Sierra Club Bulletin

April 1974

The Tongass Battle

What to do if your sleeping bag gets wet.

It happens even to the most experienced hikers: The day comes when your sleeping bag ends up wet, maybe sopping.

Now you have a problem—especially if the temperature dips sharply.

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This is where insulation of Dacron* polyester fiberfill II comes into its own.

"Dacron" fibers absorb less than 1% of the moisture that may collect in your bag. So you can get rid of the worst of it by squeezing it out. Then, to fluff loft into your bag, shake it vigorously.

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You'll find "Dacron" fiberfill II now being used in most types of bags. From mummy to king-size. From fluffy lightweights to puffy arctic beauties.

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Sierra Club Bulletin

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Legal Defense Acts

Heritage in Probate:

JULIE CANNON

Our Tongass Forest

THE AMERICAN PUBLIC holds title to a remarkable forest: the Tongass of southeast Alaska. Established as a unit of the National Forest System in 1902, today the Tongass includes more than 16 million acres, covering most of the panhandle that runs southward between the sea and British Columbia. Its spectacular mountains, the finale of the famous inside passage from Seattle to Alaska, rise abruptly from the Pacific to elevations of nearly 9,000 feet, their profiles reflected in deep, nordic-like fiords. In the morning shadow of this range lie its partially submerged western foothills, the islands of the Alexander Archipelago.

Despite the glaciers imbedded in the mountain sides and the piedmont ice sheets that have ground their way to the sea, the coastal climate of southeast Alaska, thanks to the moderating influence of the ocean, is mild compared to the continental interior. Dense hemlock-spruce forests belt the rugged, sinuous coast and encircle the islands in a band extending from tidewater to elevations varying from 1,000 to 2,000 feet above sea level. The timberlands are rich in wildlife: bear, deer, wolves, beaver, otter, mink. The American bald eagle nests here, and wintering species include the extremely rare trumpeter swan.

In 1965, the U.S. Forest Service put more than a million acres of the Tongass on the block—the largest timber sale in the history of the United States. The resulting contract is a license to clearcut 416,000 acres of western Admiralty Island, 528,000 acres across Stephens Passage on the mainland, and 146,000 acres at Yakutat, northward along the mainland coast. Admiralty, which provides prime habitat for the giant Alaska brown bear and nesting grounds for a major part of the remaining population of the endangered American bald eagle, is considered by conservationists to be the most important wilderness in southeast Alaska. Nevertheless, of the 8.75 to 9 billion board feet of commercial timber (which, in this case, means virtually *all* the timber) thought to be available on West Admiralty and the two neighboring areas, the Forest Service sold 8.75 billion board feet. In other words, if these terms were carried out, almost no timber whatsoever would be left standing as wildlife habitat, or wilderness, or for recreational purposes. Calling the Juneau Unit Timber Sale the "single largest act of wilderness destruction ever contemplated," the Sierra Club joined with Alaskan conservationists in a court action to challenge the legality of the sale.

Two factors played a crucial role in the biggest timber sale in

The environment belongs to all of us, but is protected by few so effectively as by the Sierra Club Legal Defense Fund. The Tongass Forest struggle is here offered as a case history in enlightened environmental litigation.

Julie Cannon is a former news editor for the Sierra Club Bulletin. She is now pursuing graduate studies at the University of California, Berkeley.

U.S. history. Following World War II, the Forest Service became involved in promoting a local timber industry in Alaska at the expense of such other lawful forestland uses as wildlife, recreation, wilderness, and commercial fishing. In line with this policy, the terms of the million-acre sale stipulated: "Purchaser proposes to establish a new industrial development of Alaska." The purchaser was required to construct and operate a pulp and saw-mill complex near the site. Production quotas were set. When the Forest Service offered the million-acre harvest to Champion International Corporation, the second factor came into play. The Japanese, having grossly overcut their forests during World War II, are importing almost the entire yield of the Alaska forest industry. Champion negotiated an agreement to sell the first 15 years' worth of the pulp and timber production of the mills to the Kanzake Paper Company of Japan and then signed the Juneau Unit Timber Sale contract on September 12, 1968.

Two months before the deal was completed, Sierra Club President Edgar Wayburn arrived in Juneau for what was becoming an annual pilgrimage to urge the Forest Service to protect the unique wilderness areas of southeast Alaska. When the Wayburns first visited the Region 10 office the year before, they learned the Forest Service had no plans to dedicate any Alaskan wilderness. This time, Howard Johnson, the regional forester, reported that the regional organization had held two major meetings and was recommending several areas for study as wilderness or national recreation areas. But the outlook was not good: Johnson went on to rule out protected status for areas with timber resources. "I'm not personally inclined to put on ice considerable areas of commercial timber," he told Wayburn.

According to Wayburn, Johnson discussed the coming Champion sale "which he was quite optimistic about." "He told us," Wayburn said, "that the overriding factor in the sale and its scheduling was its economic benefit to Juneau."

" 'I like to have the local community benefit,' " Wayburn quoted the forester as saying.

"I proposed that the Forest Service reconsider the entire matter of Admiralty Island," Wayburn continued, "that they treat Admiralty as a special case and declare it either a wilderness area or combined wilderness and recreation area." When he returned home, he re-emphasized these views in a letter to the regional forester on August 16, 1968: "We strongly urge the Forest Service to reconsider the areas of the virgin forest that remain intact in terms of their national significance as an unmatched scenic resource for the American people."

"We went back to Alaska again in 1969," Wayburn said, "and had a growing sense of outrage at the way the U.S. forests, which belong to all the people of the United States, and which, by law, are to be managed for multiple use, were instead being managed for local economic interests as the regional forester interpreted them." At the time of the Wayburns' 1969 trip, Champion had organized a "blue ribbon" team of university ecologists to guide all phases of mill construction and the lumbering program, and several company officials and team scientists were already in Juneau.

"We discussed with them what would happen if the panel of ecological advisers should suggest that the company modify its plans or turn down the sale," Wayburn recalled. "My remembrance is that they said, 'Well, that would be one of the options then that we would have to consider.' "

The Club waited for Champion to assess the ecological findings and evaluate its options. In December, 1969, the lumber company announced its site selection for the mill: Berner's Bay on the mainland about 30 miles north of Juneau. It appeared that the contract would indeed go forward.

The January 5, 1970, issue of *Industry Week* carried a brief news item headlined: "Placate Conservationist by Getting Him Involved." The article said, "Opposition from conservationists can easily scuttle plans for a new plant. Executives at U.S. Plywood Champion Papers Inc. (now renamed Champion International Corporation) faced and solved the problem in planning a new lumber mill in Alaska." The article explained how the company set up a panel of experts to help in site selection and in advising the firm on plant design and construction.

" 'We were taking quite a risk,' admits the firm's official, 'because they could have made recommendations unacceptable to us.' " *Industry Week* concluded: "However, the plan worked. The site and construction recommendations were acceptable to the company, and the conservation groups were pleased with the final plan. Construction is scheduled to begin in 1970."

But contrary to this article, conservationists were, in fact, *not* pleased with the final plan. In January, 1970, the Sitka Conservation Society and the Alaska Chapter of the Sierra Club wrote jointly to the Sierra Club Legal Committee: "If the Forest Service contract with Champion Paper is allowed to stand and Champion is allowed to build its mill, then the entire Tongass National Forest, comprising almost the whole of Southeastern Alaska, will be destroyed. . . . The entire production of the Champion mill is committed to Japan, so there would not even be any compensating benefit to the American people, save those few who are directly connected with the mill."

Nor was the Sierra Club pleased with the plan. The lawsuit had already been drafted, and in mid-January, Donald Harris, then chairman of the Legal Committee, announced that the Sierra Club and the Sitka Conservation Society were filing a complaint against the Secretary of Agriculture, the chief of the U.S. Forest Service, and the regional forester for Region 10 in the U.S. District Court at Anchorage for failing "to furnish a continuous supply of timber for the use and necessities of citizens of the United States" and for failing to follow the Multiple Use and Sustained Yield Act, which requires that uses other than logging—such as recreation, watershed, wildlife and fishing—must also be given proper balance in the use of the national forests.

Outlining the unprecedented dimensions of this million-acre sale, Harris emphasized: "The chainsaw will continue unabated until the year 2022 to destroy major recreational resources of the United States." He called attention to two other long-term timber sales made in the Tongass within the last decade. "Indeed, our experts tell us that these timber sales irrevocably commit the Forest Service to an inflexible schedule of harvesting substantially all of the operable virgin growth forests in Southeastern Alaska to the exclusion of all other legitimate uses." The Sierra Club and the Sitka Conservation Society "have thus filed this lawsuit as a necessary step to protecting these invaluable resources.The ultimate winners will be the people of the United States."

The issue was joined. Warren E. Matthews, an Alaskan attorney and a member of the Executive Committee of the Sierra Club's Alaska Chapter, was retained to try the case. Karl E. Lane, a Juneau resident and a professional registered guide who conducts hunting, fishing, sightseeing, and photography trips into the timber sale area, joined the Club and the Sitka Conservation Society as plaintiffs. On the other side, Champion and the State of Alaska both intervened as co-defendants with the Forest Service. The trial was set for November, 1970.

Gordon Robinson, the Club's consulting forester, was dispatched to Alaska to assess the Forest Service's timber management plans for the Tongass and to examine the logging practices already underway in southeast Alaska. Robinson's findings showed that the Forest Service was not managing the timber resource, which it was concentrating on, any better than it was managing the watershed, wildlife, and other resources, which it was ignoring. Robinson found the following:

(1) The Forest Service, by several methods, including using a very loose definition of "commercial forest" when compiling the inventory from which the allowable cut is determined, was authorizing itself to permit *excessive cutting.* Robinson's surveys showed that insufficient timber exists in the Juneau and Yakutat units to fulfill the Champion contract under a plan of sustained yield management.

(2) *Overcommitment:* Construction of the Champion mill will bring the annual mill production capacity on the Tongass to 945 million feet. The present allowable cut on the Tongass is set at 824 million feet annually.

(3) *Destructive logging practices:* in recent years the Forest Service has adopted the practice of wholesale clearcutting on the national forests of Alaska. Areas where the humus layer and topsoil are removed through careless logging are not regenerated for 20 to 30 years.When slopes exceeding 50 percent are clearcut, the landslides that often follow make the forest-recuperation process take even longer. Robinson said that 31.6 percent of the commercial forest land within the sale area on Admiralty Island is situated on slopes that exceed 50 percent.

(4) *Below-market values:* After reviewing over 50 recent timber-sales transactions in southeast Alaska, as well as log prices in the Pacific Northwest over the past decade, Robinson established that the value of timber in the initial cutting area as of the date of the contract was $33 per 1,000 board feet for spruce; $8.50 for hemlock. The Forest Service awarded the spruce to Champion for $6.54 per 1,000 board feet and the hemlock for $5.10. Alaskan spruce, incidentally, is the finest remaining old-growth softwood timber in the world.

As the Club continued to amass evidence of the mismanagement of the Tongass timber resources, Reginald Barrett, a graduate student working under Professor A. Starker Leopold of the School of Forestry and Conservation at the University of California, Berkeley, began a wildlife survey in the timber sale area. As a member of Champion's team of ecologists, Leopold had been asked to assess the impact of the proposed logging program on wildlife, with particular emphasis on the Admiralty Island operation. Barrett arrived at Admiralty in the late summer of 1970 and remained until the following July, making aerial and ground surveys of wildlife and habitat conditions throughout the sale area in general and on the South Hood Bay watershed in particular.

Leopold and Barrett investigated the characteristics of the winter range of the Sitka deer, a significant species

on the island. The deer are migratory, spending the summer at high elevations and with the onset of winter descending to the lower elevations in advance of the snow line. Key winter ranges are situated in mature conifer stands that provide shelter from the bulk of the snows and allow the growth of browse plants. The winter of '70–'71 was a severe one on the island, and Barrett observed the deer band together in the dense, mature timber near sea level. The scientists knew that it takes well over 100 years for a climax forest and its understory of browse plants to fully recover from logging. It was clear that, once eliminated, the deer would be gone for a century. They reported to Champion, "the only practical way to preserve key deer winter ranges is to refrain from cutting them." The outlook was worse for smaller wildlife species with their more restricted ranges.

Winter passed into spring on Admiralty Island. The bears began to emerge from hibernation on the high slopes, sliding down the snowfields in search of forage at the lower elevations. Barrett watched the bald eagles in their tree perches above the rocky tidelines scan the channel for the herring runs. The eagles, along with the other species on the island, had young to feed. The needs of wildlife during this season suggested additional problems that would result from the extensive logging of Admiralty. Barrett had begun to monitor the migration of the blue grouse from their upland winter range to their breeding grounds throughout the South Hood Bay logging site, when, on May 20, 1971, the District Court announced its final judgment:

Yes, the Forest Service has made an "overwhelming commitment of the Tongass National Forest to timber harvest objectives in preference to other multiple use values." Nonetheless, the court ruled that the evidence presented failed "to impeach the record provided by the Forest Service by showing that the administrative decision-makers either lacked actual knowledge or failed to consider the myriad reports and studies available to them. The court must presume, therefore, that the Forest Service did give due consideration to the various values specified in the Multiple Use-Sustained Yield Act." No one in the courtroom heard the drumming of the blue grouse on Admiralty that day; nor did they know that Leopold and Barrett had found that the hens and their broods require the understory vegetation that grows in partnership with mature conifer stands.

The Club's Alaskan co-plaintiffs, the Sitka Conservation Society and the Sierra Club's Alaska Chapter, immediately put themselves on record as strongly supporting an appeal. Quoting a remark attributed to an Alaskan state legislator, they wrote to the Club's headquarters in San Francisco: "Let's make a mistake on the side of conservation for once; it's so much easier to correct." When the Club filed its notice of appeal on July 16, 1971, other Alaskans were not so jubilant. The *Southeast Alaska Empire* editorialized: "America's record of ecological successes is very dismal. Alaska's is not. Alaskans have always taken great pains and care to maintain the beauty and ecology of the Great Land." The paper accused the Club of locking the door on the economic growth of Juneau and throwing away the key. The paper's major premise was wrong. The Club was not suing Alaskans; it was suing the U.S. Forest Service for importing to the federally-owned forests of southeast Alaska the same management practices that indeed had contributed to America's dismal ecological record.

The appeal, prepared by Angus MacBeth of the Natural Resources Defense Council for the Sierra Club and its co-plaintiffs, was presented in oral argument before the Ninth Circuit Court in September, 1972. The Sierra Club argued:

(1) The contract violates the Multiple Use-Sustained Yield Act of 1960 by failing to give due consideration to non-timber resources: outdoor recreation, range, watershed, wildlife and fish purposes. The Club stated that the Forest Service had insufficient knowledge of soil conditions, water quality, and fish and wildlife inventories on the Tongass to draft a viable multiple-use management plan for the sale area. In the absence of such a plan, the Forest Service had overwhelmingly devoted the Tongass to timber harvesting. When the preliminary award of this timber sale was made, only 1.6 percent of the commercial timber area on the Tongass was formally reserved from cutting.

(2) The contract calls for cutting almost all the timber in the million acres within 50 years, even though it takes 120 years for timber to regenerate in Alaska. Thus, the contract is in blatant violation of the Multiple Use-Sustained Yield Act, which requires that the forests be administered to provide a sustained yield, a regular, even flow of the various renewable resources.

(3) The contract is invalid because in exporting all the timber to be cut the contract fails to meet the require-

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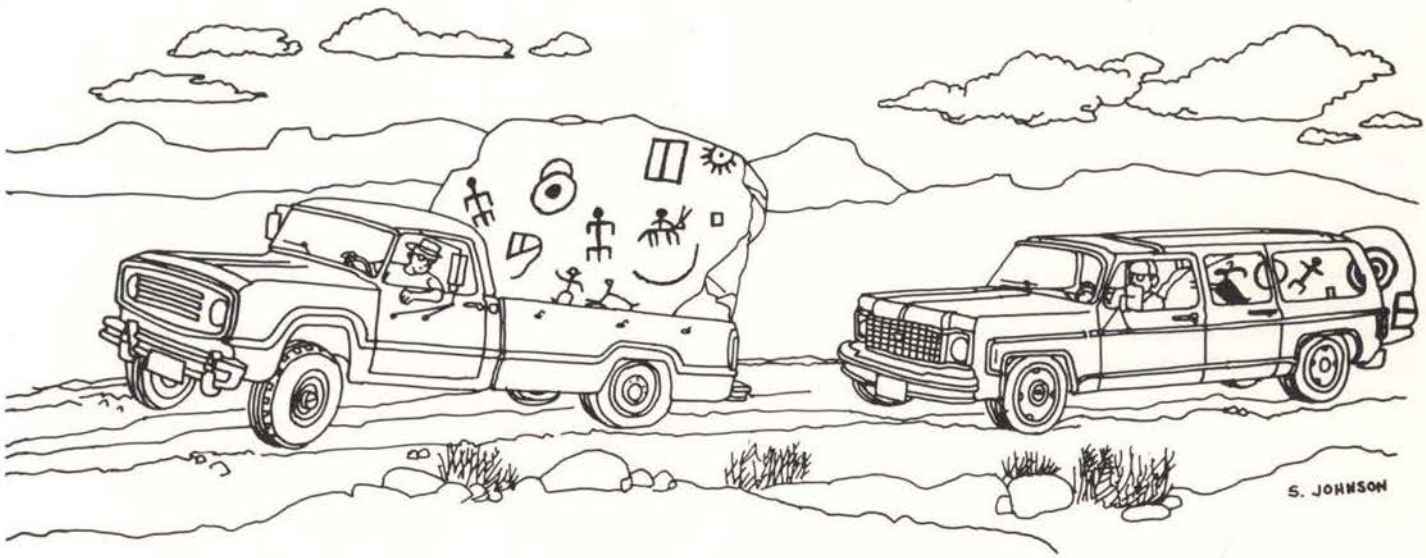
Scavengers on Wheels

SYLVIA BROADBENT



PROBABLY, most people think of archaeology as the rather romantic-sounding affair one reads about in *National Geographic Magazine*, involving elaborate expeditions to remote and exotic places such as Egypt or Peru, where archaeologists—tweedy-looking individuals wearing pith helmets—spend their time digging large holes in the ground to unearth the treasures of the past. Well, it is true that some archaeologists do go abroad, and sometimes do get written up in the *National Geographic*. They do sometimes dig up ancient treasures, and some have even been known to wear pith helmets. But this popular image is far from being the whole story. Some archaeologists work in places where the untrained eye would see nothing but a few ordinary-looking rocks, but what can be learned there may be just as important scientifically as the findings from rich tombs and lost cities. Relatively few people realize that archaeology has long had to deal with problems of conservation, and that it is faced, especially in the United States, with the rapid destruction of its absolutely non-renewable resource, the artifacts of ancient man.

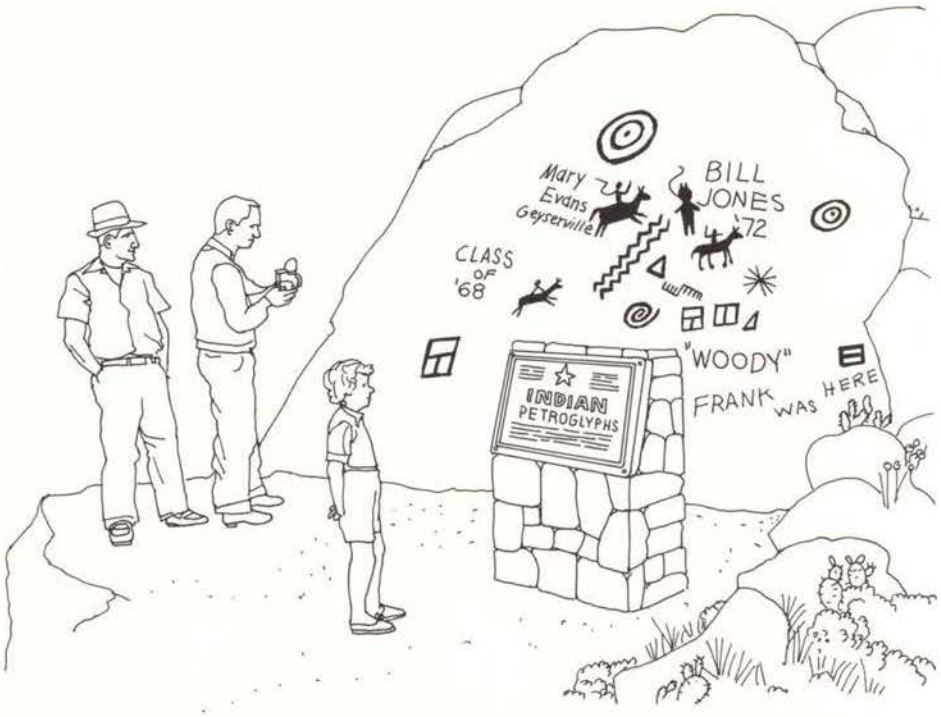
After surviving centuries of natural perils such as erosion, earthquakes, burial under many feet of alluvial deposits, and (not least) endless churning by tunneling gophers, archaeological sites are now being destroyed at a phenomenal rate by the activities of mechanized society. Just in the last few months numerous cases could be cited in Southern California. A section of the rerouting of Highway 138 east of Cajon Pass carefully avoided a site studied by a University of California, Riverside, team a few years ago, but the new right-of-way would completely cut away another site found only when the proposed route was inspected by archaeologists. For the sake of public relations, a developer in Palm Desert wants to give a bedrock mortar ("grinding rock") on his property to a museum. A gracious gesture, perhaps, but moving the mortar would destroy far more evidence than the rock itself constitutes in or out of a museum. Every earth-moving enterprise destroys sites: subdivisions, pipelines, transmission lines, airport construction, mining (especially open-pit), gravel quarries, and dams. The proposed debris basin at the mouth of Tahquitz Canyon in Palm Springs would wipe out a remarkable complex of 20 or more small sites, the only surviving traces of a whole ancient community, intimately connected with the religious beliefs of the Agua Caliente Indians.

Especially in the desert, yet another modern activity threatens archaeological sites as well as other resources: the use of off-road vehicles for recreation. On Thanksgiving Day, 1971, 2,600 motorbikes took off from a point less than a mile from the San Bernardino County Museum's Calico

Early Man dig, near Yermo, to run some 200 miles to Las Vegas. From the starting point, they were supposed to head due north almost six miles before turning east, but for reasons best known to themselves they turned after only about three miles. In so doing, they cut a swath a quarter-mile wide or more straight through an area of very early archaeological sites stretching almost continuously for about eight miles. Thanksgiving, 1972, 2,600 bikes again took off for Las Vegas. This time, the starting point had been moved about eight miles east to avoid the site area damaged in 1971. However, the new starting area was right on yet another site! When I pointed this out to the Bureau of Land Management, the start of the race was moved back so that instead of starting on the site the 2,600 bikes merely ran right over it, following the route of an earlier, smaller race. Damage was thereby increased only about 300 percent, instead of the total devastation that would have resulted from starting the race from the original point.

Off-road driving has increased damage to sites in other ways. Because far

more people can now get out into the backlands, sites formerly protected by their sheer remoteness are now more vulnerable.The more noticeable kinds of site, especially pictographs and petroglyphs, are favorite targets for vandals. "Targets" can be taken literally: many pictographs have been used for shooting practice. And then there are people who can't resist adding their own touch to Indian rock art, especially their own initials in spray



paint. Still others decide that a particular piece would look nice in the fireplace they're building, so they chisel or blast it out, destroying everything around it, and carry it off.

Easier accessibility has also increased the activities of those with whom scientific archaeologists have been in running battle from the beginning: private collectors who simply want old things for their very own, who don't care how much evidence they destroy to get them, and who think that anything on public lands belongs to whoever wants to appropriate it. Archaeologists call such people "pothunters" and despise them with enthusiasm. However, besides those who know they are doing something that professional scholars object to, there are many people who "collect" without knowing that they are doing any damage and, in some cases, breaking the law.

The fact is that "arrowhead collecting" isn't quite the innocent hobby—suitable for Boy Scouts, like stamp collecting or birdwatching—that many people think it is. Arrowheads, bits of broken pottery (potsherds), pictographs, and other items are products of the ancient inhabitants of this land, who did not have writing and therefore have not left any historical records. The only way we can find out about them is from the traces their activities have left behind in or on the ground. Over the years, we have learned to figure out quite a bit, mainly by observing and recording things *exactly* as they were left by their original owners: where they are in the ground, how deep, in what layer of soil, close to what other objects, and in what relative positions. Archaeologists call this sort of information the "associations" of the objects they find. When association information is not recorded, most of the scientific value of an object is lost. And that is exactly what happens when people casually pick things up and take them home. The good old Sierra Club principle, "Take only photographs—leave only footprints," applies with even more force on archaeological sites. Unlike wildflowers, potsherds and the like *never* grow back under any circumstances, and modern additions to the scene confuse the record.

On public land, collecting artifacts without a special permit is prohibited by law. All federal lands are covered by the 1906 Antiquities Act (34 Stat. 225), which says that no one shall "appropriate, excavate, injure, or destroy" historic or prehistoric sites "or any object of antiquity" without official approval, subject to a fine of $500, 90 days imprisonment, or both. State law (Public Resources Code Sect. 5097.5) makes it a misdemeanor to damage or remove any archaeological, historical, or vertebrate palaeontological feature on public lands, including state, city, and county lands. Invertebrate fossils got left out, presumably so that an antiquities permit would not be needed to mine coal or quarry limestone. Most other states have

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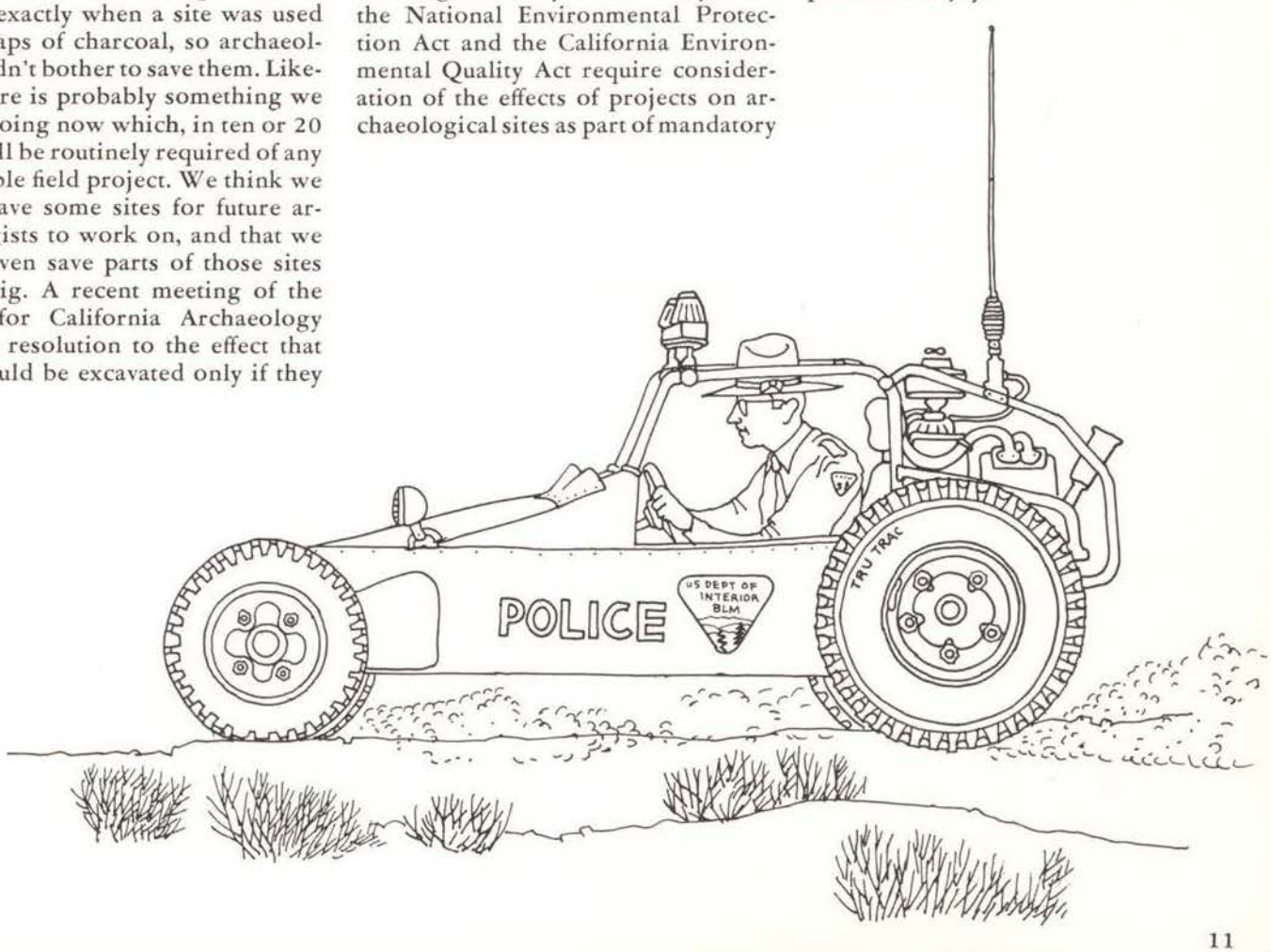
similar laws, and so do most other countries.

Even with permits, archaeologists themselves have become increasingly conservative about large-scale excavation and collecting. We don't rush out immediately to dig every site we find. We have long realized that our main means of investigation actually destroys the evidence: a site can only be dug once. When things have been removed from it, they can't be put back, and information that doesn't get recorded then is lost forever. It is as if we had a tape library with equipment that automatically erased every tape it played back, so that each one could be heard only once. We would then get very annoyed about people who insisted on being allowed to play the tapes for their own private pleasure. We would think twice about when to play each one: do we need to hear it now, or should we save it for some future date when it might mean more? So it is with archaeological sites: we assume that future archaeologists will have techniques, methods, approaches, and hypotheses to test that we have not yet thought of. Before carbon dating was introduced in 1948, nobody dreamed that it would be possible to find out exactly when a site was used from scraps of charcoal, so archaeologists didn't bother to save them. Likewise, there is probably something we are not doing now which, in ten or 20 years, will be routinely required of any respectable field project. We think we should save some sites for future archaeologists to work on, and that we should even save parts of those sites we do dig. A recent meeting of the Society for California Archaeology passed a resolution to the effect that sites should be excavated only if they are about to be destroyed or if the researcher has a definite and specific research purpose. The idea is that the evidence should only be disturbed for good and considered reason, to seek answers to carefully thought-out questions, and only when no other means of study will do.

With the rapid destruction of sites from many causes, it has become very difficult to save them for the future. Fortunately, we do have some laws to help, although more are needed, along with better enforcement of existing ones. Besides the laws already mentioned, others establish a national policy to preserve historic (and prehistoric) sites, such as the Historic Sites Act of 1935, the Historic Preservation Act of 1966, and Executive Order 11593 (Protection and Enhancement of the Cultural Environment, 1971). The Dam Sites Act of 1960 requires some investigation of sites that would be destroyed by construction of federally funded dams, so that at least some information is saved. Pending legislation (the Moss-Bennett Archaeology Salvage Bill, S 514, HR 296) would extend this requirement to *all* federally funded projects that might destroy sites. Finally, both the National Environmental Protection Act and the California Environmental Quality Act require consideration of the effects of projects on archaeological sites as part of mandatory environmental impact studies.

Archaeologists and conservationists have common interests. Sites are worth protecting in their own right for what we can learn from them about man's behavior in the past and his relationship to the environment. In the California desert, we can find out something about human adaptation to a particularly challenging environment, and to the changes this environment has undergone in the course of time. Since the people who lived there in the past not only lived *in* that environment but *off* it, surviving exclusively on its natural products, and doing so without seriously disturbing it—not even to the extent that agriculture does—we might be able to learn some very interesting lessons from them. Moreover, protecting sites protects the wildlife and scenery around them. The archaeologist has an interest in this, for he can learn much more about a site if it is preserved complete with its natural setting. The present ecology can tell us a lot about what opportunities the previous inhabitants had and what they had to contend with: but only if it is still there to study, as well as to explore and enjoy.



To: William Simon
From: Laurence I. Moss
Advice from the Environmental Advisory Committee

Since the initial letter from the Environmental Advisory Committee to Federal Energy Office Director William E. Simon, dated January 11, 1974 (and published in full in the February, 1974, Bulletin), *the Advisory Committee has most actively pursued its duties and has offered a number of detailed suggestions to the Director. The philosophy animating the suggestions is that the environment is where we all live, whatever our immediate requirements may be, and that thoughtful men with technological expertise can indeed push forward with the environmental goals laid down in recent legislation while still meeting the energy and resource challenges of the future.*

Space does not permit us to publish in full all of the important communications from the committee to Director Simon. Below, we present substantial parts and summaries of five documents, all of them striking right to the core of our pressing energy and environmental needs. Sierra Club members who would like to have a full copy of any of these letters may write to the Club's Washington office, 324 C Street S.E., Washington, D.C. 20003.

STRIP MINING

February 27, 1974

The environmental abuses of strip mining have long been recognized, and the need for new federal legislation to remedy these abuses has been widely accepted. . . . But pending strip mine legislation does not incorporate adequate environmental safeguards. This is of great concern to your Committee, particularly because stricter environmental provisions will provide necessary incentives for improving mining technology and will not adversely affect the nation's ability to produce adequate energy supplies.

The basic elements of your Environmental Advisory Committee's resolution are:

1. Establish adequate environmental protection standards for reclaiming the land surface and establishing vegetative cover after mining;

2. Prohibit strip mining where reclamation is not possible and in Wilderness Areas, Wildlife Refuges, National Parks, and National Forests;

3. Establish adequate enforcement mechanisms, such as requiring sufficient bonds for mining operators and adopting citizen suit provisions

4. Protect the rights of surface land owners where the government possesses the underlying mineral rights. . . .

Looking to the future, only a small amount of U.S. coal reserves are recoverable by strip mining, but a disproportionate fraction of the adverse effects of coal production are caused by essentially unregulated strip mining. Unless strong environmentally protective strip mining legislation is enacted now, millions of acres of lands may be irreversibly destroyed.

OIL SHALE DEVELOPMENT

February 27, 1974

. . . At the outset we emphasize several points which are critical to determining an appropriate course of action for FEO regarding oil shale.

1. Based on current technologies, oil shale is one of the most environmentally destructive energy resources to mine and to convert to usable energy. . . . It is relevant that its energy yield per ton of raw material is the least of all of the fossil fuel resources by almost an order of magnitude.

2. Very little is known of the relative environmental impacts of the various oil shale mining and retorting processes.

3. At this time, *in situ* production processes appear . . . to cause the least environmental harm. One reason for this conclusion, however, is that these processes are ones we know the least about. . . .

4. Water quality and vegetative cover are probably the most critical factors for oil shale development: it is unclear if the impacts on these resources can be limited to tolerable levels. . . .

5. Given these facts it would be a very serious mistake to implement a massive, immediate, speeded-up development program on the assumption that the environmental, economic, and social costs of oil shale production are tolerable. . . . Our efforts should be directed in obtaining supplies of *clean energy*.

The letter goes on to suggest that the FEO should not only monitor the development of in situ *technology, but should assist in research and development as necessary, particularly in the area of environmental protection and reclamation, and that the Office should particularly study the costs of shale production as compared to alternative energy sources.*

OUTER CONTINENTAL SHELF OIL AND GAS LEASES

February 28, 1974

The President's January, 1974, Energy Message proposed "to increase the acreage leased on the Outer Continental Shelf (OCS) to 10 million acres beginning in 1975," a 10-fold increase in federal OCS oil and gas leasing over 1972 and 1973, which were themselves years of substantially increased leasing. If this leasing should occur without reform of the federal OCS oil and gas lease management system, and adequate analysis of environmental impacts and examination of alternatives, the nation runs a substantial risk of paying too high an environmental cost for the oil and gas.

In calling for a reform of the lease management system the recommendations point out that studies have shown "that the federal government has not developed an adequate management system for federal OCS oil and gas leasing activities: 1) Performance standards are non-existent or inadequate; 2) Inspections are less frequent than required by Department regulations; 3) Inspection procedures are inadequate; 4) Action is rarely taken against an operator for deficiencies discovered.

Regarding the need for adequate environmental impact studies, the letter says, "We have the strong impression that the decision to increase substantially OCS oil and gas leasing has already been made and that the planned studies have little likelihood of affecting any decision. Moreover, the type of studies necessary to support a decision to implement the 10-million-acre leasing proposal in 1975 cannot be completed in the few months available in 1974."

NON-RETURNABLE BEVERAGE CONTAINERS

March 11, 1974

In our letter to you of January 11, 1974, setting forth our initial views and recommendations, we stated that the use of non-returnable beverage containers should be phased out. We would now like to reaffirm that recommendation and present supporting information.

From the point of view of FEO's prime concern, the important fact is that a shift back to returnable containers will save the energy equivalent of 131,000 bbl per day of gasoline. This estimate is based on a study by the Midwest Research Institute; another study by Dr. Bruce Hannon, of the Center for Advanced Computation of the University of Illinois, produces essentially the same result. It is based on conservative assumptions.

An energy saving of this magnitude is obviously significant, comparable to the savings in lowering the nationwide speed limit to 55 mph or converting many powerplants from oil to coal. Morever, unlike the latter action, which according to a study by the American Public Health Association will shorten the lives of thousands of people, the adverse effects are few and manageable. A loss of jobs in the container manufacturing industry will be more than made up by

Continued on page 31

Administration vs. Visitation

People, Parks, & Policy

SCRATCH A WELL-TRAINED employee of the Department of the Interior and, instead of saying "ouch!," he will most likely chant "Parks are for the People!" Never in the history of the federal service has a cliche become more ingrained, more instinctive, or more meaningless. But if you probe more deeply into the agency corpus, you reveal the proposition in its entirety: "Parks are for the People, but not too many parks, and not for too many people."

Here in the Great Heartland of America, where the amber waves of grain crash against shorelines of barbed wire, among the most exciting prospects for land preservation are areas adjacent to our huge metropolitan regions, enclaves where the imprint of our urbanism has remained small. Chicago has the Indiana Dunes; Cleveland, the Cuyahoga River Valley; Minneapolis, the St. Croix River; and so on. It would be reasonable to expect that the National Park Service would be excited about the preservation possibilities these areas offer, that the challenge of maintaining natural beauty, while still opening the areas up as a haven for the cities' crowded throngs, would be irresistible. Sorry, no dice: not these parks; not for these people.

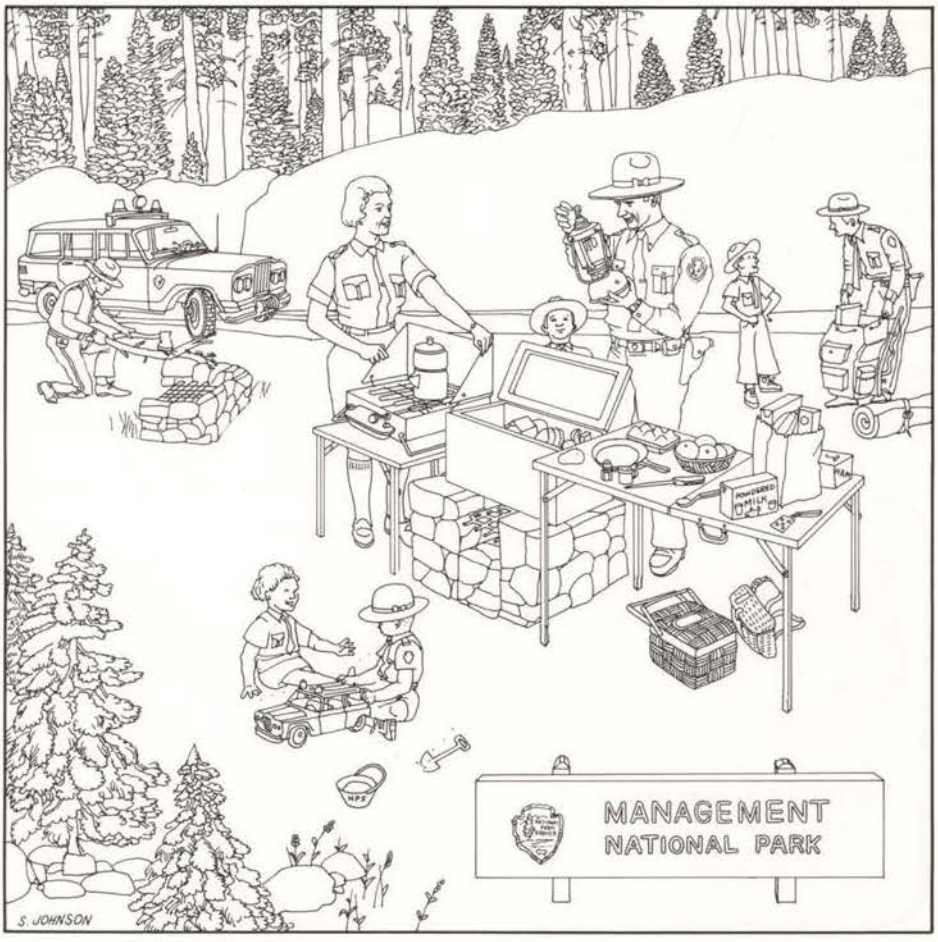
The National Park Service has been hostile to each of these areas, a hostility that apparently will infect every imaginative park proposal within a half tank of gasoline from a major urban center. Our main battleground may be in the Midwest now, but anyone interested in the Santa Monica Mountains, for example, had better pay attention.

The St. Croix Scenic River forms the border between the states of Minnesota and Wisconsin, and is actually within commuting distance of the Minneapolis-St. Paul urban centers. It has suffered a minimum of disturbance, and the upper stretches remain a prime canoe stream, while the lower reaches still remain pastoral and serene.

When a proposal to include the lower St. Croix in the federal Wild and Scenic Rivers System was pending before Congress in 1972, the bill had the support of both states' congressional delegations, both states' governors, the vast majority of local communities and residents, and virtually all citizens' organizations: the only significant opposition came from the National Park Service and the Department of the Interior. In spite of that opposition, a compromise was worked out, with about 25 miles of the Lower St. Croix to be protected by the National Park Service. The measure was passed by the Congress in late 1972.

In early 1974, however, the Park Service wanted to give more than half of that away because the cost estimates provided Congress by the department proved grievously faulty: less than $8 million had been authorized, and it is now estimated that $18 million will be required. Instead of immediately returning to the Congress for more money, the Park Service decided that it would preserve only half the river; the lower 17 miles were discarded, thus flouting the will of Congress, and the two states were informed that they themselves could save the river if they chose.

The Indiana Dunes presents a comparable situation. The original Indiana Dunes National Lakeshore was authorized in 1966, and is a politically sewn-together patchwork quilt that attempts to satisfy environmentalists and steel companies at the same time. Starting in 1971, Congressman J. Edward Roush has led the battle in Washington to expand the Lakeshore to include the many areas of outstanding natural significance that had been left out five years before. Action has been held up ever since, because the Department of the Interior doggedly refuses to submit a report on the legislation. Word has leaked out from the bureaucracy,



however, that the report will recommend an increase of only about 950 acres, less than 20 percent of the area that deserves to be protected. It is also significant that the department's recommendation will apparently not focus on the intrinsic merits of the lands involved, but will only support those parcels that will make administration of the lakeshore more convenient.

The Cuyahoga River between Cleveland and Akron has carved a deep valley into the flat northern Ohio landscape. Amazingly, this valley retains a generally primitive aspect, and has innumerable features of scenic, natural, and historical significance. Citizens' groups, the state of Ohio, local governments and park boards, and numerous members of the state's congressional delegation have carefully developed a proposal for a 15,000- to 20,000-acre Cuyahoga Valley National Historical Park and Recreation Area. This proposal would preserve the natural and historical aspects of the valley, would permit greater visitation to the many features of interest, and would enable the small communities to maintain a bucolic and pleasant style of living.

At a March 1 hearing of the House Subcommittee on Parks and Recreation, only one dissent was given to the concept of the park. Director James Watt of the Bureau of Outdoor Recreation, acting as flack man for the Park Service, conceded the outstanding qualities of the area, and then turned around to argue that the state should bear the responsibility, with federal assistance coming only in the form of Land and Water Conservation Fund Grants. (He was immediately countered by William Nye, the Ohio Director of Natural Resources, who testified that there is no way the state can afford to acquire the land in a timely fashion, if it has to rely on LAWCON funding schedules.)

A common theme runs through these three cases, as well as other cases that could be presented. The National Park Service has lost its nerve. Avoiding "administrative problems" is the principal criterion by which the department now judges a proposal. Irregular boundaries, industrial pressures, inholdings, easement rights, and visitation from people other than the purest pukka-sahib Winnebago types, are all "administrative problems," and the department will pass the buck to any stray taker it can find.

The idea of preserving an area that still has people living in it, where administration will rely on easement acquisition and compatible zoning, as well as on fee-simple acquisition, and where the goal is to protect a cultural ambience as well as to preserve nature and provide recreation, presents a creative hurdle that is simply beyond the bureaucracy. To the Park Service, a national park is square, large, entirely owned by the federal government, and has few enough points of access that it can put up toll gates. Above all, it is empty.

Needless to say, there are few, if any, areas that meet this standard near our metropolitan regions, so there will be few, if any, national park proposals of this kind supported by the department. There is an irony in this; on August 1, 1971, Secretary of the Interior Morton issued a directive entitled "A Second Century of National Parks," which stated:

"One of the great social needs of America in the years ahead will be to provide refreshing recreational opportunities to the city dweller . . . we must identify—and create—parks where people need them . . . utilizing the experience of such recent urban proposals as the New York Gateway project, the National Park Service should develop a set of criteria for the establishment of national recreation areas in urban environments.

Times change. At the March 1 Cuyahoga hearing, Director Watt implied that Gateway, and its western counterpart, the Golden Gate National Recreation Area, were failures from the federal government's point of view, and he spoke of the federal government "divesting" itself of recreational properties that it no longer wished to handle.

The standard excuse used by Watt and others for ducking problems and for refusing to exercise imagination is the self-serving "national significance test." Apparently, unless an area has the world's tallest mountain (which is in Asia), or the deepest canyon (which is in the western Pacific Ocean), it is of no more than local significance, and the National Park Service and Bureau of Outdoor Recreation simply cannot be bothered. That millions of urban residents would use an outstanding national park facility, which would not come into being except under federal auspices, is unimportant.

It is also unimportant that people in fact do travel some distance in order to enjoy nationally significant areas, even if these areas do not contain any of the nation's largest natural or manmade features. If Mr. Watt doubts that city dwellers cross state lines to enjoy natural areas less imposing than the Grand Canyon, he should come to northern Wisconsin on a summer weekend and compare the number of times he sees "Land of Lincoln" on license plates, as opposed to "America's Dairyland."

It would also be interesting to learn why Ohio's Cuyahoga River Valley, with its rich natural heritage and broadly important historical features, is not considered to be nationally significant, while the home of William Howard Taft, also in Ohio, is administered by the National Park Service. The question answers itself: there are no "administrative problems" involved in managing the latter, and indeed, better yet, there are probably no visitors.

It should not be inferred, of course, that the Park Service is meeting its obligations in a responsible way even in the western parks, where it feels more comfortable: quasi-theological objections to wilderness and a penchant for public-works gimmicks such as tramways, are working to assure that those parks also fail to live up to their promise. Indeed, the only effort that the Park Service seems to be attacking with energy is the American bicentennial celebration, a bogus Potemkin Village of a program that exalts the trappings and baubles of our national mythology, while ignoring the genuine spirit of our revolutionary experience.

Nevertheless, we in the eastern cities want our colleagues in the wide open spaces to know that their frustrations do not arise from the National Park Service devoting its energies to establishing parks in metropolitan areas, for the Park Service could not be less interested. And the next time one of our land's guardians in green clears his throat, solemnly catches our attention with that pregnant pause that almost always presages an unusually vacuous sentiment, and intones that "Parks are for the People," we should know that it is all a lie.

Parks are for the bureaucrats. The people will have to fend for themselves.

Jonathan Ela

WASHINGTON REPORT

Brock Evans

The Levers of Change

IN EARLY MARCH, President Nixon signed into law the $1.3 billion omnibus water projects bill. The bill not only authorized new destructive projects, but also expressly forbade the application of higher and more realistic interest rates, as recommended by the National Water Commission. In one stroke, millions of dollars' and years' worth of labor by the commission had been negated.

Last year, the President vetoed the water projects bill, on the grounds that it was inflationary. This year he signed essentially the same bill. What is the difference between this year and last year? Everyone knows, and the subject of Watergate cannot be avoided here in the Capitol. The feeling is that for certain there will be a resolution of the matter this year. The House Judiciary Committee and the White House seem to be lock-stepped into some kind of fatal minuet; everyone senses that the process will now grind its way inexorably to a dreadful, yet fascinating, conclusion.

The politeness of the lawyers' language does not obscure what is actually happening. It is increasingly apparent that the President is more and more beleaguered, and isolated politically. And, as is natural and human, he seems to draw more closely to those whom he feels are his natural allies: the business interests that have so often supported him in the past.

All this is extremely relevant to what happens to environmental legislation, because apparently the President does not perceive that taking strong stands on environmental matters will help him in his own fight for political survival. Thus in recent weeks, the Administration has come out even more harshly and strongly against environmental measures, apparently in a desperate search for more anti-impeachment votes.

This apparent political decision not only explains the approval of the once-vetoed water project legislation. It also explains the incredible Administration flip-flop on the land-use bill in late February. This landmark legislation passed the Senate overwhelmingly in the fall and was reported out of the House Interior Committee by a large margin. It then went to the Rules Committee where everybody expected it to be sent promptly to the floor for debate. However, the liberty lobby and business interests strongly opposed to the legislation conducted an all-out assault on the Rules Committee, which postponed consideration of the bill "indefinitely," in a 9-4 vote.

President Nixon has said for years that getting land-use legislation was one of the major goals and priorities of his Administration. His spokesmen have supported the strong land-use legislation which moved through the legislative process. Thus, it was a great shock when House minority leader John Rhodes advised the Rules Committee that the President "had changed his mind," and no longer wanted to see the land-use bill. This information influenced the Republicans and conservative Democrats on the Committee enough to assure the final vote. The Nixon switch apparently was engineered by Representative Sam Steiger (R-Arizona), the most pro-business representative on the House Interior Committee, who approached the President directly and informed him bluntly that he could not count on conservative support in the upcoming impeachment proceedings unless he reversed himself.

About this same time, the Administration was working with the coal and utilities industries to draft a substitute bill for the stripmining legislation being considered by the House Interior Committee. It was incredibly weak, and, if adopted, would totally gut the stripmine legislation, insuring the continued ruination of the earth. The Administration threw its full weight behind it in the first day of markup late in February, and its substitute bill failed by the thinnest of margins, 21-19. Now the Interior Committee is grinding away in endless markup sessions, with the Administration/conservative/business forces offering weakening amendments at every turn. So far, they have all failed, narrowly.

Soon to surface from the Administration will be a host of predicted far-reaching proposals to seriously gut and weaken the Clean Air Act, which will expire on June 30th of this year. Hearings on its extension will soon begin in the Senate and in the House, and the Administration is expected to offer a package that will authorize widespread conversion from oil to coal and extend the deadline for compliance with clean-air standards until 1984. Finally, on March 4th, the Environmental Protection Agency, capitulating to intense political pressure from the chemical and timber industries, authorized widespread use of DDT to "control" the tussock moth in eastern Oregon.

What does all this mean? It is apparent that a fundamental political choice has been made by the President: that in his fight for political survival, he is going to abandon any meaningful protection of environmental interests. He is going to give maximum support to business interests, even if, as in the water projects and land-use bills, it involves a complete reversal of his previous policies. It means also that the Administration still has considerable power to do good or harm, to promote the saving or destruction of the American earth.

But we will prevail anyway. A powerful coalition of environmentalists and state and local governments ought to be able to reverse the outrageous Rules Committee action. A good stripmining bill has so far survived. The eastern wilderness legislation should be out of the Senate within the next few weeks; House hearings have been promised. There should also be some action on the BLM Organic Act, on final action to preserve Big Cypress Swamp, and a host of other bills.

What many in Congress do not understand is how deeply the environmental movement is buried in the grass roots of the nation. In a recent trip to the South, I was impressed again with this fact. Everywhere, our members were working, and everywhere there was a love for the land and a deep commitment to save it. It is this dedication and this feeling for the earth that our opponents can never understand, but it is precisely because of this that the present obstacles will be overcome.

CAPITOL NEWS

National Outdoor Recreation Plan: good elements and bad

NEARLY A DECADE and more than $8 million after it was begun, the Interior Department's national outdoor recreation plan has been released to the public. Conservationists said the statement contained both good and bad elements.

"As a description of what *is*, it's fair," said Sierra Club Assistant Conservation Director Charles M. Clusen. "But it's not really a plan."

The 90-page booklet, "Outdoor Recreation—A Legacy for America," (stock number 2416-00066) may be purchased for $3.45 from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402.

"Divestiture appears to be a real danger," Clusen said. The plan directs that "orderly federal divestiture of lands and waters not of national significance" be undertaken particularly where such areas are used mostly by local residents. "Institutions closer to the population are in a better position to provide a recreation opportunity which would satisfy the demand of the predominant users," the statement says.

"When divestiture is not advisable, the federal government should then consider turning over the management of national areas to other jurisdictional institutions within the vicinity," the document said, reflecting earlier reports of the transfer of management of national wildlife refuges from the federal Bureau of Sports Fisheries and Wildlife to a number of state agencies.

Clusen's reaction was, "We thought this country had long ago learned its hard lessons about giving away vast acreages of the public domain without considering the environmental and social long-term needs for those resources within the framework of a long-range plan. We're finding that it's just too expensive to buy back public land we've given away. It looks like another indication that we have another administration that wants to dismember the public domain even further."

The plan directs all federal land-managing agencies in the next three years to identify those areas that should be submitted to Congress for consideration as wilderness—an administration commitment with which conservationists were particularly pleased.

In recent years conservationists have been pressing for such reviews, particularly in lands in the West under the jurisdiction of the Bureau of Land Management.

Conservationists were also happy with the inventory to be undertaken by the Bureau of Sport Fisheries and Wildlife for developing a plan to protect those wetland areas of highest wildlife and recreation value, and the encouragement to be given states to inventory and analyze lakes to better identify those with high recreation, natural, fish, and wildlife values.

Forest Service alters rules for national forest mining

Increasing pressure from mining interests seeking to discover, mine, and process more minerals within the U.S. has moved the Forest Service to propose changes in its regulations for mining on about 140 million acres of the National Forest System. The Forest Service reportedly hopes to implement the regulations by June.

Mild as conservationists feel the regulations are, they are apparently disturbing to some parts of the mining industry. The rules incorporate a number of proposals suggested by the Sierra Club in 1971.

The Sierra Club has submitted additional proposed changes, including calling for an explanation of why tree "severance or removal for clearance" should be exempted from the requirement of "sound principles of forest management," clarification of what information in a mining operator's plan he can withhold from the public (conservationists feel some of this information is necessary for public review), and giving persons and groups other than mining operators the right to appeal decisions of the national forest supervisor in reviewing mining operations.

Because the mining industry is gathering support opposing the implementation of these regulations, letters are needed urging that the regulations be promulgated immediately. Send letters to Chief John McGuire, U.S. Forest Service, Washington, D.C.

Federal land transfer could threaten wilderness

In a proposed transfer that could result in the loss of more than 1.5 million acres of potential wilderness, the Bureau of Land Management has asked for control over two national wildlife ranges in Nevada and Montana now under the jurisdiction of the Bureau of Sport Fisheries and Wildlife.

BLM Director Curt Berklund proposed that BLM take over management of the Charles Sheldon and Charles M. Russell ranges. Conservationists have opposed the transfer.

"Because BSFW is studying both ranges for possible inclusion in the National Wilderness Preservation System," said Sierra Club Assistant Conservation Director Charles M. Clusen, "this would be a regressive move."

Five national wildlife ranges withdrawn by presidential order during the 1930's to protect threatened wildlife species' natural habitat are administered by the Bureau of Sport Fisheries and Wildlife. They are Kofa (660,000 acres) and Cabeza Prieta (860,000 acres), in Arizona; Charles M. Russell (950,000 acres), in Montana; and Charles Sheldon (550,000 acres) and Desert (1.6 million acres), in Nevada.

Fish and Wilflife study teams have proposed modest boundary additions from BLM-administered public lands for inclusion in their wilderness recommendations. Field hearings on the additions have been delayed until the problem of "dual administration" is resolved.

Clusen urged conservationists to write Secretary Rogers Morton (U.S. Department of the Interior, Washington, D.C. 20240) in support of retaining all present wildlife ranges in the National Wildlife Refuge System.

Support EPA guidelines on power-plant waste heat

The Environmental Protection Agency is soliciting public comment on power-plant effluent guidelines designed to eliminate discharges of waste heat into receiving bodies of water by 1980.

The guidelines, published March 4, would prohibit new power plants from using once-through cooling techniques, and would require existing plants to install closed-cycle systems by deadlines that range from 1978 for larger plants to 1980 for smaller ones.

The guidelines become official 90 days after March 4, so conservationists who wish to support EPA's strong action should write their views to EPA Administrator Russell Train.

The guidelines specify that the required "best practicable control technology," which takes into account economic as well as environmental factors, include such abatement strategies as cooling towers or lagoons.

The guidelines were originally scheduled to be published last October, but pressure from the White House dissuaded EPA from taking a strong stand then. Last fall, the Sierra Club and other environmentalists released to the press a leaked copy of internal White House correspondence demonstrat-

ing how much economic and political influence the electric-power industry wielded in opposing efforts to stop thermal pollution. Conservationists were heartened that EPA bucked that opposition to implement tough guidelines.

EPA buckles on DDT in tussock moth battle

Despite evidence presented at Environmental Protection Agency DDT hearings by conservationists and others, EPA granted the Forest Service's request to use up to 500,000 pounds of DDT to kill tussock moths on 650,000 acres of Northwest forest lands.

EPA's decision directs the Forest Service to conduct research on alternative control agents before requesting further use of DDT next year. This year, the pesticide will be used, as in the past, on a moth population already declining because of natural causes.

At the EPA hearings, the overwhelming scientific data presented did not support the use of DDT, but private timber and chemical interests teamed up with the Forest Service to pressure the EPA into allowing DDT use. They had prepared legislation to take jurisdiction over DDT away from EPA and turn it over to the Department of Agriculture.

"The proponents of DDT have done no public service by creating a state of public confusion on this issue that borders on hysteria," said Sierra Club Northwest Representative Douglas Scott who had testified at the EPA hearings in Seattle.

"Reports of tussock moth damage have been greatly exaggerated, but the very real and long-lived dangers of DDT have been virtually ignored," he said, in urging a flat rejection of the present application.

"The tactics of the more extreme pro-DDT forces have engendered a tendency to divide us up into those in favor of DDT versus those against DDT, with the strong implication that being against DDT is equivalent to being *for* the tussock moth.

"We must remember that DDT is an environmental villain, tried and convicted only after the most exhaustive scientific proceedings," he said.

"There have been infestations of the tussock moth, but not as serious, or as widespread, or as damaging to commercial timber resources as the public has been led to believe.

"The truly serious 'infestation' has been the eruption of misinformation, pseudo fact, and general hysteria which have enveloped this issue. In all of this, we have endeavored to avoid inflammatory actions and to stress that the problem is a scientific one which should be treated as such."

BEQUESTS, TRUSTS, AND MEMORIALS

THE CLUB would like to remind its members and friends that bequests to the Club can contribute immeasurably to the support of our work through the years. Our tax attorneys will be glad to consult with you and your legal adviser as to the best method of framing your will in order to serve your interests and meet the Club's needs. This includes advice on the use of trusts and insurance policies to benefit Club programs through one of our two related tax-deductible organizations.

If you desire information, please contact the Executive Director at 1050 Mills Tower, San Francisco, CA 94104.

It may also be useful to remind you that memorial gifts are frequently made to assist our program. These are carefully acknowledged to the family of the person so remembered.

NEWS VIEW

House subcommittee enlarges Grand Canyon National Park

CONSIDERING THAT THE GRAND CANYON is by far the most awesome gorge on the planet, it is unfortunate that over the past several years conservationists have had to come to its rescue so often. First came the preposterous dam proposals of the early '60's, followed more recently by further attempts to cash in on the Grand Canyon. As one would expect, motorized outfitters on the Colorado have opposed the idea that the river should be managed as wilderness. Developers just outside the South Rim entrance are trying to get cheap water from the park in order to enable them to build their second-home communities on its very boundary. Other interests have, for their various reasons, repeatedly pushed for deleting portions of the park.

So it is refreshing to report that Congress seems close to passing a bill that would stop such incursions by expanding the boundaries of the park and requiring the Park Service to conduct a wilderness review within two years from the time of the passage of the bill. The Grand Canyon has rarely been treated with such respect as it was on March 4, when the House National Parks and Recreation Subcommittee met to consider S.1296. Subcommittee chairman Roy Taylor emphasized that the committee was considering a *park* bill, not a dam bill or grazing bill or whatever other kind of bill some people might want it to be. Even so, a few members resurrected the old proposal for the Hualapai Dam in the lower canyon, but this sideshow was ignored.

As it now stands, the bill calls for a Grand Canyon National Park that would include the entire main gorge from the Paria River to the Grand Wash Cliffs, plus the tributary canyons and adjacent plateaus. By adding 221,000 acres to the Senate-passed bill, the subcommittee took a big step toward approving an ideal park boundary, which would enclose 1.5 million acres. The additions made by the subcommittee include much of the Shivwits Plateau; the lower Colorado River; and the Kanab, Parashont, Andrus, and Whitmore canyons.

When Senator Barry Goldwater first introduced S.1296 in the Senate, conservationists opposed the proposal for turning the Kanab Plateau section of the Grand Canyon National Monument over to grazers and ranchers. Fortunately, Senator Goldwater changed his mind at the last minute, so that the Senate Interior Committee passed the bill without the Kanab deletion. Senator Goldwater's substantial influence secured the bill's passage in the Senate, and Arizona congressman and environmentalist Morris Udall has pushed hard for the bill in the House, with the welcome assistance of subcommittee members Lloyd Meeds of Washington and Jonathan Bingham of New York.

The subcommittee has now reported the bill to the House Interior Committee, which must pass on the legislation before it goes to the full House. All Interior Committee members and, for that matter, all members of the House need to know that conservationists are behind the version of the bill reported by the subcommittee. (Sam Steiger of Arizona has said he will resume the moribund dam proposal when the bill comes before the full committee, so congressmen should be told that environmentalists are as opposed to this proposal today as they were when it first surfaced a decade or more ago.) If your congressman is on the National

EDITORIAL

Laurence I. Moss

The Rubber Yardstick

SOME HAVE SUGGESTED that the way to solve our energy problems is to give the government an operational role in the production, distribution, and marketing of fuels and energy. A federal oil and gas corporation, the argument goes, will be more responsive to the public interest and will serve as an accurate yardstick of the true costs of energy.

Fortunately, it is possible for us to evaluate these claims with knowledge born of experience, since a number of prototype federal energy agencies have been in existence for years. There is the Bureau of Reclamation, which flooded the unique, irreplaceable natural sculpture of Glen Canyon and then pushed hard to obtain authorization to build other dams in the Grand Canyon. There is the Corps of Engineers, now engaged in building Teton Dam on the Teton River as an encore to the completion of Dworshak Dam on the North Fork of the Clearwater River. These projects, both in Idaho, have destroyed or will destroy much scenic beauty, wildlife habitat, and increasingly scarce free-flowing rivers.

Perhaps the most accurate prototype of what a federal energy corporation would likely become is the Tennessee Valley Authority. TVA generates its power from a variety of sources—coal, hydro, and nuclear—and engages in distribution and marketing as well. A look at its recent activities is therefore of particular interest.

TVA is one of the largest purchasers of stripmined coal. It says it favors rehabilitation of the land, but to date has not thrown its considerable influence behind effective federal legislation to require it.

Not that TVA has been inactive on Capitol Hill. It has been lobbying hard for amending the Clean Air Act to permit "intermittent control systems" and tall stacks as an acceptable pollution-control strategy in place of stock gas scrubbers and other pollutant removal systems. Intermittent control means that the polluter in question promises to reduce emissions, by switching fuels or by shutting down, during those hours and days during the year when atmospheric conditions would bring the pollutants right back to the ground. Aside from obvious problems of enforcement, intermittent control would sanction substantial increases in regional and national emissions of sulfur dioxide. Even though that sulfur dioxide might not sink to ground level in the near vicinity of the tall stacks, much of it would be converted, by oxidation in the atmosphere, to acid sulfates. There is accumulating evidence that acid sulfates, even in concentrations as little as one-tenth of the national ambient air quality standard for sulfur dioxide, impair human health. If intermittent control is allowed, potentially dangerous concentrations could be greatly exceeded over wide areas of the country.

Quite apart from the question of whether the law should be changed, TVA has said that even if stack gas scrubbers were available to reduce emissions, it would not use them because doing so would increase its costs. Apparently it believes itself to be above the law.

Largely because TVA benefits from subsidies not available to private utilities (such as exemption from federal income taxes) its rates for power are among the lowest in the country. The per-capita use of electrical energy on its system is more than twice the national average. Moreover, it has thus far shown little or no interest in revising its rate structure so that users of electricity pay at least the replacement cost of obtaining that energy and capacity. Users of large quantities of energy on the TVA system now pay less than one-half of that cost. And TVA sets its own rates: being a government agency and therefore supposedly motivated by the public interest, it is not required to submit its proposals to another body for review.

TVA's latest move on Capitol Hill was to ram a bill through the House that would, in effect, use U.S. treasury funds, *i.e.* tax revenue from the nation at large, to pay for pollution control on the TVA system.

In short, TVA serves as an excellent yardstick for assessing whether federal energy corporations are likely to act in the public interest, safeguard environmental quality, and be responsible to changing conditions and values. The answer is no. They will surely adopt the same production-oriented, cost-minimizing methods displayed by private corporations and, in some respects, will be more difficult to regulate and control.

As for the question of whether a federal corporation would serve as an accurate yardstick of the true costs of energy, the answer is also no. It would be a rubber yardstick. And a dirty one at that.

Parks and Recreation Subcommittee, thank him and ask him to hold the line against destructive amendments. If he is on the full Interior Committee, inform him that the subcommittee bill is an excellent one, and urge him to vote for it without change. Citizen action kept the dams out of the Grand Canyon a few years back, and now, citizen support can help Congress save the canyon once and for all.

Court halts timber sale pending impact statements

A Nixon Administration order to increase timber sales in national forests by a billion board-feet for 1974 is a major federal action significantly affecting the environment, and therefore requires the Forest Service to file an environmental impact statement, a federal district court judge ruled in Washington.

The National Resources Council, The Wilderness Society, and the Sierra Club had sued Agriculture Secretary Earl Butz and Forest Service Chief John McGuire, asking for a summary judgment that the Forest Service had in fact violated the National Environmental Policy Act by not filing a statement before beginning the increased-sales program. The groups also asked for an injunction barring the Forest Service from further implementing the increase until an impact statement is filed. Both requests were granted by the judge.

The environmentalists said the sales increase could lead to overcutting in the national forests, could threaten long-range timber productivity by violating sustained-yield principles, and could lead to environmental damage from increased cutting in ecologically fragile areas.

More time for Alaska comment

Environmentalists who still want to comment on the Interior Department's draft environmental impact statements for 28 proposed national parks, wildlife refuges, ranges, forests, and wild and scenic rivers in Alaska now have more time to do so.

In response to public demand, the Interior Department extended by 120 days the review and comment period on its proposals, made under the Alaska Native Claims Settlement Act of 1971.

Closing date for comments on Aniakchak Caldera National Monument, Kobuk Valley National Monument, Alaska Coastal National Wildlife Refuge, Selawik National Wildlife Refuge, Birch Creek National Wild River, Beaver Creek National Wild River, and additions to the Chugach National Forest will be June 24. Closing date for 21 others will be July 22.

REGIONAL REPS REPORT

Southern California: Act Now for Mineral King

DURING THE LATTER PART OF 1971, the Sierra Club conducted a national survey of its membership in order to better understand the interests of the general member. Much worthwhile information was developed, but certainly one of the most interesting points was a rather detailed view of the membership's assessment and support of our conservation campaigns. There was strong support for opposition to the SST, for saving the Redwoods and the Everglades, and for defending the Grand Canyon, but the issue that registered the greatest approval from the membership was the Sierra Club's opposition to the development of the Mineral King Valley in the southern Sierra Nevada.

During the late 1960's, the U.S. Forest Service and the Walt Disney Corporation teamed up on a proposal to create an enormous winter and summer commercial development in Mineral King. This sub-alpine valley is surrounded by Sequoia National Park on three sides and the proposed wilderness of the Little Kern River Canyon on the fourth. The valley has been designated as a National Game Refuge since 1926, but the management of the area has been inexplicably left to the U.S. Forest Service, rather than transferred to the Bureau of Sport Fisheries and Wildlife in the Department of Interior. The Forest Service's lack of concern for the wildlife values of Mineral King is clearly reflected in their acceptance of a proposal to develop the valley.

Years ago, the Club filed legal action to prevent the proposed construction. Yet, because of legal maneuvering by the Forest Service, the case has never been tried, though the planned development in Mineral King is today further from fruition than it was in 1969. The National Environmental Policy Act, with its requirement for a thorough environmental analysis of any proposed projects, is now law; the proposed state freeway into Mineral King has been deleted from the California highway system; the Department of Interior has indicated they are no longer in favor of allowing a major transportation artery across Sequoia National Park; and political opposition to the development has grown with time.

There are numerous bills before Congress (HR 9845, 8783, 5272, 3089, 8737, 6823, 5752, and 4765) that would make Mineral King part of Sequoia National Park, in order to protect its scenic and natural values, and to prevent commercial exploitation of the area. At last count, 18 California congressmen and 23 congressmen from other states were sponsors of such legislation, a substantial show of support for our position.

It is now time that the appropriate House committee held hearings on the bill, and a substantial push by interested citizens to move this legislation through Congress is needed now. The addition of Mineral King Valley to the park would mark the successful culmination of one of our longstanding conservation campaigns. Victory is within our grasp if Congress senses enough popular support for our position.

Please write to:

Roy A. Taylor, Chairman
National Parks and Recreation
Subcommittee
Committee on Interior and Insular Affairs
House Office Building
Washington, D.C. 20515

Ask that he schedule hearings on the bills to place Mineral King in Sequoia National Park. Indicate that there are at least 43 sponsors and co-sponsors of the legislation. The matter has been before Congress for a substantial period, and the time has come for Congress to decide on the issue.

Please send a copy of your letter to your own congressman and ask that he support your call for hearings on this matter. If you now join with others in asking for legislation to protect Mineral King, we may finally be able to end our long campaign on a note of victory.

Larry E. Moss

WILDERNESS SCRIPT AVAILABLE

COPIES of the script for the multi-media presentation, *Wilderness: the simple and the complex*, by Phil Pennington, which opened the 13th biennial Wilderness Conference are available from Phil Pennington, 3066 S.W. Flower Terrace, Portland, Oregon 97201: $.50/copy is asked to cover costs. The script is accompanied by extensive footnotes and references, which cover in considerable depth a variety of topics on which the presentation is based.

Design Without Nature

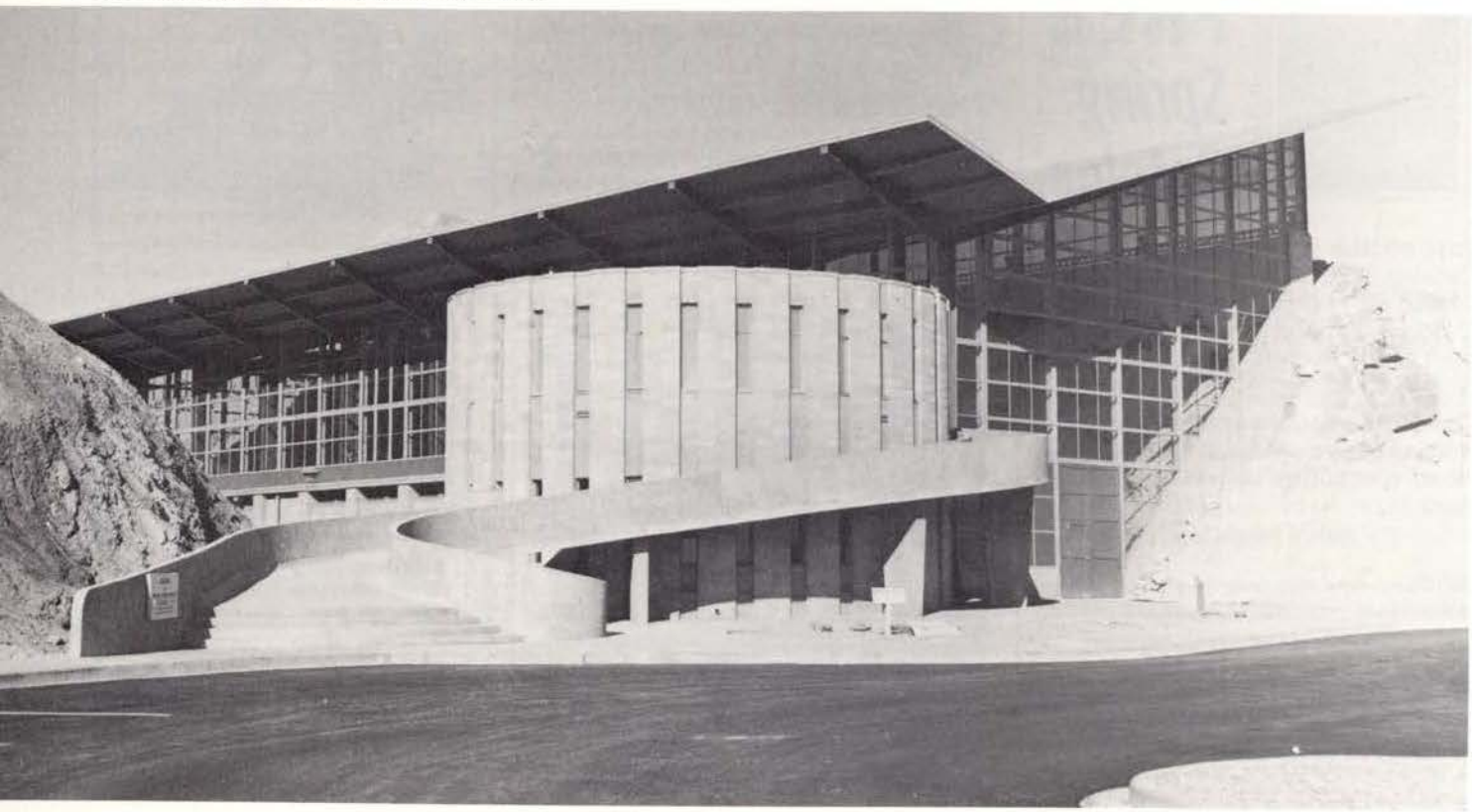
DEVEREUX BUTCHER

BACK IN 1952, we first began to notice an unfortunate trend in current national park architecture toward ever-larger buildings of increasingly intrusive and inappropriate design. Most of the new park structures called attention to themselves and detracted from the natural setting, which, one would think, they were ideally intended to enhance. They failed to reflect the ideals and function of our national parks, celebrating nothing so much as their own ingenuity. With the idea that something should be said before the trend got out of hand, I published a critical article entitled, "For a Return to Harmony in Park Architecture," which was published in the October-December issue of *National Parks Magazine.* The article stimulated some constructive thinking inside the National Park Service, and people on the outside lauded the views expressed. Since then, there has been no justification for our early optimism that the Park Service might return to a more humane and appropriate style of architecture.

In the January, 1971, issue of the *American Institute of Architects Journal,* there appeared a well-written article entitled, "Our Park Service Serves Architecture Well," by Robert E. Koehler, editor. The piece was lavishly illustrated with views of a number of fairly recent park buildings, most of which—though not all—seemed to perpetuate the poor taste I had criticized 20 years before. The new, large brick structure that serves as the interpretive center at Harpers Ferry, West Virginia, was typical. It may function admirably, but it seems unnecessarily oppressive and gloomy, much as a prison might. Nor is its design consonant with any of the traditional styles that formerly characterized this historic spot. The architecture is self-indulgent because it is out of touch with its setting. One cannot guess what purpose the strangely angled walls across the second floor serve, or the slit in the massive block of brick masonry at the right, or the reason for the vents, or windows, or wind tunnels, or whatever they are on the roof. Far from improving the landscape of that historic mountain town, the structure mars the vista that Thomas Jefferson called "worth a voyage across the Atlantic."

The article also featured the visitor center at Dinosaur National Monu-

A space-age fossil: Dinosaur National Monument



The Mad Hatter's carousel: Mount Rainier National Park

ment. The circular headquarters building resembles nothing so much as a masonry oil-storage tank, despite its narrow slit-like windows and the curving elevated ramp winding around one side. The adjoining exhibit building, a steel and glass affair built into a cliffside, is so unabashedly contemporary in its glorification of the materials from which it is constructed and in its flaring, space-age roof that it stands like a grim joke at the expense of our finest paleontological park, whose glory is the ancient rock of its canyons, not the steel and glass of its accommodations.

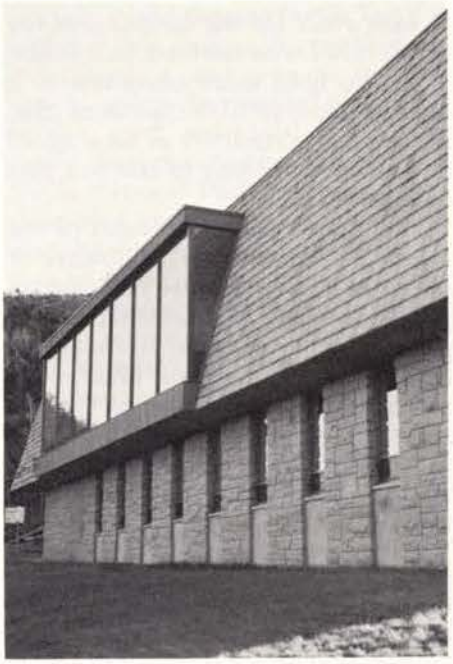
At Everglades National Park, Florida, the high, massive visitor center, its upper half faced with concrete "lace," was constructed in one huge block, yet might better have been built around a patio, giving as much or more floor space, while keeping roof lines low. A patio planted with native wild flowers, ferns and trees of the park would have served ideally in the interpretive program as well as added a note of charm.

But gimmickry rather than charm seems the rule in contemporary national park architecture. For example, the new headquarters and visitor center at Acadia National Park in Maine, which is deplored by almost everybody in the nearby communities, is characterized by a nearly level roof that pitches off almost vertically along both sides and at both ends of the building. These steep, shingled sides form the walls of the second floor, which are taller than the more congenial stone walls of the ground floor. The roof-turned-wall overhangs the ground floor in such a way as to make the entire building seem cumbersome and top-heavy.

Visitors to the visitor center at Great Falls, Virginia, must spend most of their time there puzzling over the two multiple-slatted objects that adorn the building. Then there are the tipping-down dormers and poorly designed gable ends at the otherwise pleasing lodge in Glacier Bay, or the parallel beams that form the A-frame roof of the lodge at Yellowstone's Canyon Village, surely an example of running a bad idea into the ground. But these lapses in taste and sense are trifling compared to the monstrous aberration represented by the circular concrete and steel visitor center at Mt. Rainier's Paradise Valley.

Here the Park Service and the architect have truly exceeded whatever bad taste we might have feared. Being round, the visitor center is conspicuously and uniformly ugly from all angles, resembling an oversized flying saucer or merry-go-round. The short circular chimney in the center of the roof occasionally belches forth black smoke, suggesting perhaps Mt. Rainier during its years of volcanic activity. At least, we must assume that such is precisely the effect the Hawaiian architect sought to imitate. The upper floor of this structure is the so-called observation deck, but as you stand gazing out at the magnificent scenery, the windows reflect instead the windows behind you, and the girders supporting the roof effectively interrupt the view from every side. Why the gimcrack design? How do such oddities get by? Surely there are architects in the Park Service's design and construction office with good taste and an instinctive feeling for what is appropriate.

In earlier decades, the nearby Paradise Inn of gray, weathered shingles, and other comparatively small and unobtrusive structures in Paradise Valley were considered eyesores, and the Park Service intended to remove them. The old lodge was torn down, and many a sigh of satisfaction was heard. But the inn stands to this day, a weather-beaten little building that, by comparison with this new giant, seems hardly noticeable in the immensity of the landscape. While wooden buildings throughout the parks and monuments are easily torn down, nothing



City hall a la mode: Acadia National Park

short of a torrent of lava in a new eruption of the old volcano will obliterate this new visitor center. Where were the defenders of our magnificent national parks and monuments when the plans for this $2.0 million monstrosity were on the drawing boards?

As everyone who values our national parks should know, they are not primarily resorts or amusement centers,

but natural preserves to be kept intact for all time, so that our generations and those that follow may continue to enjoy the inspiration they provide. Any man-made structure or facility inside the parks will intrude on the landscape to some degree, however slightly, and to that same degree will defeat the purpose of the parks. But insofar as such structures are necessary to inform or accommodate park visitors, at least some attempt should be made to keep them unobtrusive. Wherever possible—and it should always be possible—park architecture should grace and complement the natural setting, not compete with it.

In 1935, under the auspices of the Civilian Conservation Corps, the National Park Service published a large book entitled *Park Structures and Facilities.* The book quotes the then Director Arno B. Cammerer: "In any area in which the preservation of nature is a primary purpose, every modification of the natural landscape, whether it be by construction of a road or erection of a shelter, is an intrusion. A basic objective of those who are entrusted with development of such areas for the human uses for which they are established, is, it seems to me, to hold these intrusions to a minimum and so to design them that, besides being attractive to look upon, they appear to belong to and be a part of their settings."

The book goes to the heart of the issue: "Nothing is more indicative of a lack of a proper sense of values in park technique than the frequently expressed determination to 'make a feature' of a shelter or other park structure. The features to be emphasized and stressed for appreciation in parks with which we are concerned are the natural features, not the man-made. . . .

"In its most satisfying expression, the park structure is designed with a view to subordinating it to its environment, and it is located so that it may profit from any natural screening that may exist. . . .

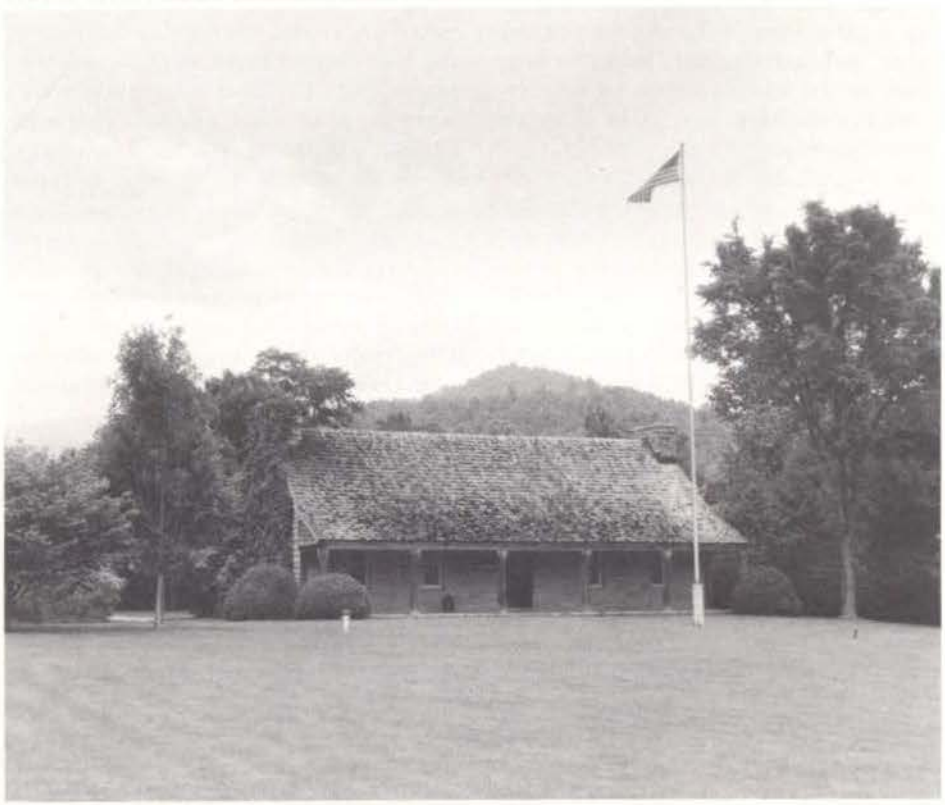
"The structures necessary in a park are naturally less intrusive if they are reasonably unified by the use of one style of architecture, limited construction methods, and not too great variety in materials."

Architects long ago found it possible to create a harmonious ensemble of buildings in a single park or monument. Back in the 1940's and '50's, the architecture in Shenandoah National Park, the Blue Ridge Parkway and Great Smoky Mountains National Park was uniform in style, consistently excellent, and well-suited to those areas. After the harmonious old dining room building at Skyland in Shenandoah burned, it seemed axiomatic to follow the existing style in a new building; but that was not to be. The old charm and homey warmth of the earlier building was replaced by a square, dark-stained, flat-roofed, box-like structure, with tall jalousied windows—a discord in an otherwise delightful melody.

But the wood and masonry Big Meadows Lodge in Shenandoah and the stone headquarters at Great Smoky Mountains well may be among the finest examples of park architecture in the entire National Park System, for they are unobtrusive, pleasing to look at, and create an appropriate atmosphere. Their style would be suitable in almost any of the other parks from coast to coast. Other examples of fine architecture in the national parks are the personnel residences at Olympic National Park (but not the ludicrous ski-village-type "chalet" on Hurricane Ridge); the harmonious lodge and headquarters complex at Bandelier National Monument; and the splendid stone nature center at tiny Platt National Park, with its rustic masonry and graceful, low lines. With such examples for models, there long ago should have ceased to be any further aesthetic disasters in national park buildings.

The design of park structures offers the architect a challenge—a test of ability, sensitivity, and understanding. For here he should know he is not free to satisfy some personal whim, or follow some new fad, or experiment with strange and exotic styles. Here, the architect, like the poet, can prove his greatness by creating a personal statement within the limitations of an already established form. Here is an opportunity for ingenuity and self-discipline. Here he can demonstrate his comprehension of what Joseph Hudnut meant when he wrote in *Architecture and the Spirit of Man:* "Beauty has its origin in associations. Architects design in associations in much the same way as writers think in metaphors: they are the colorations which energize the meanings of architecture. The people cling to these symbols and have every right to do so. The sentiments they evoke are not always profound, but they are often real. They

The older architecture in Great Smoky Mountains National Park is "uniform in style, consistently excellent, and well-suited" to the park: Oconaluftee Ranger Station, Great Smoky Mountains National Park.



"In its most satisfying expression, the park structure is designed with a view to subordinating it to its environment, and it is located so that it may profit from any natural screening that may exist": Visitor Center, Platte National Park.

provide architecture with the base of popular interest and feeling—with that story—which is essential to architecture in this democratic scene."

Let us cease to clutter our national parks and monuments with buildings of pedestrian design and form. Let us no longer tolerate a hodge-podge of styles within a single area, but adhere strictly to one style of unquestionable charm and fitness capable of providing that "base of popular interest and feeling" to the park visitor. Let us avoid, too, the sort of extremes in national park architectural design that result when one architect creates a building with glass walls, even while another is doing his best to eliminate windows. Last, but far from least, let us understand that national parks and monuments are not the places for architectural experiments.

So long as the Park Service continues to construct elaborate tourist facilities within the national parks, we must at least insist that their design be in keeping with the beauty of their surroundings and the spirit of the national park idea. But the more important issue, finally, is whether further buildings are necessary or desirable at all. It is no secret that visitors tend to favor the more developed parks, and that such problems as water pollution, air pollution, litter, disturbance of wildlife, destruction of habitat, and even increased crime have attended such overdevelopment, destroying at once the natural features the parks were meant to protect and the serenity visitors have traditionally expected them to provide.

Many people within the Park Service have begun to ask whether it is any longer necessary for visitors to set up house on the exhibit, and whether we can justify any longer marring park landscapes with hotels, lodges, motels, restaurants, curio shops, grocery stores, gas stations, huge parking lots, sprawling campgrounds, T-bar lifts, platter-pulls, rope-tows, marinas, excessive roads, and the like. Should we not even begin to consider tearing down many existing structures and removing them to convenient locations just outside the park boundaries, leaving in the parks themselves only picnic areas, some roads, park residences, and perhaps minimal interpretive facilities?

Some years ago, the Park Service did a grand job of clearing Rocky Mountains National Park of hotels and lodges, and more recently, has taken steps to restrict auto traffic in Yosemite Valley. These actions and others that the service has undertaken in other parks suggest that at last it is taking a new look at the problems of overcrowding and overuse that are now plaguing the national parks. The service even attempted to remove overnight accommodations from Mesa Verde National Park, and would have succeeded had not the concessionaire won the support of the local congressman in blocking the plan. Reducing or eliminating such facilities would tend to spread visitors over a greater number of parks, thereby reducing the enormous costs of providing water, electricity, sewage facilities, and police protection for the millions of people who are attracted by all the comforts of home. For concessionaire operations constitute one of the most time-consuming, troublesome, costly, and unrewarding problems with which park rangers must contend. Wherever such facilities can be reduced or even eliminated, the parks and their visitors will benefit, the federal budget will be relieved of yet one more unnecessary and expensive item, and we will be relieved of having any longer to worry about the appropriateness of future national park architecture.

Devereux Butcher is former executive secretary of the National Parks and Conservation Association.

ments of the Organic Act for the National Forests, one of which is "to furnish a continuous supply of timber for the use and necessities of *citizens of the United States.*"

(4) The contract is invalid because timber from a national forest cannot be sold for the purpose of providing local economic development. No U.S. statute gives the Forest Service the power to engage in the program of industrial location envisioned in the primary processing provisions of the Champion contract. The Club argued that the Forest Service must redetermine, solely on the provisions of the Organic Act and the Multiple Use-Sustained Yield Act, whether or not to enter into this contract.

(5) The contract violates the Organic Act of 1897, which requires that before being sold, trees shall be individually marked and designated for removal from the national forests. The Club charged that the Champion contract not only allows the designation of large cutting units without the marking of individual trees, but the designation is to be largely done by the lumber company.

(6) The Forest Service initially violated the National Environmental Policy Act by not preparing a detailed environmental impact statement before issuing a use permit for the pulpmill site at Berner's Bay. The Club pointed out that the use permit for the mill constitutes a major federal action affecting the environment because the effluent from the mill will contain a biological oxygen demand equivalent to the untreated sewage of a city larger than Juneau. Its smoke emissions into the atmosphere will reach the level of 250 pounds of sulphur per day. Subsequently, the Forest Service filed a three-page, after-the-fact environmental impact statement, which the Club rejected as "plainly inadequate."

On January 23, 1973, one of the Club's key arguments was confirmed. Leopold and Barrett released their report, "Implications for Wildlife of the 1968 Juneau Timber Sale," prefaced by a note from their employer to the effect that the opinions expressed were not necessarily those of Champion. Now it was clear that the Forest Service had not had sufficient knowledge upon which to judge the impact on wildlife of the million-acre timber sale. The two wildlife consultants for Champion supplied research findings and field studies to support their conclusion: "The 1968 timber sale contract between the U.S. Forest Service and U.S. Plywood Champion Papers, Inc., seems to us to imply a level of timber removal in southeast Alaska that is unrealistic by present-day standards of ecological acceptability. To achieve the timber harvest implied in this contract would require clearcutting of perhaps 95 percent of the presently accessible commercial timber, and this cut would have to be made in a single operation within each unit or compartment."

Leopold and Barrett added that "the days of massive clearcutting of whole watersheds have passed. Particularly on public lands, timber harvest schemes must take account of the full spectrum of social values." They offered a program of deferred cutting under which no more than one third of the timber in any given locality would be cut at one time and considerable areas would be permanently reserved from cutting "to protect critical scenic and ecological sites, shoreline timber, key deer winter range, estuary borders, eagle nest trees and other subsidiary values."

The Sierra Club and its co-plaintiffs saw in the Leopold-Barrett report confirmation that the million-acre timber sale represented a total default by the Forest Service of its duty to manage the National Forests. The Club turned first to the Forest Service, asking Chief John R. McGuire to reevaluate the contract in light of this new information concerning the sale's impact on the public lands and wildlife under his management. He refused. James Moorman, executive director of the Sierra Club Legal Defense Fund, on February 5, 1973, petitioned the Appellate Court to remand the case to the District Court for consideration of the newly discovered evidence.

He told the court:

"The Forest Service has by contract given the management for 50 years of a million acres over to U.S. Plywood Champion Papers, Inc., with a charter to cut *all* the timber regardless of the consequences. It has even delegated the study of environmental impact to the company. Now two of the company's own environmental consultants have actually gone out and studied the forest and have learned what the Forest Service should have known before it entered into this contract: that this timber sale will destroy all other values of the million acres.

"Most shocking, the Leopold-Barrett report reveals that the destruction is not necessary. A more reasonable cutting schedule would save the forest. Under any standard of review it is clear that the decision of the Forest Service to enter into the contract in its present form is irrational, arbitrary, and an abuse of discretion within the exact meaning of those phrases."

"We conclude that the motion should be granted," the Court of Appeals responded, finding that "what is here at stake is of such import as to call for the consideration of the District Court." Concerning the Club's contention that the Forest Service had not given "due consideration" to the non-timber values of the Tongass, the appellate court noted that the earlier district court ruling had concluded "that 'some' consideration was sufficient." "For the purposes of this order," the higher court said, "we accept this interpretation, with the caution that 'due consideration' to us requires that the values in question be informedly and rationally taken into balance. The requirement can hardly be satisfied by a showing of knowledge of the consequences and a decision to ignore them." With this, the Court of Appeals granted the Sierra Club leave to seek a new trial, and the Club's motions are now on file in the trial court awaiting decisions.

The Club's litigation to force the Forest Service to account to the public for its actions on the Tongass—actions that present an extreme example of the agency's abuse of the public lands under its care—has been a long battle. Its final outcome remains unclear. One thing, though, is clear: should the suit fail, the Forest Service will find itself with nearly limitless administrative discretion to dispose of million-acre parcels of the public forest. "The management of the National Forest System will be largely beyond the control of the law," Moorman states. The Club believes that the facts available in the Leopold-Barrett report, combined with the precedent set by the Legal Defense Fund's recent landmark victory ending clearcutting on the Monongahela National Forest, may well cancel the nation's largest timber sale. If so, the American public will have reclaimed its title to the Tongass and reasserted its right to determine the future of the national forests.

700,000,000,000 Barrels of Soot

DAVID SUMNER & CAROLYN JOHNSON

THE OIL COMPANIES of America have a dream. The dream is oil shale, a dull gray rock that holds hundreds of billions of dollars worth of crude oil. The landscape of the dream is a 17,000-square-mile semi-wilderness area that encompasses major portions of southwestern Wyoming, east-central Utah, and west-central Colorado. The mechanics of the dream include the creation of a machine civilization in the West on public-domain land, land set aside for this purpose by an accommodating Department of the Interior. The occasion for the dream is what our government has chosen to call the energy crisis.

For the land, the dream is a nightmare.

Today, there are many who have said goodbye to the oil shale country, accepting as inevitable its transformation into a post-industrial wasteland, perhaps assuming that the land is of such indifferent quality that it doesn't really matter — particularly when weighed against the nation's orgiastic consumption of fossil fuels. If so, they are dead wrong. The country is generally high (elevations range from 4,800 to 9,000 feet) and semi-arid (rainfall is from eight to 24 inches annually), but this rolling, broken expanse of hills, valleys, ridges, holes, draws, breaks, washes, canyons, gulches, and meadows contains pockets of strikingly lovely country—such as the deep, ragged, sculpted, fluted canyons meandering into the southern margin of Colorado's Piceance Basin, or the sheer, stark Cathedral Bluffs westward in the same region, the ghostly eroded buttes and badlands along the White River in Utah, or a tough, severe landmark in Wyoming known as Kinney Rim. The land's cover is principally sage, assorted grasses, brush, and middling forests of squat, gnarled juniper, and pinon pines. Roads, even of the dirt variety, are few and far between; human population density is a scant 3.5 people per square mile.

Spent Shale
Spent Water
Spent Life
Spent Land

This tri-state region is one of the truly superior wildlife habitats remaining in the lower 48 states. On an ordinary winter's afternoon, one can drive the 48 miles of what is so far the only paved road through Colorado's Piceance Basin and count hundreds of mule deer browsing the sage or milling about an occasional unfenced haystack. In April, 1973, when these animals massed for the annual migration to their summer range, the Colorado State Division of Wildlife tallied more than 4,000 deer along the same stretch of road. On the whole, it is estimated that the Piceance Basin alone is home for a western mule deer herd that has traditionally ranged between 30,000 and 60,000 animals, the world's largest migratory deer herd, but still only a fraction of the total population found in the larger Colorado oil shale area. The State Division of Wildlife has determined that a ten-year average of 146,000 deer winter in the ten game-management units that will be affected by oil shale development.

There is an abundance of other wildlife in oil shale country as well—resident and wintering golden eagles, wintering bald eagles, large herds of pronghorn antelope, sage grouse, red-tailed and rough-legged hawks, peregrine and prairie falcons, elk, mountain lions, bears, coyotes, and wild horses. In Colorado alone, more than 300 different species of mammals, birds, and reptiles have been inventoried, and in the three-state area, 20 rare or endangered species are thought to exist. The oil shale country is one of the only places left in the United States outside of Alaska where one can still see not only rare animals, but *lots* of animals—in numbers approaching those that must have existed before the white man came West.

Most of the oil shale land is public domain; all of it is irreplaceable. Once destroyed, it will be as extinct as the

virgin hardwood forests of Manhattan. And the process of destruction has already begun. On January 8, 1974, a partnership of Standard Oil of Indiana (Amoco) and Gulf Oil took the first of six oil shale tracts—the "C-a" tract of Colorado—with a bid of $210,305,600 for leasing privileges from the Department of the Interior's Bureau of Land Management. This transaction was billed as the most expensive federal lease in history, but since it gave the two companies control over at least five *billion* barrels of shale oil, it was, in fact, "dirt" cheap (see "The Great Shale Robbery," in the March *Bulletin*). On February 12, a consortium of ARCO, Shell, Ashland Oil, and the Oil Shale Corporation took the second lease—the "C-b" tract of Colorado—with a bid of $117,788,000.36 (one wonders where the 36 cents came from). Finally, on March 12, Phillips Oil and Sun Oil won a third tract—the "U-a" of Utah—with a bid of $75,596,800. And on its privately owned 8,800-acre site in Parachute Creek Canyon on the southern margin of Colorado's Piceance Basin, the Colony Development Operation accelerated its plans to develop a 46,000-barrel-a-day complex.

> ". . . a crash program that is at least as much the result of hysteria as it is of genuine need."

The dream machine has started to roll.

THE IMMEDIATE IMPACT of oil shale development will vary from site to site in all but its pernicious effect on the land. A "Preliminary Development Plan" for Colorado's "C-a" tract (Gulf-Amoco) anticipates a 300,000-barrels-a-day production capacity from an open-pit mine two miles long, one mile wide, and 1,000 feet deep, in addition to an underground mine. The "C-b" site (ARCO-Shell-Ashland), where the area's saucer-shaped shale beds dip beneath the earth, will require "room and piling" mining methods similar to those now common in the coal industry. This method will extract only about 20 percent of the available shales, and only 65 percent of the horizon actually mined. The rest will be left in place, in hopes of preventing cave-ins and land subsidence. However, this site could present acute ground-water problems. Estimated at 25 million acre-feet (enough to supply a city like Boston for more than 15 years), a deep aquifer of subsurface brine underlies much of the Piceance Basin. In places, it is three times saltier than the ocean; obviously, it will have to be pumped from the mines before and during operations. Since the oil shale country occupies the upper Colorado River Basin, and since that river's salinity problems are already legion, the entire water quality problem is now a subject of intense political (though, alas, not environmental), concern. Interior has attempted to talk up desalinization as if large-scale technology existed; it does not. It has discussed deep-well disposal, but has failed to note that such injection techniques have repeatedly failed and are now being rejected by industries who, a short while back, thought they had discovered a panacea.

Along with the prospect of increased salinity levels, the need for removing water from the mines raises another problem: as the deep brines are pumped elsewhere, the surface water table is bound to drop. Springs and seeps will dry up, depriving the wildlife of what little water it already has; vegetation patterns will change after the present growth withers and dies.

The Utah tracts "U-a" (Phillips-Sun) and "U-b" (not yet leased) will both be mined underground. They adjoin each other in an area of wind- and water-carved badlands along the White River in the eastern part of the state. The waters of the White flow into the Green River through Desolation and Gray's canyons, and from there into the Colorado. Disturbance of these rivers seems unavoidable.

The comparatively lean reserves of Wyoming tracts "W-a" and "W-b" (neither yet leased) can only be exploited by an underground *in situ* ("in place") process, which begins with the drilling of close networks of wells and rampant surface disturbance. Subterranean fracturing (the AEC is eager to try nuclear explosives) comes next, followed by the injection of superheated steam or hot natural gas to release more oil, all of which is then pumped to the surface by conventional methods. The process has yet to prove itself economically feasible, and for the time being, at least, it appears that the land here will be granted a reprieve.

Whatever the method of extraction (with the exception of *in situ* mining, which, at least, has the virtue of leaving the stuff in place), the disposal of the processed shale presents enormous problems—especially since the material occupies 25 percent more volume *after* processing than it did before. On December 26, 1973, Colorado State BLM Director Dale Andrus indicated a possible "solution" when he announced that 6,650 acres of land near the "C-a" tract were to be withdrawn from mining entry, grazing, and all other uses. He said the withdrawal would be for "possible future investigations, studies, and experiments," but admitted that no plans for anything of the sort had been formulated.

It was apparent that the six canyons included in this acreage were being set aside as potential dump sites for oil shale tailings (one has to do *something* with them). The prospect of filling up the canyons of the Rocky Mountain West with billions of cubic yards of oil shale residue (the color of lampblack and the consistency of silt) poses some interesting questions. Since canyons have a way of running downhill, what will happen during periods of seasonal rain? Will the stuff be carried into the creeks, streams, and rivers of the Colorado watershed? Will it seep into the springs that help support the animals of the region? Will the Green and Colorado rivers (already thoroughly harassed by the works of man) run black with the contamination? And to what degree would this suspended soot add to the load of silt that is already beginning to fill up Lake Powell behind Glen Canyon Dam? Aside from potential contamination of the natural world, man himself could be victimized, according to a preliminary study by the University of Denver Research Institute. By 1978, the study indicates, "approx-

> ". . . in a classic case of public funds serving the private good, the money will build dams to benefit the oil shale industry."

imately 6,000 tons of carcinogenic material" could exist in the piles of waste, with undetermined effects on local inhabited areas.

How much land is liable to be affected by full-scale oil shale development? The question is complicated, since we are talking not only about industry, but civilization—twentieth-century civilization. Certainly, it will be much more land than the maximum of 5,120 acres allowed for each mining tract under the Mineral Leasing Law of 1920. The proposed development of Colorado's "C-a" tract is a case in point. The 5,089 acres of the lease itself will be reserved exlusively for mining. All the ancillary facilities will go on nearby public-domain lands—shale disposal dumps, overburden storage areas, two reservoirs, all crushing and processing machinery, a conveyor system, offices, roads, a changehouse, and entry portals to the underground portions of the mine. Such developments are not mentioned in the lease, not even in the fine print, but they are inevitable. It is difficult to tell how much added land will be directly affected; it could be another 10,000 to 12,000 acres, perhaps more. Gulf-Amoco implies that it expects the BLM to provide these lands under special-use permits; rents are yet to be determined.

The effects of the oil shale program will not be limited to the immediate areas. For example, the most likely access to the remote "C-a" site will require a 12-mile paved industrial highway where now only a rough jeep road meanders. The route will cut right through some 2,500 acres of Division of Wildlife deer lands. A 1971 Interior guideline asserted that development tracts would avoid "fish and wildlife management areas"; shortly thereafter, the clause was dropped. The people of Colorado will not be indemnified for the loss. Gulf-Amoco also projects a need for up to 325 megawatts of electrical power "for full-rate production of shale oil from the tract." Interior had expected this power to be developed on the site of the lease, but the oil companies anticipate no such plan. They acknowledge that no power is available, but look to someone else to build a generating plant somewhere else. The strippable coal fields farther north in Colorado are the obvious answer.

Like the rest of the leases, the "C-a" tract will require prodigious amounts of water. Fortunately for the oil companies, the Mineral Leasing Law of 1920 earmarks 52.5 percent of all oil shale receipts for the Bureau of Reclamation. Not only will this cash be used to build more and bigger dams, but in a classic case of public funds serving the private good, the money will build dams especially to benefit the oil shale industry. In Colorado alone, more than a dozen dam, pump, and diversion projects are now on the boards, one threatening the proposed Flattops Wilderness. However, these projects are nothing compared to industry's dream of eventually getting water either from the Columbia River or from Canada. One resolution now before the Colorado State Legislature presses for just such a development.

> ". . . filling up the canyons of the Rocky Mountain West with billions of cubic yards of oil shale residue poses some interesting questions."

Finally, there are the thousands of people, the executives, workers, merchants, wives, and children—as well as all the support facilities that go with them: the housing tracts, sewers, electrical lines, towns, service stations, boutiques, hamburger stands, bars, restaurants, and drive-in theatres. No one knows exactly how much land all this will affect, but a rough idea can be obtained from the prediction of the Colorado State BLM office that a "mature" million-barrel-a-day industry in the state will require 41 new schools handling 63,000 new children, who will live in 47,000 new housing units. One estimate predicts the population of the three affected Colorado counties will leap from its present level of 72,000 to 310,000 by 1987.

The impact of such a population on a previously semi-wild environment is predictable and hardly unprecedented. We can wonder, however, what the quality of life is likely to be for those thousands who find themselves trapped in a land that does not welcome them, their lives defined by the hard edges of a transplanted industrial civilization, with all the sterility, pollution, ugliness, and tawdry clutter common to such a world. And 30 or 40 or 50 years from now, when the land has been gutted of its shale and the people are gone, what will this transient civilization leave as its legacy? This will be a mining boom to put the gold and silver excitements of the nineteenth century to shame. That early period has left us its relics throughout the mountains—the crumbling mills and headframes, the weedgrown piles of dumps and tailings, the vacant, tumbling-down communities whose lives were as finite as the ore that gave them birth. But twentieth century man is a more efficient being, even if his motives are similar (get the goods and get out). He will scar the land for hundreds of miles around with his trail bikes and four-wheel-drive vehicles; his aluminum and plastic garbage will take generations to disintegrate; the towns he creates will last far beyond those his predecessors erected (what is the life expectancy of an average drive-in theatre—750 years?); his pavement will survive for centuries.

Against the weight of industry and civilization, the Department of the Interior's provisions for protecting the environment and restoring the land would be meaningless even if they were rigorously drawn and strictly enforced. But in fact the environmental provisions in the oil shale leases are so feeble, so shot through with debilitating qualifications, that any possibility of even mitigating possible environmental damage, much less of avoiding it, is extremely remote. The perfunctory bows to "restoration," an elusive notion that has evaded the coal strip miners for years, seem more like sedatives for conservationists than a remedy for the injured land. No one can agree on exactly what restoration entails, nor how it would be carried out even if it were possible.

> "Will the stuff be carried into the creeks, streams, and rivers of the Colorado watershed?"

Section 11 of the lease's "Environmental Stipulations" purports to deal with "Rehabilitation," and subsection F thereof, with "revegetation." Here we find that disturbed areas must be replanted with a cover sufficient to

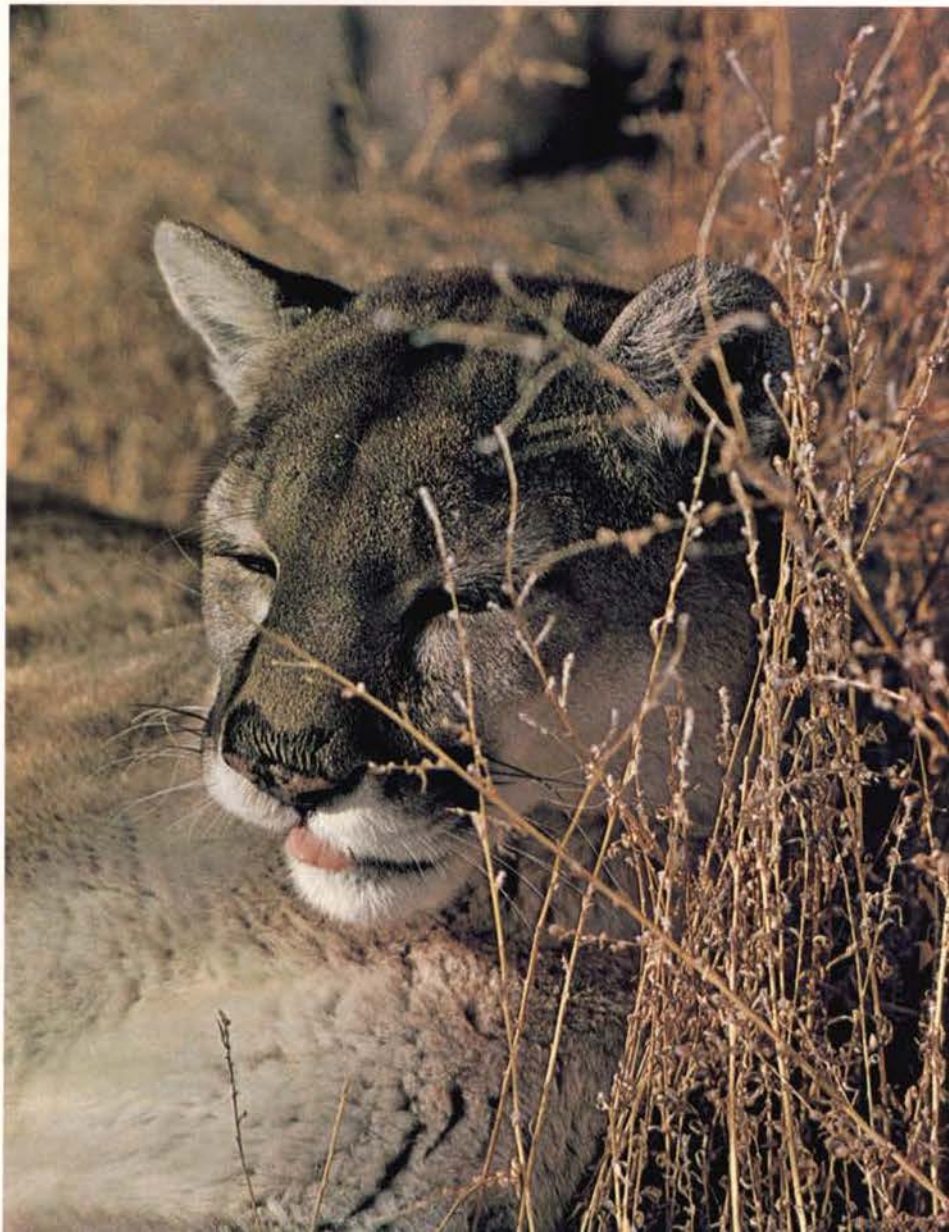
The dispersal of the deer and the disappearance of the antelope, the retreat of the owl and coyote, mark more than the selective intrusion of man. For beyond the discreet destruction of large acreages in direct exploitation of the land, we must consider the impact of mobile and casually aggressive humans.

The strewn litter of a junk-oriented civilization will surpass the boundaries of the public oil leases by a hundred times. The deer and the antelope will not be driven off so much by tractors and shovels as by the drivers of tractors and shovels, and by the gas pumpers and fry-cooks who serve them.

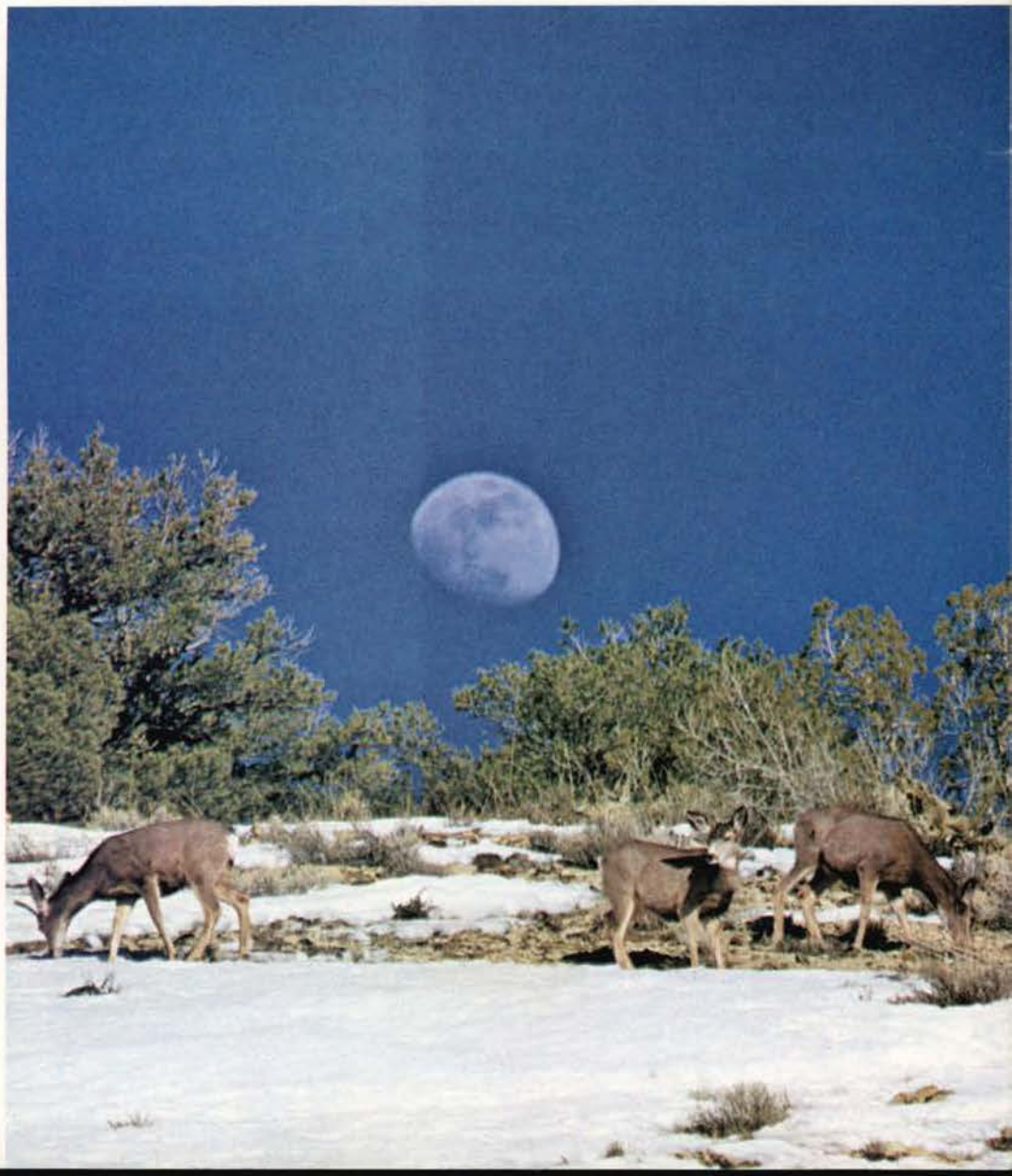
I have seen the high desert lands of my youth desecrated by far fewer 20th-century Americans than will be employed to extract drops of oil from the shale of the Western states. The West is pockmarked by the exploiters of the 19th and early 20th centuries—but these were men who lived simply and did not have it in their means to ride completely rough-shod over a country bigger than they were.

In 1974, a single "sportsman" can in a year joyride through a generation's worth of life and land. We cannot junk our heritage, our grandchildren's legacy, for dubious and temporary gain. And this is what the wildlife tells us: that when the original owners of this vast but fragile land are gone, then the land will be gone as well, useless to man or beast, a desert turned to dust.

—R.R.O.



For the land,
the dream
is a nightmare.



support pre-existing wildlife. A nice idea, to be sure, even encouraging—but virtually impossible. Regrowing any self-sustaining flora on the thin soils of the semi-arid West is an uncertain proposition at best. With oil shale, the difficulty is compounded because revegetation must proceed on the sterile, salty wastes that will issue from the processing plants by the cubic mile. Efforts to solve this problem have been lavish; results, scant. Some exotics have survived on small plots, but only after heavy fertilizing, topsoil mixing, much watering, and hand care. Sage, service berry, bitterbrush and mountain mahogany—the native browse plants vital to the survival of the region's great mule deer herd—have not ever been transplanted with success.

Yet here is Interior's lease brimming with good intentions: a puzzling optimism until one wades through the tangled prose of Section II, Subsection F, to a secondary clause, that allows revegetation for "a different use," which Interior may decide when the time comes. This phrase, an ingenious escape hatch, is pregnant with possibilities: parking lots, golf-courses, nuclear stimulation of natural gas, livestock grazing (though for decades, revegetated spent shale will be too fragile for cattle and sheep; they will have to be fenced out). John Rigg of Interior has insisted that oil shale needs "deep subsidies"; this is one form they may well take. So much for "restoration."

THE DREAM MACHINE moves on, but can it be stopped—or at least slowed down long enough for us to take a hard, long look at what we are doing? The idea is not popular among most politicians; no one, after all, wants to be accused of "intensifying" the energy crisis. Still, there are those who care. On February 4, 1974, Ohio Congressman Charles A.Vanik, long a steadfast critic of the present oil shale program, revealed that the General Accounting Office (GAO) had serious doubts concerning the legality of withdrawing public domain lands for shale oil dumps. A suit similar to that over the Trans-Alaska Pipeline right-of-way was envisioned, and the absence of a NEPA statement was questioned. On February 25, Colorado Representative Pat Schroeder introduced H.R. 12923 "to prohibit the dumping of spent oil shale on federal lands other than those . . . specifically leased by the Department of Interior for oil shale development," a bill that followed Vanik's similar proposal of December 20, 1973 (H.R. 5442), and that would be followed by yet another (H.R. 13010) on February 26, 1974. Representative Vanik, along with Patsy Mink of Hawaii, has also sponsored legislation that would create a federally sponsored TVA- or COMSAT-type corporation to develop oil shale. Conservationists are divided on this proposal, many of them taking little comfort in the first TVA's environmental record.

The Sierra Club has maintained that the so-called "prototype" oil-shale leasing program should be in fact what the Department of the Interior has all along claimed it to be. The present techniques for mining oil shale are crude; the probable effects of charging ahead, disastrous. We cannot afford to learn from our mistakes. The land cannot afford our ignorance. If we insist on developing oil shale, at least let's find out what we're doing—and what we stand to lose. At stake is nothing less than the survival of the land and the life for which it is home. And, as usual, the question of our own survival cannot be far behind.

David Sumner, a member of the Sierra Club's National Wildlife Committee, is a noted conservation writer.

Geologist Carolyn Johnson heads the Mining Workshop of the Colorado Open Space Council.

FROM L.I. MOSS (*Continued*)

an increase in jobs in the bottling, distribution, and retail industries.

The non-energy benefits will be substantial. The consumption of raw materials will decrease. Less air and water pollution, and less production of solid waste, will result. And, as the Oregon experience shows, there will be less litter degrading the landscape. Finally, the consumer will save money.

Accordingly, we recommend that FEO support legislation, equivalent to that proposed by Senator Mark Hatfield (S. 2062) and Representative Don Edwards (H.R. 9782), which would effectively end the use of non-returnable beverage containers.

ELECTRICITY

March 11, 1974

. . . In his first energy message to Congress in June, 1971, the President declared that we must use existing energy as efficiently as possible, and noted: "We believe that part of the answer lies in pricing energy on the basis of its full cost to society. One reason we use energy so lavishly today is that the price of energy does not include all of the social costs of producing it. . . . If they were added to that price, we would expect that some of the waste in the use of energy would be eliminated"

And in calling for the development of a "National Energy Conservation Ethic" in April of last year, the President remarked that: "We must explore means to limit future growth and energy demand. . . . We should recognize that the single most effective means of encouraging energy conservation is to ensure that energy prices reflect their true costs.

In the past, rates for electricity and natural gas have generally been based on average costs and have taken the form of "declining block" rates which provide for reductions in the unit price as the volume consumed increases. A basic purpose of such rate structures has been to promote increased use. They were developed under circumstances where increased energy use was believed to result in substantial economic benefits to consumers by facilitating economies of scale and decreasing costs, and at a time when the environmental and social costs associated with increased energy usage were not readily perceived as matters of important public policy. Growth now, however, usually results in *increasing* costs to all concerned, and no one can any longer afford to disregard environmental and social costs associated with energy supply. . . .

For a variety of reasons, including higher energy costs, higher costs of capital, higher unit costs of plant construction, and worsening load factors, it is likely that the number of applications for rate increases by both privately- and publicly-owned electric and gas utilities will continue to grow in the foreseeable future. At least two approaches to requests for rate increases are available to utilities and their regulators: (1) the traditional "business-as-usual" practice, which tends towards "across-the board" increases based on average cost pricing and reliance on declining block rate structures, and (2) a marginal (or incremental) cost pricing approach, which in the main would base rate increases on long-run incremental costs of service, tend toward imposing larger percentage increases on larger users, thereby flattening out rate structures, and tend toward peak load pricing, i.e., imposing capacity costs on consumers responsible for creating needs for new capacity. . . .

When consumers of energy are confronted with the incremental costs . . . they are receiving correct economic signals to guide the quantities they consume. If the rates paid are below incremental cost . . . (there is) an incentive to consume more energy than . . . at rates based on incremental costs, i.e., more than the economically correct amount. . . . Pricing energy below incremental cost will undermine attempts to both obtain efficient allocation of resources and implement energy conservation programs. . . .

We believe the FEO can and should act as a stimulant and a catalyst to bring about long-run incremental cost pricing, including peak period pricing and inclusion of social and environmental costs. Some of the actions which we recommend the FEO undertake are:

(a) to encourage federal power production and marketing agencies, i.e., the Tennessee Valley Authority, Interior Department agencies, and the Federal Power Commission to take steps promptly to develop and implement such rates;

(b) to require, through establishment of rules or otherwise, the federal government to purchase electricity and natural gas only under such rates;

(c) to encourage the Federal Power Commission to establish such rates for wholesale sales in interstate commerce of electricity and natural gas;

(d) in conjunction with the Chairman of the Federal Power Commission and other appropriate federal agencies, to take steps promptly to assist and encourage state and local authorities which regulate retail prices of electricity and natural gas to develop and implement such rates.

Finally, the proposed pricing reforms should be accompanied by (a) requirements for elimination of promotional advertising and other practices designed to encourage consumption; (b) increased efforts to develop environmentally acceptable energy supply and use systems; (c) expanded energy conservation programs; (d) strict compliance with environmental regulations; and (e) some procedure for critical oversight of the addition of substantial new loads to utility systems.

The Court of Last Resort: Sierra Club Defense

The Sierra Club Legal Defense Fund is doing something about the thoughtless exploitation of our national resources and our government's careless administration of environmental protection legislation. Its team—five full-time attorneys, a gifted supporting staff, and concerned lawyers across the land who work for small retainers—is engaged in the challenging business of bringing the government to the bar in order to force compliance with the letter and spirit of environmental legislation.

Its results are remarkable: Sierra Club Legal Defense has won about 85 victories, large and small, in its first three years' practice. Recently the U.S. Supreme Court affirmed a lower court decision won by Legal Defense which restrained EPA from allowing the degradation of clean air down to levels permissible in industrial areas. Another recent decision forbids the U.S. Forest Service from permitting indiscriminate clearcutting of the National Forests, a widespread practice which the Court found to violate the Forest Service's organic statute. A landmark case attempting to prevent the development of the Mineral King Area in the high Sierra is still in progress. Other actions have stopped freeway construction through parklands in California, Tennessee, and Texas, and have restrained the Interior Department from poisoning predators. Legal Defense is fighting for wetlands protection, public beach access, river, park, and wildlife protection, clean water, and powerplant siting that meets public environmental standards.

Club Chapters and Groups

Members of 44 chapters and many groups throughout the United States and parts of Canada initiate most of the Club's projects through local support and with local leadership.

Publications

Books of all sorts set forth the thinking that underlies much of what the Club does. The program is directed both at the general public and at outdoorsmen, naturalists, and conservationists.

Outings

Organized outings consistent with Club wilderness and land-use policies involve members in visits to endangered areas, survey trips, trail maintenance programs, and adventures to places of special importance.

Inner Cities Program

Working with experienced outing leaders, young people have a chance for first-hand out-of-doors experiences. The pilot San Francisco program has since been established in other major cities.

Wilderness Conference

The biennial conference focuses attention on the need to strengthen efforts to protect wilderness areas through study groups and open debate.

International Office

This office at the United Nations works to develop support for the UN environmental program and to extend the reach of environmental treaties and conventions.

Sierra Club Bulletin

One of the leading environmental magazines in America, the **Bulletin** keeps members abreast of current conservation thinking and important Club news.

Research Program

The newest program of the Club aims at developing the scientific and technical expertise needed to allow the Club to speak authoritatively about the complex issues we face today.

Films

A brochure listing Sierra Club films for purchase or loan is available from the San Francisco office.

Exhibits

Photo essays on specific environmental issues are available from the San Francisco headquarters.

Legal Defense Fund

The increasing necessity to take legal action in behalf of the environment has been met by the Club with a legal team which has won many recent victories.

Sierra Club Foundation

The Foundation is a tax-deductible non-profit corporation that supports the Club in its educational and scientific enterprises. It also provides its staff to assist other environmental groups in the disbursement of funds.

National News Report

The NNR is a weekly summary of important conservation news and legislative activity—subscription price $10 per year to members and involved citizens.

If you are not already a member of the Sierra Club, we invite you to join. If you are a member, perhaps you know of someone who would like to receive a membership from you as a gift. An appropriate card will announce your gift to the recipient. Further information on any of the Sierra Club's programs may be obtained by writing to: Sierra Club, 1050 Mills Tower, San Francisco, Ca. 94104.

Sierra Club, P.O. Box 7959, Rincon Annex, San Francisco, Ca. 94120

I have informed myself about the purposes of the Sierra Club and wish to support them. I hereby apply for membership and enclose $_____ as total payment. (See schedule on right.) Dues include subscription to the Sierra Club Bulletin ($3) and chapter publications ($1).

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☐ Contributing	$5.00	50.00	55.00
☐ Supporting	5.00	25.00	30.00
☐ Regular	5.00	15.00	20.00
☐ with spouse	5.00	22.50	27.50
☐ Junior (thru 14)	*	5.00	5.00
☐ Student (thru 23)	*	8.00	8.00
☐ with spouse	*	13.00	13.00
☐ Senior (60 & over)	5.00	10.00	15.00
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