly-owned lands, with the cooperation of three Indian tribes, America's second largest national park. Only Yellowstone would be larger. This is a good, and amazingly, a feasible goal for our time.) The highest and best use of Grand Canyon is to preserve it—all of it—in a national park for its scientific, educational, and recreational values.

In view of the powerful governmental and private forces that are urging construction of the dams, what can be done to save Grand Canyon?

Write President Johnson and Secretary of the Interior Stewart Udall. Write the Senators from your state and the Congressman from your district. Write Congressman Wayne Aspinall, Chairman of the House Interior Committee. Write Senator Henry Jackson, Chairman of the Senate Interior Committee. Write the Governor of your state if you live in a Colorado Basin state (which would unfairly benefit from water import schemes) or a Northwestern state (which would be unfairly deprived). Write to editors of local and national publications. Write to newspaper columnists and radio and TV commentators. Write and talk to friends and associates. Write for additional copies of this folder, which will be sent without charge if you undertake to distribute them effectively. A contribution to help sustain the Sierra Club's defense of Grand Canyon would be welcome, but isn't essential and may not be tax-deductible. (The tax-deductibility of donations to the club has been challenged as a direct result of its endeavor to help save Grand Canyon.) Raise a storm of protest in any way you know how, not neglecting to involve friends who may be as concerned as you are when they are as well informed. Above all, act soon—the issue may be settled for all time within a few weeks or months. Remember that it's Grand Canyon they propose to dam. *The Grand Canyon!*

— H. N.



Judy Bendor, Jack Cauthen, Carol Beckmann, and Jim Rose, four of the nine marchers who hiked 45 miles to dramatize their support for a redwood national park in the Redwood Creek watershed. (Other marchers were Bob Orser, leader of the party, Bill Azevedo, Martha Cauthen, Ken Sanderson, and Carole Weeks.) The march began at Prairie Creek Redwoods State Park (within the exterior boundaries of a national park as proposed by the Sierra Club) and ended at Crescent City, where hikers participated in field hearings conducted by the Subcommittee on Parks of the Senate Interior Committee. The marchers earned special commendation from Senator Bible, Chairman of the Subcommittee, for picking up no less than 1,700 beer cans along their line of march and depositing them in trash receptacles. Most of the marchers appeared as witnesses, testifying from personal knowledge with great poise and conviction. The photograph is by Elaine Mayes.

Senate Field Hearings on a Redwood National Park

HEARINGS ON A REDWOOD national park were held by the Subcommittee on Parks of the Senate Interior Committee at Crescent City, California, on June 17-18. Field hearings are often presided over by one or two Senators, but reflecting the keen interest in a redwood national park, these hearings were attended by five: Jackson of Washington (Chairman, Senate Interior Committee), Bible of Nevada (Chairman, Subcommittee on Parks), Jordan of Utah, Kuchel of California (principal sponsor of the Administration's bill for a park in the Mill Creek area, S. 2962), and Moss of Utah. Also attending were Representatives Don Clausen (whose district includes the redwood counties) and Jeffery Cohelan (sponsor of H.R. 11723, a bill that would establish a redwood national park in the Redwood Creek watershed as favored by the Sierra Club and most other conservation organizations).

Under consideration were the Administration's bill, S. 2962, and a proposed amendment to it, Senate Amendment 487. The latter, sponsored by Senator Lee Metcalf and 18 colleagues, would have the effect of substituting the Cohelan bill for the Administration's.

To no one's surprise, lumber industry spokesmen bitterly opposed *any* redwood national park *anywhere*. (One amusingly charged that a park would be "enjoyed only by bluejays, chipmunks, and an occasional Sierra Club member.") Local officials and businessmen urged with apparent conviction that a park in the Mill

Creek area would have a serious impact on the economies of Del Norte County and Crescent City. Although their fears were undoubtedly exaggerated, it became evident that any temporary economic dislocation that a park might cause would bear more heavily on Del Norte County (in the area of the Administration's park proposal) than it would on the more diversified economy of more populous Humboldt County (in the area of the Cohelan-Metcalf proposal favored by the club).

Sponsors of the Administration bill must have been prepared for this local opposition, but if they expected a significant volume of offsetting grassroots support, they were disappointed. Hugo Fisher, representing Governor Brown of California, endorsed the Administration plan (adding, however, that endorsement did not imply disapproval of other plans). Congressman Clausen expressed qualified approval of the Administration bill, but preferred a sub-minimal park consisting of a narrow corridor connecting existing Jedediah Smith and Del Norte Coast Redwoods state parks. Dr. Ralph Chaney, President of the Save the Redwoods League, also endorsed the Administration's proposal.

With these exceptions, witnesses who favored a redwoods national park favored a park in the Redwood Creek watershed. Our notes indicate that 27 witnesses who testified in person specifically expressed a preference for the Cohelan-Metcalf bill as opposed to the Administration proposal. We have not yet had an opportunity to review written testimony submitted for the hearings record, but there is no reason to suppose that the write-in vote would materially alter the impression given by verbal testimony — that pro-park sentiment overwhelmingly favors a park at Redwood Creek rather than Mill Creek. It is worth noting that while there was virtually no local support for a Mill Creek park (and much local opposition), businessmen, property owners, and other citizens from the Redwood Creek vicinity appeared to testify in favor of a park there. And except for blanket condemnation of all park proposals by lumber industry spokesmen, there was no opposition of consequence to a park in the Redwood Creek watershed. On the evidence of the hearings, it would appear that the Redwood Creek proposal is superior not only in terms of park values but in terms of political feasibility as well. ■





Fuller Creek, formerly a fine trout stream, in Sonoma County, California, was badly mauled by logging operation. Spill from logging roads on both banks almost fills streambed, and sedimentation problems downstream will persist for years. Photo by Frank Hubbard.

Bulldozer Delinquents

by Alex Calhoun

As Chief of the Inland Fisheries Branch of California's Department of Fish and Game, Alex Calhoun writes with authority about damage to streams and watersheds that results from improper logging practices and inadequate controls.

THERE IS SOMETHING about a stream murmuring over clean rocks and gliding between soft banks that appeals to the child in us. As a matter of fact, many individuals treasure such intangibles more than the value of the water and fish a stream produces, or the dollars it adds to the sales price of real estate just by being there. Together, the two kinds of values are substantial indeed. But give a tractor operator the job of starting logs on their way to the mill or spiraling roads around mountains, and he is apt to forget that a stream is worth anything at all.

Let's recognize some facts of life about watershed and stream damage in California these days. First, experience in this state suggests that a logger or a contractor who cares about a stream can usually protect it without much added trouble or cost. Indeed, a forestry expert has told me that the planning this requires, in terms of well-laid-out secondary roads and skid trails, can sometimes increase over-all efficiency of a logging operation enough to reduce operating costs.

A second important point: you can't log precipitous hillsides or build roads through steep mountains without causing some erosion, litter, and damage to streams and watersheds. And remember that our state has unusually difficult logging problems, with big trees, steep slopes, heavy seasonal rains, and unstable soils, particularly along the north coast.

Third, sustained-harvest logging is a fact of life in California. Hillsides are going to be logged and roads are going to be built into the mountains for some time to come, except of course in established wilderness areas.

Finally, and perhaps most important of all, nature's healing powers can restore most disturbed forest watersheds quite rapidly if the man on the bulldozer takes reasonable care. If he does not, disastrous erosion can occur rapidly under certain conditions of terrain, soil, and rainfall.

The heart of the matter is the attitude of the logger or the contractor. The big question: "How to make him care?" We can get a clue from the U.S. Forest Service, which sets careful standards for erosion control and stream preservation for each logging or road building operation, basing them on factors of slope, soil stability, and precipitation pattern. The Service supervises each logging or road building operation closely enough to insure reasonable compliance to the standards it has set. It is fortunate, in this context, that so much of California's mountain timberlands lie in national forests and parks. It is equally fortunate that many enlightened timber owners are also taking good care of their private forest lands, because they recognize values other than timber and want to protect them. But there is a third group that thinks only of board feet and dollars.

What people like this can do to a watershed in a few months must be seen to be believed. The resulting damage to several California streams last summer prompted this article. The destruction occurred in hidden places. It is important for people to know about it.

The first case I heard about occurred on Fuller Creek in the Gualala Drainage in Sonoma County. It was as bad as they come. Six miles of this lovely stream are now virtually a biological desert. In the words of Game Warden Curtis Kastner, "It used to be one of the best trout producers around here." It is hard to imagine how the logger could have damaged this stream and its watershed more if he had tried. The pictures give some idea of what happened to Fuller Creek.

In getting out the timber, the logger obliterated hundred-yard sections of the stream in a number of places. He used the stream for a road and for a place to fell, limb, accumulate, and skid logs. He dumped tons and tons of debris into the channel, carving up the bottom and the sides with his tractors and not hesitating to bulldoze the stream full of earth to get his equipment across. The hillsides are torn up by careless tractor operations, inviting massive erosion.

Needless to say, the damaged section will not produce or hold many trout for a long time. And it isn't just that six miles. In years to come, downstream gravels will compact with erosion sediments, killing fish food and smothering fish eggs. Anglers will curse the muddy water and seek a clearer stream—but they won't find one readily along the north coast very soon after a storm.

This logger turned out to be a traveling disaster. He had no sooner left Fuller Creek than he turned up on Bailey Creek in the Navarro Drainage in Mendocino County, where it was the same story all over again.

The Fuller Creek case illustrates current enforcement problems under the state's Forest Practice Act, which regulates



logging on private land. The question was raised at a meeting of the Redwood District Forest Rules Committee in Ukiah on February 10, 1966, "Why was action not taken against the logger under the erosion control provisions of the Forest Practice Rules?" Charles Fairbank, Deputy Forester, replied that the logger had indeed violated the erosion control rules and that this was recognized by the Division of Forestry. The Division could only take action against a few individuals at any one time, however, because the law is so cumbersome to administer. It had therefore concentrated on cases where more than one rule was violated.

There were some other bulldozer delinquents in the woods last summer. A particularly bad case occurred in Shoales Creek in the Mattole River Basin of Humboldt County during July and August. The Mattole, formerly one of the outstanding salmon and steelhead streams in the state, has taken a terrible beating in recent years. Shoales Creek was one of its best spawning and nursery tributaries according to John Day, the local fishery biologist. Warden Robert Perkins stated that damage along one mile of Shoales Creek last summer was the most severe he had ever witnessed. This has to be some kind of record, for Bob has been observing logging operations in southern Humboldt County since 1945.

Another bad one occurred on the North Fork of Battle Creek in Shasta County, damaged during June and July. It had been an outstanding producer of wild brown trout. The loggers felled many trees right into the creek and limbed them there, leaving the debris in the channel. Tractor operators used the stream for a skid road, hauling logs along it to the landings. This put additional debris and soil into the stream and tore up the channel. Elder Creek in Mendocino County was also damaged badly last summer. Past experience suggests

there are a number of similar unreported instances hidden in the back country from last summer, and we have already found several more this year.

Many other logging operations on private lands are intermediate between the disasters we have been discussing and the good soil and water conservation practice of the Forest Service and the more enlightened private timber owners. Much private logging and road construction is more careless than it should be in terms of erosion control. This results in fairly widespread unnecessary loss of forest soils, fish habitat, and water quality. The construction of big earth-fill dams has also been creating unusually difficult problems, along with careless agricultural practices and road construction.

A key question again emerges: "How do you make these careless individuals care about soil and water resources?" Most of us have learned how difficult it is to change a human being's attitude, particularly as he approaches maturity. Psychologists tell us that individuals are not apt to change deeply ingrained attitudes until they face a problem serious enough to create some anxiety. Something needs to be stirred into this mix to make the bulldozer delinquents a little more anxious about the damage they are doing to streams and watersheds.

Nothing short of clear-cut, well-enforced standards of the type used by the U.S. Forest Service and the conservation-minded private operators is apt to be very effective with individuals who are not concerned about watershed conservation. Unfortunately, the great diversity of soils, climates, timber types and terrain in this state makes it difficult to accomplish this through general laws like the existing Forest Practice Act. Much could be done, nevertheless, to strengthen this Act in many ways. For one thing, it needs broadening in scope to encompass resources other than timber, such as watersheds, streams, and fish. The present wording of Section 4542, which says in part that "It is the policy of this State to encourage, promote and require such development, use, and management of forests and timberlands as will maintain the continuous production of forest products, to the end that adequate supplies of forest products are assured for the needs of the people and the industries" is a very narrow statement of policy indeed. The Act encourages the logging industry to feel little or no responsibility for the kinds of problems I have been discussing. It does not seem unreasonable to expect substantial help from that industry in handling problems like the one we had on Fuller Creek last summer, or the more general problems of widespread erosion on poorly managed forest lands.

The matter of enforcement also needs another look. Amendments in 1963 helped somewhat, but the cumbersome administrative procedures still required to act against a violator leave much to be desired.

Significantly, other governmental agencies are stepping into the breach. For example, logging caused so much damage to streams in Monterey County that the Board of Supervisors has passed an ordinance giving the Zoning Administrator and

Photos by Frank Hubbard on these pages show damage along a six-mile stretch of Fuller Creek. Logger bulldozed earth into streambed, using it as a road and work area. Resulting erosion is bound to be severe, but no action was taken against logger under the Forest Practice Act. At right, a frustrated Fish and Game Warden surveys destruction.

the County Planning Commission responsibility for enforcing regulations to prevent abuses.

Past experience and present indications suggest that careless land practices on private holdings, with their attendant soil erosion and stream damage, will be plaguing California for a long time. There is no panacea—no easy way to make hundreds of thousands of landowners and equipment operators all understand and practice watershed conservation. However, growing public awareness of the need to protect watersheds promises to keep things moving slowly in the right direction. Several obvious reforms are in the wind. Hopefully, other counties will follow the lead of Monterey in using planning commissions to prevent serious abuses. Interest seems to be growing at the state level in reforming the Forest Practice Act and the logging rules adopted under its authority. The four district committees are currently reviewing their rules. If they and the State Board of Forestry choose to strengthen erosion control provisions, along lines recommended by the Department of Fish and Game, that could improve the situation materially. Hopefully, also, an early legislative session will take another look at the Forest Practice Act itself. It needs to be broadened to include watershed and stream protection among its clearly-stated goals. Moreover, the cumbersome enforcement procedures required by the Forest Practice Act should be simplified and strengthened. ■

[The club agrees with Dr. Calhoun that the Forest Practice Act is inadequate and that enforcement has been deficient. It has petitioned the State Board of Forestry for tighter administrative regulations, and may initiate legal action to force the issuance of such regulations. The club is also working with the Committee on Natural Resources of the California Assembly in its investigations of the need for revisions of the Forest Practice Act.]



Sierra Club Treasurer's Report, Condensed Financial Statement, and Auditor's Report for the year 1965

TO THE MEMBERS OF THE SIERRA CLUB:

The Sierra Club enjoyed a year of growth in 1965. Total membership increased from 26,509 to 34,479. We had 186 new Life Members. Income from member dues, special contributions, outings, publications and miscellaneous revenue increased from \$1,340,277 in 1964 to \$1,480,113 during 1965. We gained three new chapters for a total of 20. We published three new Exhibit Format books and reprinted several other books.

The complex and often conflicting interests of our country are, as you know, having an appreciable impact on our natural scenic resources; users vie with preservers, there are more plans to change natural flowing rivers into turbine motivators and cash registers and fluctuating storage reservoirs, beautiful and in some cases unique living forests are clear cut for lumber

and converted to seed beds for future harvestable cellulose; other conservation problems increase along with our population.

Despite these challenges to our purposes, the club with its expanding activities ended the calendar year with a net decrease in funds of only \$28,240 compared with a budgeted decrease of \$39,800 on budgeted expenses of \$1,240,000 and actual expenses of \$1,508,353.

Herewith is a condensed report to the Board of Directors from our independent auditors Price Waterhouse & Co. for the year 1965.

Faithfully,

LEWIS F. CLARK
Treasurer, 1965

Statement of Financial Condition December 31, 1965

Assets:	
Cash	\$ 80,600
Accounts receivable	190,682
Inventories, at cost	307,633
Marketable securities, at cost (market value — \$614,670)	428,765
Deferred charges	102,014
	<u>1,109,694</u>
Liabilities:	
Notes payable:	
5% note payable to bank due May 2, 1966	50,000
Other	8,300
Accounts payable	369,240
Accrued expenses	33,336
Deferred revenue	152,154
	<u>613,030</u>
Net Assets	\$ <u>496,664</u>
Fund balances, per accompanying statement:	
General operating (deficit)	(\$ 205,463)
Other unrestricted	313,352
Publication (deficit)	(15,271)
Outings	14,676
Other restricted	389,370
	<u>\$ 496,664</u>

Statement of Revenue and Expenditures and Changes in Funds Year Ended December 31, 1965

Revenue:	
Sale of publications, etc.	\$ 714,313
Dues and admissions	287,193
Trip reservations and fees	261,170
Life memberships	36,641
Miscellaneous revenue	180,796
	<u>1,480,113</u>

Expenditures:

Cost of publications, etc.	352,994
Salaries and related costs	236,911
Charter transportation and other outing costs	157,768
Printing	135,263
Chapter allocations	83,071
Outside services	63,704
Royalties	57,721
Shipping and mail listing	55,230
Travel	54,517
Office supplies and postage	54,475
Advertising	47,447
Commissions	40,282
Remodeling	34,528
Rent	32,178
Miscellaneous expense	102,264
	<u>1,508,353</u>

Net decrease in funds, represented by:

Decrease in general operating fund	(\$41,351)
Increase in other unrestricted funds	12,576
Decrease in publications fund	(15,680)
Increase in outings fund	9,238
Increase in other restricted funds	6,977

Net decrease in funds for the year (28,240)

Amounts previously carried as accounts

payable to Clair Tappaan Lodge	
reclassified as restricted funds	6,489
Fund balances, beginning of year	518,415
Fund balances, end of year	<u>\$ 496,664</u>

Opinion of Independent Accountants

May 2, 1966

TO THE BOARD OF DIRECTORS OF THE SIERRA CLUB:

We have examined the statement of financial condition of the Sierra Club as of December 31, 1965, and the related statement of revenue and expenditures and changes in funds for the year. Our examination was made in accordance with generally accepted auditing standards and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

Dues from members are billed in advance on an April 1 to March 31 fiscal year basis. Such dues are recorded as revenue on a cash basis when received and no provision is made for the portion received in advance and applicable to the three month period ended March 31, 1966. Land, buildings and equipment owned by the club and held or operated for use by its members,

guests or the public are not recorded on the books but are charged against revenue when acquired. The balance sheet and operating accounts of the Clair Tappaan Lodge, owned by the club, and of the several chapters of the club, with net assets of approximately \$99,000, are accounted for separately and are not included in the financial statements covered by this report.

In our opinion, subject to the explanations in the preceding paragraph, the accompanying statements of financial condition, revenue and expenditures and changes in funds examined by us present fairly the financial position of the Sierra Club at December 31, 1965, and the results of its operations for the year, in conformity with generally accepted accounting principles for nonprofit organizations applied on a basis consistent with that of the preceding year.

PRICE WATERHOUSE & CO.
San Francisco

[Sierra Club financial statements have previously been sent to members by mail. With the rapid growth in membership, such

mailings have become increasingly expensive. We therefore publish the statement for 1965 in the Bulletin. — Ed.]

Book Reviews

WAR FOR THE COLORADO RIVER. By John Upton Terrell. Vol. I: *The California-Arizona Controversy*, 325 pages; Vol. II: *Above Lee's Ferry—The Upper Basin*, 323 pages. Arthur H. Clark Co., Glendale, Calif., 1965. 2 vols., \$17.50

Anyone who naively believes that sound conservation legislation will sell itself in congressional hearings should read Terrell's chronicle of the battle for Colorado River water. These two volumes are written in journalistic style, recording events, reactions, and speeches in the congressional fights over the Colorado's development. Volume I is devoted to the lower basin's Central Arizona Project (CAP), which was first introduced in June, 1947, and which has been a major issue ever since. Terrell's history of the CAP ends in January, 1953, when the Arizona-California water fight went to the Supreme Court. Volume II takes up the Colorado River Storage Project (CRSP), the upper basin plan that involved the major conservation issues of Glen Canyon Dam-Rainbow Bridge National Monument and Echo Park Dam-Dinosaur National Monument. The CRSP made headlines from late in 1952 until April, 1956, when the project, in a modified form, was authorized. Unfortunately, Terrell ends his book there, a full decade ago. The Colorado River has been very much in the news since then, and the Bridge Canyon and Marble

Gorge dams are simply part of the latest revival of the CAP.

Terrell uses strict chronological order, reporting the events of each congressional session. This is an effective way of handling legislative battles, for the political inconsistencies and maneuverings show up clearly. Proponents of the two projects worked hard in the "cloakroom" to influence other legislators, and they discriminated against opponents during hearings, all of which were chaired by project-backers. Sierra club Executive Director David Brower figured prominently in the hearings and was one of the targets of the backers.

Terrell has excerpted important material from the official documents, which are tedious reading for all but the most dedicated students, and added his own editorial commentary. He weaves these two elements into a clear and interesting book that students of conservation and politics will benefit from reading. Each volume is thoroughly indexed and has appendices at the end.

It will be a pity if Terrell does not follow this fine work with additional volumes bringing the Colorado River battle up to date. Perhaps, when the current Grand Canyon controversy is settled, he will do so. JOHN GREGG

DISASTER BY DEFAULT: POLITICS AND WATER POLLUTION. By Frank Graham, Jr. 256 pages. M. Evans and Co., New York, 1966. \$4.95

Frank Graham is very realistic as to why America's water stays grossly polluted: politics and local business pressures collaborate to keep it that way. Graham concentrates on four notorious examples of mistreated water: the Mississippi River, the Missouri River, the Great Lakes, and Raritan Bay in New Jersey. Even though he limits himself to so few examples, Graham has to condense tremendously in order to indicate the catastrophic irresponsibility of Americans towards their water resources. In one way or another, it is always the quick-profit motive that gets in the way of pollution reform. In case after supporting case, Graham cites fish kills, waterbird kills, unusable shellfish beds, clogged water filters, closed beaches, odors, and discoloration.

The amount of pollution our waterways have to absorb is shocking: 1½ million tons of detergents annually, 3½ million tons of acid waste from strip mines annually. Not one city on the Mississippi River below Minneapolis-St. Paul has an adequate sewage treatment plant. Omaha slaughterhouses dump "300,000 pounds of untreated paunch manure, besides quantities of grease" into the Missouri River each day.

Graham's writing seems to approach sensationalism, but the morbid fact is that he is only reporting some real truths about a national disease. Anyone doubting the magnitude of the water pollution problem in America should allow Frank Graham to convince him.

JOHN GREGG

OUR NATURAL WORLD. Edited by Hal Borland. 849 pages. Doubleday & Co., New York, 1965. \$9.95

Within the covers of one thick volume, Hal Borland has put together a reader's guide to America's natural history. This is not to say that he has gathered bits and pieces and placed them in a typical, sterile anthology. Instead, he has "picked and chosen and often been arbitrary . . ."; and it is the word *arbitrary* that is the key. For in a society that fades in and out of fads, the individual who is not afraid to be arbitrary is all too rare. But Borland is just such a man, and his selections not only give a splendid view of our land but also an understanding of those individuals who had enough vision to see the land for its natural beauty instead of its real estate value.

Our Natural World is divided into two major parts: The Scene and The Life. These divisions "inevitably overlap, since the setting and the life within it cannot really be separated." But the real heart of the matter is that Borland has managed to pick and choose the best from 90 writers ranging in style from David Crockett to Ralph Waldo Emerson, and ranging in time from the period of Spanish exploration to the present. Altogether, these selections "present a composite picture of outdoor America over almost four centuries."

For anyone who loves the natural world, for anyone who should know more about it, *Our Natural World* is a neces-

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sary book. The selections are word journeys that bring our magnificent country to life. They present "the look of it and the color and sound and smell of it, the almost incredible variety of the land and the life that is native to it." And most of all, they underline what Aldo Leopold wrote in *A Sand Country Almanac*: "Wilderness is the raw material out of which man has hammered the artifact called civilization."

FEROL EGAN

WAPITI WILDERNESS. By Margaret and Olaus Murie. Illustrated. 302 pages. Alfred A. Knopf, New York, 1966. \$5.95

It is always a rare pleasure to pick up a book about a particular kind of experience in a particular place and find that the author's insight has carried him beyond the particular into the universal world of every man. The chapters that Olaus Murie contributed to *Wapiti Wilderness* frequently offer this pleasure. Without flamboyant rhetoric and, for the most part, without sentimentality, Murie brings to life his experiences with the wapiti, with the wild mountain country they inhabit, and with the people who live in, and on the edge of, that country.

The remarkable quality of this book (and certainly of Murie himself) is that it expresses as deep and sympathetic a feeling for man as it does for the wilderness and its creatures. Murie seems to have harbored no resentment toward the men who were persistently trying to destroy the wilderness he knew so well. And toward the wilderness men he knew, he showed as great a sensitivity as he did toward the beauty of a still, moonlit night in the Tetons or the bugling of the bull wapiti in mating season. He sees the exploits of the pioneers as he sees the actions of all men; for wherever man has gone, he has followed "the tradition of earlier pioneers, the wapiti, the bighorn, the mammoth, the tiny songbirds, kindred all." Perhaps it is this sense of the wholeness of life, a sense that his wife shares with him, that enables Murie to have hope for the future, hope that the life he and his family knew in Wyoming will somehow survive.

Mrs. Murie, who contributes to this story of a wilderness family many accounts of the everyday adventure and humor of life in Jackson, complements her husband's observations. She knew both the arduous aspects of pioneer farm life and the delight of boisterous country

dances and cross-country skiing. Unfortunately, Mrs. Murie's style at times becomes precious, especially when she tries to recreate dialogue.

The drawings by Olaus Murie add charm and variety to the book, and the photographs showing the Murie family in their Wyoming mountain setting help round out the picture of their life. The photographs of the Tetons, however, could just as well have been omitted, for their smallness defeats their purpose.

SIDNEY J. P. HOLLISTER

AFRICA, A NATURAL HISTORY. By Leslie Brown. Illustrated. 300 pages. Random House, New York, 1965. \$20

To visit for a short time a place that quickens the curiosity and arouses a sense of wonder is both exciting and frustrating. So it is with reading *Africa, A Natural History*, the third volume in the Random House series, "The Continents We Live On." Organized according to zoogeographical regions, the book contains a wealth of information on flora, fauna, and geology, and is generously illustrated. Yet, as Brown says in the foreword, "Any book of this length on so vast a continent as Africa can be little better than a vignette. . . ."

This book is, nonetheless, a special kind of vignette, a beautiful and well-written introduction to Africa's astonishing variety of animals and growing things, and to the matchless regions where they live: the Sahara, the Nile basin, the tropical forests, the savannas, the velds, the seacoasts, and the Great Rift Valley with its lakes and volcanoes.

Brown writes of these places as fully as his space permits; but he also writes of man's abuse of these places and how such abuse has made Africa a poorer continent. Man in Africa has failed, as he has failed throughout the world, to understand the fundamental relationship between the health of his natural environment and his own well-being. For example, although wild animals have through the centuries adapted their feeding habits to use grazing lands without destroying them, man has ruthlessly exterminated thousands of these animals and replaced them with domestic stock that destroy the same grazing land in just a few years.

Although some of the color reproductions are exceptionally grainy and some are badly blurred, the majority of both the color and black and white photo-

graphs are reproduced well and distributed throughout the book in a way that is both pleasing to the eye and complementary to the text.

SIDNEY J. P. HOLLISTER

THE GREAT NORTH TRAIL. By Dan Cushman. 383 pages. McGraw-Hill Book Co., New York, 1966. \$7.95

This is the eighth volume in the American Trails Series, and it is the most disappointing effort so far. Cushman tried to tie some 200 million years of north and south movement between Siberia and the southern tip of South America into what he calls the Great North Trail. The result of such a grand plan is a hit-and-miss collection of information. There are game herds ranging from woolly mammoths to shaggy bison. There are the old hunters from Asia working their way south in the shadows of Ice Age glaciers. There are cattle drives, gold rushes, fur trappers, Indians and Indian fighters, buffalo hunters, bone pickers, bootleggers smuggling liquor across the Canadian border, and highway construction workers building the Alaskan Highway. But this deluge of information is like a spring run-off, and

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it floods any sign of a Great North Trail.

For the scholar, the book is too general and too poorly organized. For the novice, the book presents a formidable amount of information without any proper guidelines. The best that can be said for *The Great North Trail* is that it does contain fine descriptive passages of the geology, paleontology, and ecology of an ancient migration route. But Cushman failed to pull all the loose tributaries of data into a mainstream of thought.

FEROL EGAN

THE GREAT AMERICAN FOREST. By Rutherford Platt. Illustrated. 259 pages. Prentice-Hall Series in Nature and Natural History, Englewood Cliffs, N.J., 1965. \$6.95

The Great American Forest is much more than a simple story of trees. Scientific in his treatment, artistic in his writing, Rutherford Platt summons before the reader the legions of creatures associated with the forest, as well as a colorful pageant of the rise, expansion, and threatened fall of the wooded wilderness.

The first three chapters serve as an introduction to the more detailed portions that follow. The author begins by exploring the antiquity of the forest as scaled against the short time of man. We are led to join the early explorers looking upon the virgin American wilderness, travel to the ghost forests of Greenland, consider the ecological significance of the theory of continental drift, and observe the ancestral forests of our present woodlands.

Subsequent chapters deal with the evolution, ecology, and unique characteristics of the deciduous and coniferous forests. In the latter category, an indi-

vidual chapter is devoted to the most eccentric forms of the ancient trees: the oldest (bristlecone), the tallest (sequoia), and the strangest (cypress).

Platt ends his book with this lament for our much mistreated wilderness: "If only people would catch a vision of our fabulous forests, their ancient heritage, their beauty and beneficence, their meaning for our lives today . . . before it is too late."

The black and white photographs and illustrations enhance the general attractiveness of the book's design. For those who wish a panoramic yet detailed account of our forests, this book will certainly serve well.

LUCILLE WOOD TROST

THE ANCIENT BRISTLECONE PINE FOREST. Edited by Russ and Anne Johnson. Illustrated. 43 pages. Chalfant Press, Bishop, Calif., 1966. \$1.25

High Sierra packers, Russ and Anne Johnson, have assembled an excellently illustrated paperback booklet about the ancient bristlecone pines of Inyo County in California. It's just the thing for anyone traveling near Bishop this summer. Copies available by mail from Chalfant Press, Bishop, California.

ROBERT V. GOLDEN

ROUTES AND ROCKS. By Dwight Crowder and Rowland Tabor. Illustrated. 240 pages. *The Mountaineers*, Seattle, Wash., 1966. \$5.00

Subtitled "Hiker's Guide to the North Cascades from Glacier Peak to Lake Chelan," this guidebook covers a major portion of the Glacier Peak Wilderness Area and the southern third of the proposed North Cascades National Park. It traces all trails and off-trail high routes, with point-to-point mileages, elevations, campsites, viewpoints, and notes on matters of geological interest. Maps of Glacier Peak, Holden, and Lucerne quadrangles included in back pocket. Available from Sierra Club.

NATURE AND THE CAMPER: A Guide to Safety and Enjoyment for Hunters, Fishermen, Campers and Hikers. By Mary V. and A. William Hood. Illustrated. 157 pages. Ward Ritchie Press, Los Angeles, Calif., 1966. \$1.95

How to distinguish between real and imaginary dangers—and cope with both.

Letters

The Sierra Club has opposed plans of the Pacific Gas & Electric Company to build a powerplant at the Nipomo Dunes (near Santa Maria, California), feeling that the area should become a state park because of its scenic and recreational values. PG&E consequently considered alternative sites including Diablo Canyon, on the coast only a few miles north.

At its May meeting, the club's Board of Directors voted that it "considers Diablo Canyon, San Luis Obispo County, a satisfactory alternative site to the Nipomo Dunes for construction of a Pacific Gas & Electric Company generating facility, provided that (1) marine resources will not be adversely affected; (2) high-voltage transmission lines will not pass through Lopez Canyon, located in the same county, anywhere north of parallel 35 degrees 15 minutes; and (3) air pollution and radiation will not exceed licensed limits." The vote was nine in favor, one opposed, and two abstentions; three members were absent.

Subsequently, it appeared that the Board had acted on the basis of incomplete and inaccurate information about the nature of the terrain in and around Diablo Canyon. Reconsideration has been urged in some quarters and opposed in others. Frederick Eissler, the member of the Board who voted against the Diablo Canyon resolution, writes why he thinks reconsideration is advisable.

MY OPPOSITION TO the Diablo Canyon resolution was based on two major factors. First, the powerplant PG&E proposes to build is a nuclear plant. I have grave doubts, shared by many, that problems of environmental contamination and waste disposal have been satisfactorily solved as yet. It was argued that the question before the Board was one of site only, and that the nuclear nature of the proposed installation is irrelevant. I cannot agree. I do not believe that the Board can endorse a site without seeming to endorse the use that will be made of it. Until the Board has studied the matter and satisfied itself that the problems of contamination and waste disposal have indeed been solved, I believe it should avoid any explicit or implied endorsement of nuclear powerplant sites.

Second, because of conversations I

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had with people who knew the Diablo Canyon region, I questioned whether descriptions furnished the Board were adequate and accurate. Not a single member of the Board had seen the area at the time of the meeting except Martin Litton, who was unavoidably absent. I have since had an opportunity to visit the area and have explored it thoroughly. I found that the Diablo Canyon region has outstanding scenic, wildlife, and recreational values. That information about these values was not available to the Board at its May meeting is unfortunate. I hope the Board will reconsider the matter in the light of more complete and accurate information now available.

Point Buchon, where Diablo Canyon is located, is the stretch of coast between Morro Bay and Avila. It is the last piece of pastoral, coastal California between Humboldt County and the Mexican border that is not irreparably defaced by highways, railroads, or other works of man. The San Luis Range of mountains more or less isolates the coast from the towns and human activity along U.S. 101. Unlike the shore to the north and south, this lovely wild coast is characterized by rolling hills leading down to a wide, level bench or terrace that extends out to rocky bluffs averaging about 50 feet above the ocean. There are many offshore islands and rocks, which constitute by far the richest habitat for sea lions, cormorants and pelicans that I have ever seen. There are headlands where the clear water is churned white, but there are also myriad sheltered coves and thousands of tide-pools rich in aquatic plants and animals.

As for Diablo Canyon itself, it is a small ravine where its clear perennial stream flows into the ocean. As you proceed up the creek from the beach, the scene is marred somewhat by the trampling of willow-lined stream banks by cattle. But you are soon in a forest of wind-sculptured bay trees as fine as anything of the kind anywhere in California. Then the bay begins to yield to big-leaf maples and coast live oaks, some of which may have world-record spans. We are trying to find out if there are any other specimens of coast live oak with a greater limb spread than the 129-foot diameter we paced off in Diablo Canyon. One-half mile from the ocean, we camped in a grove of live oaks that

contained another notable tree with a 123-foot spread.

The whole canyon—which is really a valley containing much level and near level land—is densely wooded except for two meadows. There is a heavy undergrowth of ferns and flowering shrubs, along with some poison oak. There is a dense copse of huge Monterey cypresses, which appear to have been planted or to have descended from trees planted many years ago when the canyon may have contained an active ranch. The hillsides of the canyon are covered with bay, ceanothus, various other chaparral species, and on the upper slopes and hilltops, dense groves of Bishop pine.

Can this be the “treeless slot” described to the Board at its May meeting?

The entire Point Buchon coast is as exquisite in its way as any of the rest of the California coast ever was, yet it remains unmarred. As we watched sea lions playing in the water at our feet and then lining up and looking at us as though in hope of approval of their antics, we wondered what will happen to all the wonderful pageantry of nature—nowhere on the coast more undisturbed than here—when the bulldozers begin to rip into the land in and beside Diablo Canyon. It has already been made clear that the finest of the oak forest in the canyon will not be spared. The intakes and outlets for cooling sea water would have to be enormous, and the distribution and transmission lines and towers would necessarily mar the San Luis Range when seen at any distance or from any angle.

All one needs to do is look at the PG&E plant at Morro Bay—only 11 miles away—to get an idea of the kind of installation that is contemplated at Diablo Canyon. I say you can get only an idea because the Diablo Canyon plant would be much larger and would be in an area where there are presently no roads. All access would have to be by means of new road construction. The Board was told that the plant would be tucked out of sight in the “treeless slot.” Later word is that the plant would be fully exposed on a terrace above the ocean, visible to observers at sea or along the seacoast in either direction.

I have photographs that I hope will be published to show Directors and members what Diablo Canyon and its environs are really like. Clearly, the

coast between Point Buchon and Point San Luis should ideally be a natural wild park.

Finally, I wish to emphasize that reconsideration of the Diablo Canyon resolution would imply no weakening of the club's determination to protect the Nipomo Dunes. Point Buchon and the Nipomo Dunes are equally deserving of protection, according to a National Park Service survey of the entire Pacific seacoast, and I believe we should do everything we can to preserve them both.

FREDERICK EISSLER
Santa Barbara, Calif.

ALTHOUGH I AGREE with the writer of the “Flying Blind” editorial in the June issue that Yosemite would be an infinitely more exciting experience than watching a “Hollywood inanity” during an in-flight motion picture, I think the writer's choice of Mr. Disney is unfortunate. Before I proceed, let me assure you that I am writing as an individual, and am not speaking as a representative of this studio.

I can't think of any other producer who has done more for the cause of conservation than Mr. Disney. What sort of “inanity” did the writer have in mind? Could it have been *Bambi*, which is

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quite plain in its conservation philosophy? Perhaps he meant *Those Calloways*, which was devoted to the story of a man who wages a single-handed battle to preserve one small lake for the exclusive use of wild geese. Or maybe he was referring to our *Grand Canyon*, which is as eloquent a plea for saving Grand Canyon as all the words being spoken in its behalf. Maybe he meant *Living Desert*, or *Nature's Half Acre*, or *Beaver Valley*, or *White Wilderness* or *Yellowstone Cubs*, or any of a score of our nature films. These films have brought the wilderness and a love for Nature and Nature's creatures to more people than all the books and tracts and motion pictures of stony-faced documentarians that have ever come before.

I can go on, but I think the point is made. I can digress and bring up Disney's conversion of Mineral King into a ski resort, but all I will say about it is Thank God that it is Disney who will administer the area and not some strictly commercial entrepreneur who would rape Mineral King with no attempt to blend its recreational facilities with its natural beauty.

PHIL BABET
Walt Disney Productions

Without doubt, Mr. Disney's nature films have helped make many people conservation-minded—not without profit to Disney. But if he had been willing to forego the opportunity for profit at Mineral King, Disney could have played a direct role in saving de facto wilderness. (As we remember, Disney plans to develop Mineral King more than twice as intensively as the minimum specified in the Forest Service prospectus.) We are not impressed by the if-I-didn't-do-it-somebody-else-would argument, which has been used to justify a multitude of mistakes. Were Disney to add his considerable influence to that of others who are trying to keep Mineral King wild and free, there would be a very good

chance that Mineral King would never be developed at all, by anybody.

I VERY MUCH ENJOYED the poetry and comments on the movie programs of our transcontinental airline flights. This has bothered me for two years. I took the trouble to write the Public Relations Departments of two of our airlines to express disapproval similar to yours, and also offered them a suggestion to improve their passenger service by means of "spot announcements" or "lectures" on points of high interest along the flight routes. (Not Gary and Columbus!) I received gracious but negative replies.

When you can look down on the beautiful setting of Yosemite or Dinosaur as I have done, it certainly is a thrill.

Shall we hit 'em again?

FRED G. EVENDEN
Executive Secretary
The Wildlife Society

LAST SPRING I made the mistake of taking the boat trip on Lake Powell, up what were once Aztec and Bridge Canyons, and walked to Rainbow. We were herded along by the guides like a bunch of sheep, not allowed to leave the trail or to go to the little cottonwood tree and spring under the Bridge. I was more than depressed, and told my friends Lake Powell was a dead world. Deadness is the only word that describes it. Not a flower or a leaf or tree or little lizard, and being old and emotional and sick at heart, I cried.

I'm doing all possible in my small way to defeat Reclamation plans for dams in the Grand Canyon.

SYLVIA TONE
Yachats, Oregon

I HAVE JUST FINISHED catching up on back issues of the *Bulletin*, and am struck by many comparisons which I can't help making between America and the country that is my present home.

I am a Peace Corps volunteer, living

in a Turkish village near the Black Sea coastal town of Trabzon. It is a strange feeling to come to a "backward" country like Turkey and find the countryside unspoiled by billboards, beer cans, high power lines, or hydroelectric dams. We live high on the side of a canyon that the Bureau of Reclamation would love to drown with one of its amazing feats of engineering. The paradox here is pointed up to me by David Brower's beautiful passage in the introduction to *Gentle Wilderness*: "... neither California nor the rest of America is rich enough to lose any more of the gentle wilderness, nor poor enough to need to." In a sense, Turkey is poor enough to need to, but not rich enough to be able to. Let's ship the Bureau of Reclamation over here and turn them loose; it would be advantageous to all concerned.

TOM TURNER
Maçka/Trabzon
Turkey

I WAS SADDENED to read on page 23 of the April issue that a "Senior Consultant" from the Mayo Clinic attributed the death of a camper to use of pesticides.

We who teach in medical schools do our best to point out the fallacies of "post hoc" reasoning, of which this is a flagrant example. Thousands who never die of acute leukemia use sprays, and thousands who do die of leukemia never used a spray. One case such as you (or Dr. Hargraves) quote proves absolutely nothing. Dr. Hargrave knows this and you should also. If you could show that acute leukemia is more common among the users of sprays than among non-users, you *might* have a case.

I have no vested interest in pesticides; only in the truth. Your bulletin will do far better in the long run by avoiding such transparent fallacies and sticking to the truth, which is interesting enough.

BEACH BARRETT, M.D.
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