

Sierra Club Bulletin



November/December 1973

The Law of the Lands
The Law of the Sea



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Sierra Club Bulletin

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Contents

The Public Domain—What's Left, Who's Got It, and What are We Going to Do with It?	4	T. H. Watkins
The Crisis We Won't Face Squarely	9	Robert Entwistle
Sierra Club Books	13	
Discounting the Engineers	24	A Staff Report
Last Days of the Emerald Mile?	26	Edgar Wayburn
Man, Law, Life, and the Sea	28	Patricia Rambach
Sierra Club Outings	35	

COMMENTARY

<i>Pumping Oil in Untroubled Waters?</i>	17	Eugene Coan
<i>The Lumbering Administration</i>	18	Brock Evans
<i>Capital News</i>	19	
<i>The True Costs of Energy</i>	20	Laurence I. Moss
<i>The President's Fund Appeal</i>	21	
<i>News View</i>	21	
<i>Canoes to the Right of Us,</i> <i>Chainsaws to the Left—Ah! Wilderness!</i>	22	Jonathan Ela

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Cover: *Lands everywhere bring surprises, touches of beauty, to the acute observer. Bruce Barnbaum here lends us his eye. Elsewhere in this issue, Tom Watkins examines the need for sound administration of the last of our public domain.*

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What's Left,
Who's Got It,
and What are We
Going to Do with It?

THE PUBLIC DOMAIN

T. H. WATKINS

LIKE JACOB wrestling with his angel, the United States has been struggling to resolve one of its major problems for nearly two centuries. The problem was and is land—the public domain, which at its greatest comprised nearly two billion acres, all of it owned by the citizens of the United States and administered by their government. In the nineteenth century, that administration normally was riddled with venality and incompetence, allowing a ripoff of such dimensions that by comparison, the present scandals oozing out of Washington seem little more than craven exercises in petty theft.

More than one billion acres of this precious national inheritance simply disappeared from federal ownership through grants to states and railroad corporations, through direct sales at bargain rates to mining, farming, ranching, and timber interests, and to land jobbers who reaped spectacular profits with the connivance of local, state, and federal officials, through legitimate land acts whose rules were honored more often in the breach than in the observance, and through illegitimate land acts whose only purpose was to carve out chunks of federal land for the enrichment of a few.

At the turn of the century, before the rest of the public domain could vanish, a kind of revolution began as the government's attitude gradually shifted from an instinct for outright disposal to one of resource preservation and management, particularly during the two administrations of Theodore Roosevelt. Millions of acres were snatched from the whole pie and put into forest reserves (later, national forests) and millions more were added to the embryonic National Parks and Monuments System. Still, this amounted to considerably less than half of the federal lands that had so far escaped the attention of speculators and corporate entrepreneurs; the remainder continued to be nibbled away by a plethora of laws allowing entry and settlement, abused by poorly controlled grazing, lumbering, and mining enterprises, harassed by barrages of demands from western states that the public domain be "returned" to them, and tangled in a welter of conflicting uses, contradictory regulations, and confused and confusing management practices under the administration of the General Land Office.

Not until 1934, with passage of the Taylor Grazing Act, was any significant measure of rational control placed over this 453 million-acre patrimony, and even that act was little more than a hesitant first step toward a final solution. Today, almost 40 years later, we

The public domain is neither bleak nor forsaken by God; it is the largest part of what we have left to give to those who must follow us.

T. H. Watkins is the author of the forthcoming Sierra Club book, On the Shore of the Sundown Sea and was recently nominated for the Pulitzer Prize for his book, California: An Illustrated History. Mr. Watkins' article is the final installment in a three-part series on the public domain. The first, "The Land No One Knows," by Charles S. Watson, Jr., appeared in the September issue. The second, "The Public Domain—Why Was It, What Was It, and Where Did It Go?" also by T. H. Watkins, appeared in the October Bulletin.

finally appear ready to take the second big step. It may be the final one. It may not.

What's left?

The federal government is the largest single landowner in the United States. Of the nation's gross area of some 2.3 billion acres (including Hawaii and Alaska), approximately 765 million are owned and administered by the federal government — 312 million acres under the control of the National Park Service, the Forest Service, the Bureau of Indian Affairs, the Bureau of Sport Fisheries and Wildlife, the Bureau of Reclamation, the Department of Defense, the Department of State, and such independent agencies as the Atomic Energy Commission, the Tennessee Valley Authority, and the National Aeronautics and Space Administration.

The remaining 453 million acres are lands which comprise the present public domain in the traditional sense — lands, that is, which continue to be vulnerable to the application of antiquated land laws, whose management is often confused and inefficient, and whose future has yet to be decided. The largest portion of this land — nearly 300 million acres — is in Alaska, but it also makes up some two-thirds of the state of Nevada, half or more of Utah, nearly half of New Mexico, Wyoming, and Oregon, and significant portions of California, Idaho, Arizona, Colorado, and Montana.

In acreage alone, the remaining public domain obviously is one of the nation's most valuable assets — yet for years it has been victimized by ignorance and neglect. As Charles S. Watson, Jr., has written (see "The Lands No One Knows" in the September, 1973, *Bulletin*), the public domain lands have been "considered by most people to consist of little else than godforsaken wastelands, bleak alkali flats, smelly sumps, and monotonous stretches of sand and sagebrush. As a result of this stereotype, [these] lands have languished in the backwater of public concern, receiving little of the solicitous attention that has saved so much of our national park and forest lands." Watson points out, however, that the stereotype is dead wrong, for this immense territory is rich in wilderness beauties — in mountains and canyons and deserts, in forests and lakes and rivers, in wildlife of a stun-

ning variety. As well, it is equally rich in grass, timber, and mineral resources. The public domain is neither bleak nor forsaken by God; it is the largest part of what we have left to give to those who must follow us.

Who's got it?

The 453 million acres of the public domain is administered by the Bureau of Land Management, an organization forged from an amalgamation of two other agencies in 1934: the General Land Office, administrator of the public domain since 1812, and the Grazing Service, established by the Taylor Grazing Act of 1934 to oversee the

The Bureau of Land Management has suffered since its beginning from an overdose of neglect. It is understaffed, underfunded, and underpowered.

use of western rangelands by cattlemen. For the next twelve years, the General Land Office and the Grazing Service shared responsibility for the federal lands, but in 1946, during the executive reorganization shakeup of the Truman administration, these two agencies were abolished and the Bureau of Land Management created to perform the functions of both under the aegis of the Department of the Interior.

The position of the BLM among

federal agencies is unique in more ways than one. Not only does it supervise more public land than any other federal organization — more than all other agencies combined, in fact — it has some residual management responsibilities on millions of acres withdrawn for use by other departments, such as the Bureau of Reclamation, the Bureau of Sport Fisheries and Wildlife, and the Department of Defense. It administers the revested Oregon and California railroad lands, the reconveyed Coos Bay Wagon Road timber lands, and more than two million acres of lands acquired by the United States under the Bankhead-Jones Farm Tenant Act. It supervises all laws related to disposal of public domain lands. In cooperation with the Geological Survey, it is responsible for the administration of the mineral laws on all public domain and acquired lands (including national forests and wildlife refuges), reserved mineral interests, and those on the Outer Continental Shelf. It keeps the basic public land records and does boundary surveys for most federal lands. Altogether, the BLM has all or part of the responsibility for more than 800 million acres of federal land.

That is a huge task, obviously, but like the public domain itself, the Bureau of Land Management has suffered since its beginning from an overdose of neglect. It is understaffed, underfunded, and underpowered. Moreover, it is crippled by the fact that it has never been given any clear idea of how it is supposed to go about its business. It was created as the bastard child of two agencies whose own reg-





Moose country: Alaska contains a far larger part of the public domain than any other state.

ulations were a wilderness of confusion, and that morass was its main inheritance. As Secretary of the Interior Rogers C. B. Morton has written: "Despite the enormous responsibilities of the BLM, the definition of its mission and the authority to accomplish it have never been comprehensively enunciated by Congress. Rather its mission and authority must be gleaned from some three thousand land laws which have accumulated over some 170 years and which are often at cross purposes."

Deprived of clear goals, adequate financing, needed staff, police power, and the ability to either formulate policy or suitably regulate what little policy exists, it is not surprising to find that the BLM has been driven to beg the public's cooperation through such advertising gimmicks as the "Johnny Horizon" clean-up campaign, or to learn that it has been less than successful in its attempt to control off-road vehicle use on the public lands, or that its regulation of mining, grazing, and timber laws has tended to be piecemeal and often ineffective, or that its disposal policies have too frequently been whim-like in their inconsistency—in short, that the BLM has been powerless to give the public domain the care it needs. What *would*

be surprising would be to learn that Congress is willing to let the situation continue. There are indications that it is not. Indications—but so far no guarantees.

What are we going to do with it?

After the Taylor Grazing Act of 1934, the first major attempt to untangle the mess of public land policy came in 1964, when Congress passed the Public Land Law Review Commission Act, the Public Land Sale Act, and the Classification and Multiple Use Act (these latter two acts expiring on December 23, 1970).

The Public Land Law Review Commission Act created a body consisting of six members of the Senate, six members of the House of Representatives, and six presidential appointees, together with an advisory council of 25 members. It was chaired by Congressman Wayne Aspinall of Colorado, and its stated function was to study "all existing statutes and regulations governing the retention, management, and disposition of public lands," to review "policies and practices of federal agencies administering these laws," to determine "present and future demands on public lands," and finally to issue a report when its considerations had ended.

The Public Land Sale Act allowed the sale of public land which was valuable chiefly for certain specified uses, such as tracts for new towns, industrial sites, or other such major intensive uses. The Classification and Multiple Use Act directed the BLM to classify the public lands, determining which were suitable for disposal and which suitable for retention and management by the government under the principles of multiple use and sustained yield. Under the provisions of this act, the BLM classified some 177 million acres for retention and management, and only 3.5 million for disposal under the various land laws. Prodded on by conservationists concerned over the fact that the Wilderness Act of 1964 did not apply to BLM lands, the bureau also designated six tracts comprising more than 150,000 acres as "primitive areas" and recommended that they be reserved for permanent protection. When the Classification and Multiple Use Act expired in 1970, the BLM returned to the Taylor Grazing Act for the authorization to continue its classification program; unfortunately, the Taylor Grazing Act does not apply to lands in Alaska, and 262 million acres remained unclassified.

On June 30, 1970, the Public Land

Law Review Commission (PLLRC) issued its report, entitled *One Third of a Nation's Land*. It was greeted with dismay by conservationists, particularly in regard to its sections concerning retention and disposal. While acknowledging that a "majority" of the public lands should be held for federal management, it castigated the BLM for the "hurried" and "inadequate" planning which led to the retention of 90 percent of the public domain outside Alaska and recommended that the classifications "should be changed," presumably to be revised downward. While advocating the repeal of the antiquated land laws under which the public domain was administered, it set up proposals that would have enabled nearly every kind of commercial user to pick up whatever chunks of land might be useful in their operations, from farming to resort development. "The most that can be said for the commission's recommendations on disposal," the Sierra Club's Executive Director Michael McCloskey wrote in August, 1970, "is that 'wholesale' disposal of the public domain is not recommended, and that the disposal 'game' would not be played within the thicket of all the old disposal laws. The commission, however, would build a new and more efficient system to get rid of the public domain wherever a plausible taker can be found." Other conservationists agreed. "In a manner of speaking," one of them said, "PLLRC would like us to believe they are offering protection to the 'grapes,' while they actually withdraw them in deference to the foxes who want to eat them."

Notwithstanding conservationist opposition to the proposals contained in *One Third of the Nation's Land*, 1971 saw members of the Senate and House introduce a rash of public land law bills, many of which, in one degree or another, incorporated most of the commission's recommendations. The most prominent and notorious of these, unsurprisingly, was H.R. 7211, introduced by Congressman Wayne Aspinall, chairman of the Public Land Law Review Commission. Testifying before the House Committee on Interior and Insular Affairs on July 28, 1971, McCloskey outlined the crippling assumptions of Aspinall's bill: "These assumptions are: (1) that federal lands should be managed more than they have been with local interests in mind; (2) that more public

lands which are economically valuable should be put in private hands; (3) that multiple use should be re-oriented toward maximizing combinations of uses, and that sustained yield should no longer mean maintaining regular periodic output at a high level, but merely output at unspecified levels at least cost to meet shifting markets; and (4) that the administering agencies should be hamstrung in a way that curtails their freedom to make withdrawals to protect fragile environments, and in a way that maximizes the influence of interests which are intent upon obtaining increased emphasis upon commodity production."

Thus, a giant step backward for the public domain, one that matched in spirit, if not technique, the disposal practices of the nineteenth century. To keep the bill's entrepreneurial dreams from becoming reality, the Sierra Club, with a coalition of other conservation groups, economists, and land law specialists, invested Congress with one of the most intensive campaigns in conservation history. It succeeded, and if the public domain did not get a new set of rules in 1971, or again in 1972, neither was it victimized by the ancient game of giveaway.

While opposing Aspinall's scheme, conservationists also put together a set of goals which any "organic act" concerning the public domain should attempt to meet. Briefly stated, these are:

- Repeal of the backlog of obsolete disposal laws and confirmation of the national intent to retain all but a tiny fraction of the public domain in federal ownership, much along the lines of the BLM's recent classification program.
- To make the Bureau of Land Management a permanent agency with broad, modernized management authority and a mandate to mark the boundaries of its holdings, name them, and regulate them with genuine police powers.
- Repeal of the Mining Law of 1972 (which employs a system of rectangular 20-acre mining claims on public lands) and its replacement with a mineral leasing system which can prevent mining whenever it conflicts with such other higher uses as environmental protection.
- The development of programs to

improve the protection afforded environmental values on the public domain, particularly by identifying and setting aside those portions most valuable as wilderness and wildlife areas—probably under less rigid classification standards than those now used, since many parts of the public domain have in fact been altered in some degree by men over the past two centuries. Those "primitive areas" already classified by the BLM should be included in this program, and the ten million additional acres that the bureau has studied for possible wilderness classification should be protected for at least ten years, or until their potential as wilderness has been determined.

- The simplification and modernization of administrative procedures governing the public domain, including reforms to replace revenue sharing with payments in lieu of taxes and for carrying over annual appropriations.

With such goals in mind, conservationists have steadily waged a battle to dilute the pernicious influence of the Public Land Law Review Commission's report; each bill formulated after Aspinall's H.R. 7211 has gradually come closer to realizing those goals, and to satisfying the spirit of President Richard Nixon's statement of 1971: "The public lands belong to all Americans. They are part of the heritage and the birthright of every citizen. It is important, therefore, that these lands be managed wisely, that their environmental values be carefully safeguarded, and that we deal with these lands as trustees for the future."

Today, there are two bills under consideration, S. 1041 in the Senate and H.R. 5441 in the House—each designated the "National Resource Lands Management Act of 1973." Hearings already have been held on each bill, and more are scheduled for this winter—providing Congress is properly encouraged to pursue the matter. It should be, for if neither of these bills is perfect, both are light-years removed from the kind of thinking represented by *One Third of the Nation's Land*. Properly revised, they could give the public domain, that luckless child of history, the first intelligent management program it has ever known.

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A country that runs on oil
had better run fast.

The Crisis We Won't Face Squarely

ROBERT ENTWISTLE

ALFRID TOYNBEE has suggested that civilizations rise because of some fortunate set of characteristics and usually fail from an excess of those same characteristics. These days, the average American uses more energy in a week than a man living 150 years ago used in a lifetime. Our production and distribution of cheap energy is far beyond anything known before in history. Cheap energy in huge quantities is at the root of our affluence—and may be at the heart of our imminent demise.

Since 1945 our domestic consumption of oil has been rising at the rate of 5.4 percent a year, and this pattern of exponential increase shows every sign of continuing. Yet in 1971 our domestic extraction of oil, which had been following the upward trend of demand and use, suddenly stopped increasing.

The oil supply crisis is bracketed between our geometrically increasing consumption and the plain fact that we are in the first stages of running out of domestic oil supplies. We mistake the real problem when we talk about a shortage of oil, for what we are actually facing is a consumption rate far in excess of a rational oil budget.

There is little that we can do to increase our oil supply. Exponentially increasing oil importation is almost certainly fiscally unsound and politically undesirable, while new sources of refinable fuels will be economic (and environmentally acceptable) only some years in the future. But the most frightening aspect of this problem is the continued silence of the federal administration in the face of

national confusion about the cause of the oil shortage. It is as if the administration did not trust the American people to know the truth.

There is strong evidence that much of our oil consumption is more a habit of consumption than something essential to our affluence or standard of living. We will argue (with the support of the President's Office of Emer-



gency Preparedness) that an all-out "crash" program of oil conservation is our best hope, perhaps our only hope.

The Oil Crisis Defined

The United States has six percent of the world's population, nine percent of the world's oil reserves—and uses 49 percent of the world's energy. That said, it should not be surprising to see the tremendous gap between our consumption and extraction rates that is illustrated by chart A. In 1971, our

rate of domestic extraction no longer matched our rate of consumption. The extraction rate, in fact, leveled off, and it is expected to stay at 1971 levels for the next 15 years or so before starting to drop sometime after 1990. Consumption, on the other hand, continues to rise at the rate of about 5.4 percent a year. This is caused partially by the rise in our population, but a far more significant cause is our steady increase in the per capita consumption of energy; year after year, Americans are using more and more of the stuff that feeds our technology. The difference between domestic extraction and consumption, then, is our "oil deficit." It is, simply, the difference between what we have and what we use.

That deficit is increasing at the rate of about 300 million barrels a year. The deficit for 1973 will probably reach 1.7 billion barrels. By 1981, the oil deficit will approximately equal every barrel of oil we can suck out of our own ground and tidelands. The paucity of our own resources is appalling. While oil companies recently have shown some urgency in getting at the oil off the west coast of Florida, for example, the sad fact is that if we could obtain this oil all at one time it would be consumed in a little over four months. Similarly, the much-heralded Arctic oil reserves, the subject of so much antagonism lately between the oil industry and environmentalists, probably represents less than four years of a fuel supply. Such sources are far from solutions. There is no solution so long as the problem continues to be viewed in terms of

meeting our growing levels of consumption. A survey of choices shows us blocked at every turn.

The Fallacy of Importation Revealed

We may be able to alleviate the deficit for the next several years by increasing our importation of foreign oil. To think this is a solution, however, is a snare and a delusion, for importation is economically dangerous and ultimately self-defeating.

We spent the past 25 years teaching the world about economic diplomacy, and now there is some evidence that the Middle East states have learned. Not only have several of these states cut us off from their oil supplies altogether (although hopefully temporarily), several others have raised their prices to five dollars a barrel and the others are likely to follow. The effect of the probable rise in oil prices over the next several years is illustrated in Chart B. The cost of importing our oil needs could be as high as 15 billion dollars a year within five years.

This is ruinously expensive, obviously, but it has another effect which is more insidious—and damaging. We have had a negative balance of trade for some years now, and increasing

prices for imported oil are not likely to help the situation. Our current high interest rates have helped maintain the value of the dollar, such as it is, on the international market by attracting foreign holders of dollars to investment in the United States—but some of these investments are positively sinister in their implications, such as Japanese investors getting involved in the strip mining of American coal and the clear-cutting of American forests. We may ultimately find ourselves in the peculiar position of letting our non-oil resources get ripped off by the Far East so that we can afford to buy the oil resources of the Middle East.

If we insist on maintaining our present rising oil consumption rate, we will have to make some difficult compromise that might not be worth the cost. Attempting to solve the problem by exponential importation may require that we sell our economic soul—and even that solution would be temporary, since like our oil, our soul is probably finite.

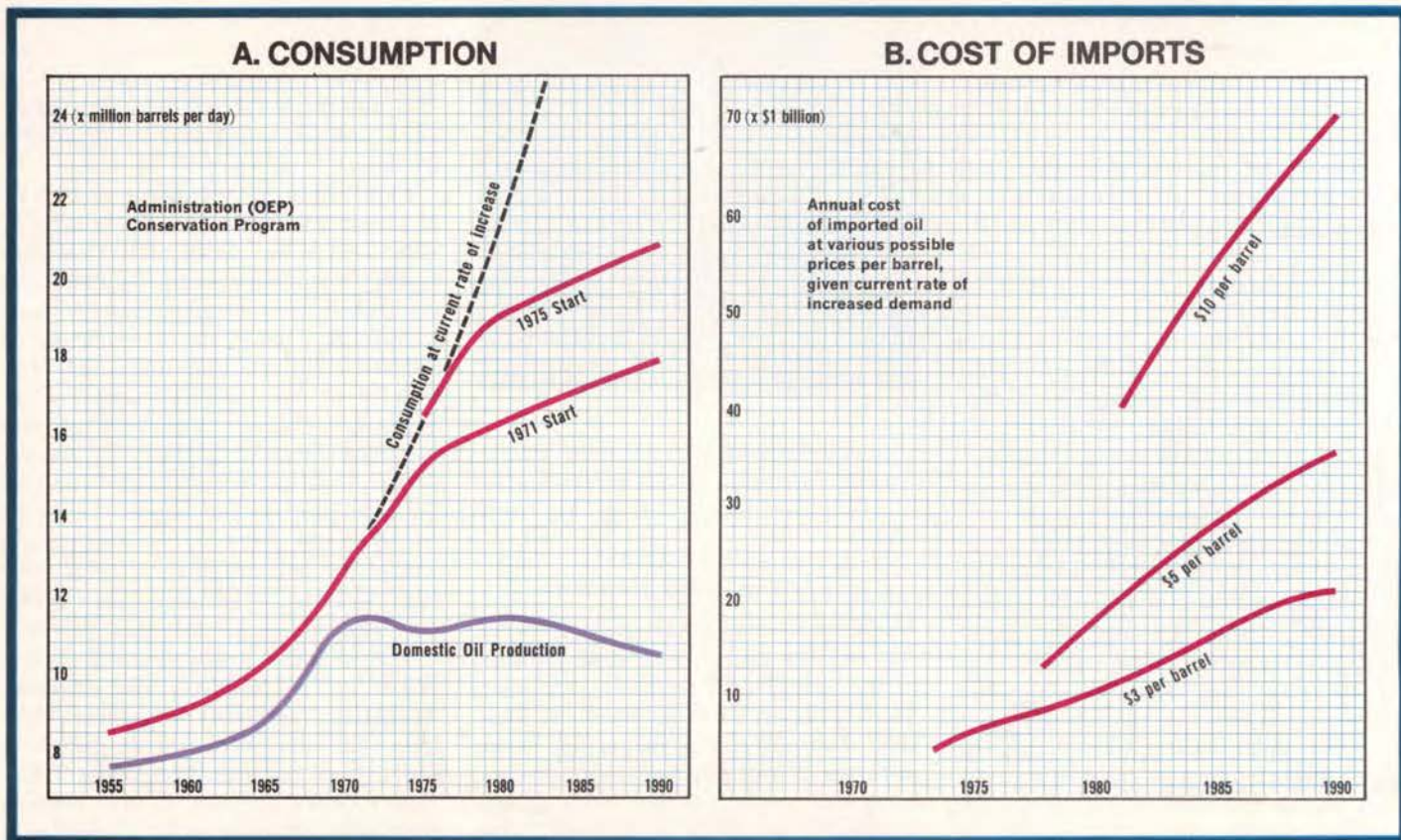
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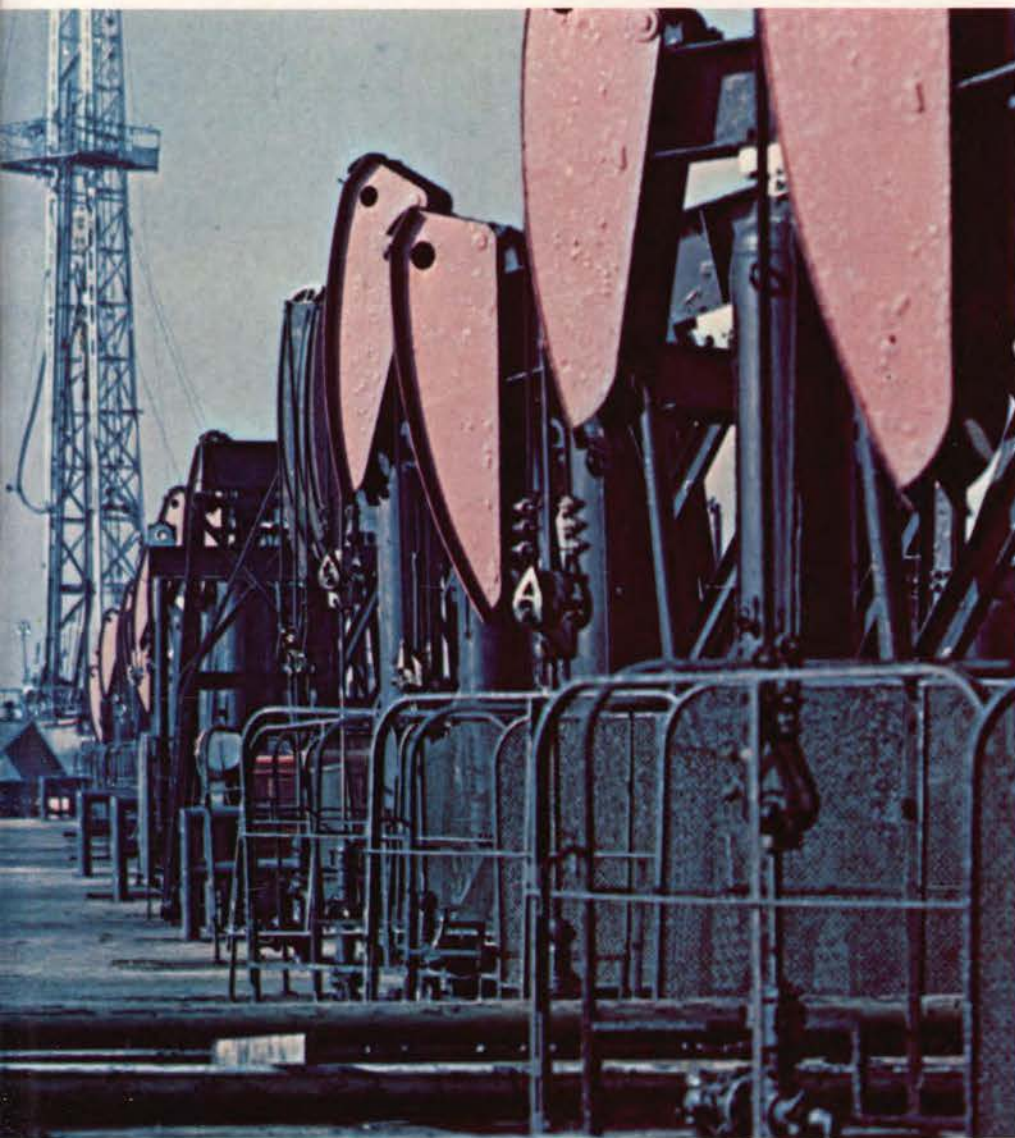
Two sources appear marginally feasible now. They are shale oil and the high-temperature reduction of coal (pyrolysis). There is some research

now going on in shale oil, but with our conventional technology costs are still extremely high even considering the rising price of conventional oil. While leases are now being granted, the Bureau of Mines estimates that substantial fuel from shale oil is 10 to 15 years away, and the environmental effect would probably be profound. Under conventional methods, the extraction of shale oil would mean massive strip mining projects in Colorado and Utah. Ten times as much material has to be mined and processed to obtain the same amount of energy out of oil shale as compared with coal. And an enormous burden on water supplies would be placed on an area already short of water.

Coal pyrolysis is more promising. The Russians have reported moderate success, and our Bureau of Mines has been running a pilot plant for some years. Again, the process has a long way to go before it becomes competitive with present oil costs, with estimates varying between 8 and 15 years before substantial quantities of fuel can be produced.

Given the technological, environmental, and economic problems involved with shale oil extraction and coal pyrolysis—not to mention the





Pump till the well runs dry. . . . Domestic oil production is not projected to increase significantly despite constant exploration and drilling in Alaska and the lower 48. The great oil pools of the earth are indeed finite.

time it will take for either to become practical—we cannot reasonably consider them to be present solutions. They are just two more definitions of the problem.

The Heart of Our Dilemma Illuminated

There is no way that this writer can detect to increase our oil supply to actually meet our ever-growing demand. As noted, there are a number of things we can do to maintain our present supply level for the next 15 or 20 years, perhaps even increase it slightly. But the real problem simply will not go away. That problem is the consumption rate, compounded of our increasing population and an increasing per-capita use of energy. It is clearly telling us, as it has been telling us for years, that we have been extracting oil at rates which were not in our long-range best interests. We apparently have chosen to ignore that lesson in the past; we cannot afford to

ignore it any longer.

The information that we would begin to run out of oil in the early 1970's has been known for at least 25 years. But consider only the past 10 years, how have we reacted?

- We permitted automobile efficiency to decline almost 9 percent.
- We permitted our mass transportation systems to almost disappear.
- We doubled our use of oil to produce electricity.
- We spent almost \$50 billion on an interstate highway system.

Suppose we had taken just one of those highway billions and put it into the research for a truly economical 100 mpg personal transportation system; not only would this have saved us billions of barrels of oil, and improved our international economic situation by perhaps billions more, it could have cut our automobile emissions by

more than half. Suppose we had put a couple more of those billions into modernizing the 19th-century technology of the railroads. Suppose we had put one of those billions into research that would have shown us how to use high-sulphur coal without pollution in generating plants, instead of oil.

The fact is that the choices we made with respect to energy were more often the wrong choices. We were approaching oil bankruptcy and we ignored the fact. We tended not toward an oil conservation policy, but toward increased use of energy-inefficient systems. This is well illustrated in the transportation sector.

We use 61.8 percent of our oil consumption, or 9.8 million barrels per day, for transportation. Have we made the most efficient use of our transportation technology in terms of conserving oil? In *Energy Trends and Their Future Effect on Transportation*, W. E. Mooz used the term "energy intensive-

ness" to describe the relative energy efficiency of the various transportation systems. (The data in the passenger sector are shown in figure 1.) Driving an automobile requires more than three times the energy of a bus, and 17.4 times more energy than riding a bicycle. In the typically congested urban situation a bicycle is about as fast as a car. The use of the airplane is growing faster than any other mode and illustrates that we are actually

FIGURE 1

Mode	Energy Intensity Btu-Passenger Mile	Percent of Use
Airplane	7150	9.3
Automobile	5400	88.8
Train	2620	0.7
Bus	1700	1.2
Backpacking (2 mph)	906	Neg.
Walking (3 mph)	524	Neg.
Bicycle (8 mph)	310	Neg.

trending toward the lowest energy-efficient system.

The automobile accounts for 4.6 million barrels of oil a day, or more than 29 percent of our total consumption. Since 1940 the energy efficiency of the automobile has declined from 15.3 mpg to 13.4 mpg because of increases in the weight of cars and the size of the motors. In 1973 that 30-year trend toward bigger and faster cars will require that we use 201 million more barrels of oil. That's a lot of oil for a sex symbol.

Anti-pollution devices will impose a further 15 percent decrease in automobile energy efficiency and increase oil consumption by 4 percent. But suppose we could double the energy-efficiency of cars? That would cut oil consumption by almost 15 percent and would reduce emissions very greatly. After years and billions of dollars worth of advertising, about the only way we have to change the big car habit is to recognize what big cars are really costing us and to add part of that cost to their price.

An annual tax, which would be zero for 30 mpg cars and gradually rise to \$1,000 for cars getting less than 10 mpg, could be an effective approach. If we imposed 10 percent of the tax next year and increased it 10 percent every year for ten years, we could effect a significant change in both oil consumption and air pollution. Bills now before Congress recognize the

need for progressive taxes, but none of them imposes penalties adequate to force the swift development of more economical automobiles.

As Rogers Morton observed, present emission control regulations will be canceled out in ten years by the increase in automobiles. A 50 percent reduction in emissions could have a dramatic and long-range effect. It would save us billions in our foreign trade deficit, and save lives through decreased lung cancer rates.

The transportation of freight uses 3.3 million barrels of oil per day, or 21 percent of our total consumption. As shown in the table below, the patterns away from energy-efficient systems are almost identical to the passenger sector.

Mode	Energy intensity BTU/Ton Mile
Airplane	63,000
Truck	2,400
Rail	750
Ship	500

Of the oil used for freight transportation, 60 percent is used by trucks, but they only carry 19 percent of our freight. The \$40 billion spent on the interstate highway program stands in stark contrast to the \$900 million doled out to the near bankrupt railroads in the same period. Clearly, the Highway Trust Fund amounts to a significant subsidy of the relatively inefficient trucking industry.

The long-range fact of the matter is that automotive and trucking fuel is almost a minor part of the problem. Indirectly, the automotive industry alone employs one in every seven people. The energy used to produce and support the automobile and truck is almost as large a part of our budget as the fuel. In 1968 the breakdown of automotive materials consumption appeared as it is shown below:

Item	Gross Market Consumption
Steel	21.0%
Aluminum	10.4%
Lead	54.7%
Nickel	14.3%
Natural rubber	68.8%
Zinc	36.5%

Our oil problem is the first dramatic example of what Dennis Meadows was talking about in *The Limits of Growth* when he predicted a catastrophic decline in population as a result of exponential growth and the

consequent depletion of raw materials. Automobiles and petroleum are the single most dominant influence on both the American and the international economy and upon our usage of raw materials, and the great majority of our seemingly unregulated conservation problems can be directly traced to their influence.

A Solution Proffered

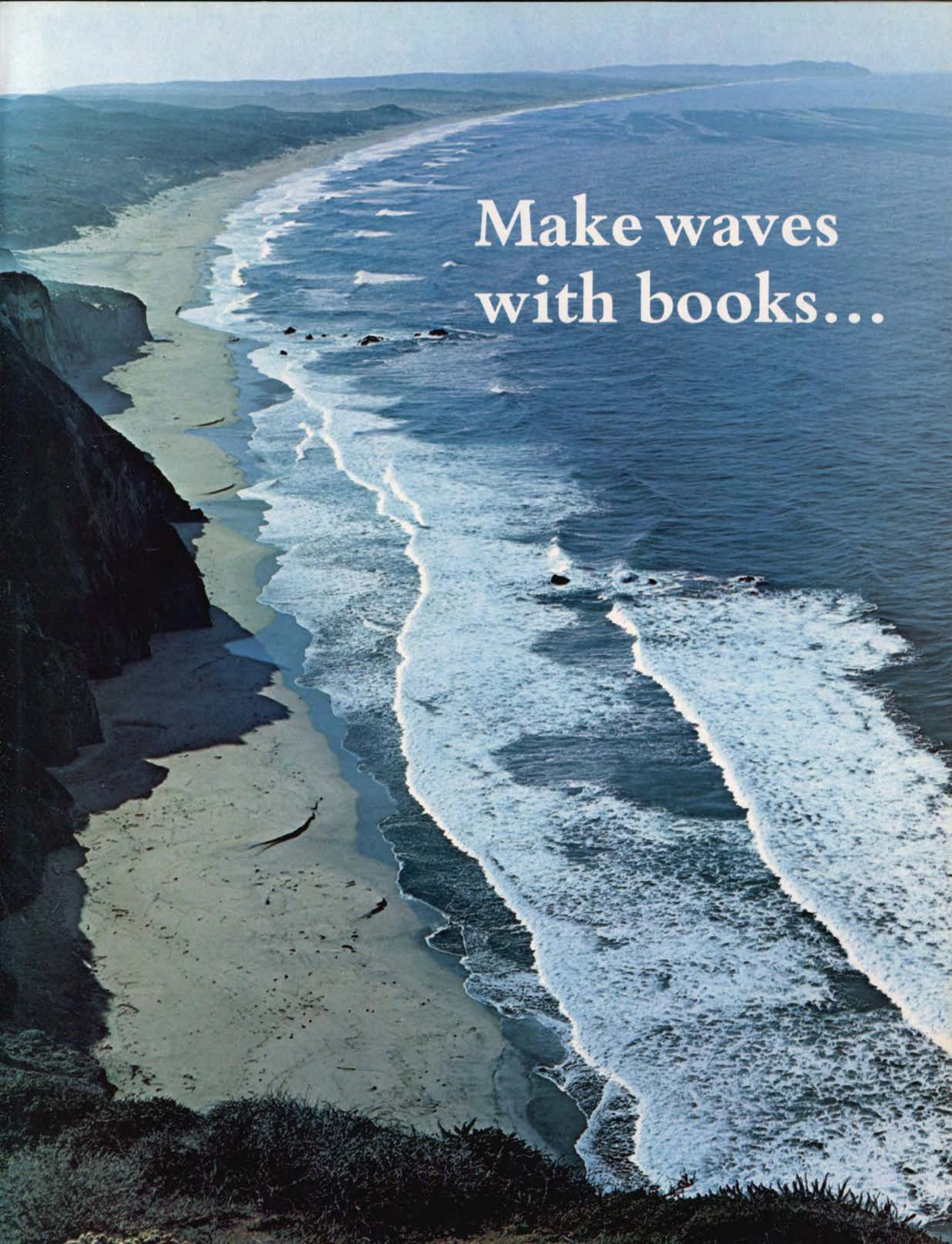
Can we reduce oil consumption and general consumption without reducing our standard of living? Clearly "yes" if we measure affluence as a matter of "quality" rather than "quantity." I would guess that almost a hundred billion has been spent on production/consumption advertising in the past 25 years. General Motors alone spends a quarter billion a year. Most of this incredible fortune has been spent to convince us that "newer," "bigger," and "more powerful" would improve our masculinity, sexuality, and social standing.

Consume we did. But I doubt that the advertising has done much more than reduce our complaints about the absence of alternate values. The key question reduces to, "Can we make our powerful industrial complex serve the long-range needs of the people?"

Part of the answer to date lies in the strange energy-related inaction of the Administration. This is compounded by the presence of a detailed study by the President's Office of Emergency Preparedness outlining energy conservation measures which they estimate would reduce consumption 30 percent over what would be projected at present levels of increase. Chart A shows the effect of oil conservation measures suggested by the OEP beginning in 1971. However, that date is long past. Also shown in Chart A is the effect of the same mild conservation measures (home insulation, car pooling, etc.) starting in 1975. The same intensity of effort toward conservation has a lower effect because consumption has continued to increase. The procrastination means that through 1990 the consumption deficit will be 16 billion barrels worse or the conservation effort must be more intensive.

Why does the Administration procrastinate? Why does the President tell us to "drive slower and have faith in free enterprise?" The impression is that it is explained either by an un-

Continued on page 32

An aerial photograph of a coastline. The ocean is a deep blue, with white foam from waves crashing onto a wide, sandy beach. The beach curves along the coast, and the land beyond it is a mix of green and brown, suggesting a natural, undeveloped area. The text "Make waves with books..." is overlaid in white, serif font on the right side of the image.

Make waves
with books...

First, a tapestry of memory and observation,
a gift of joy to one of the longest
and most beautiful coastlines on earth . . .

On the Shore of the Sundown Sea

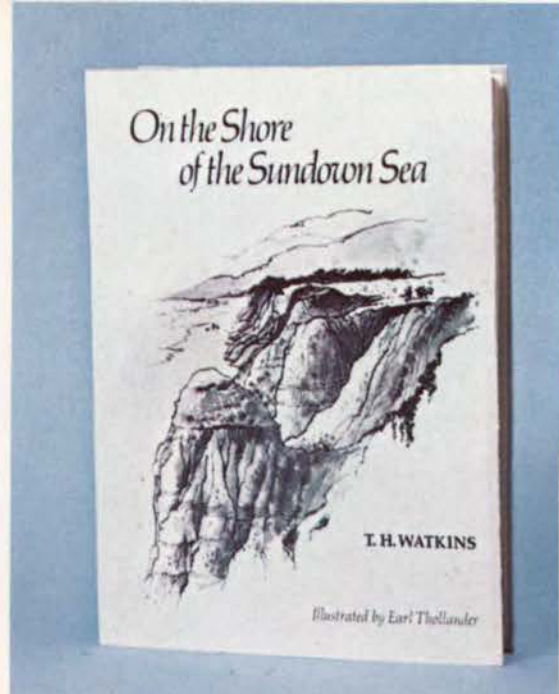
A SIERRA CLUB BOOK BY T. H. WATKINS /
ILLUSTRATIONS BY EARL THOLLANDER /
128 PAGES / RETAIL PRICE \$7.95 /
MEMBER'S PRICE: \$6.50.

Thirty years ago, a small boy stood on the sands of Salt Creek Beach in Southern California and knew that he had found a home for dreams. Twenty years after that, a man who had learned to suspect dreams lay in exhaustion on the sands of a beach along the San Mateo Coast of Northern California; he slept, and when he woke he knew that he had experienced a kind of homecoming.

On the Shore of the Sundown Sea is the story of that boy and that man and of the landscape of sun, sand, and sea which gave him a measure of joy and hope, and the illusion of freedom. Weaving the strands of an eloquent prose, Watkins has created in this book a tapestry of memory and observation: of trifling with the surf when he became "something as mutely wondrous as the sea itself," of the

ritual of seaside camping, of the poetry of Robinson Jeffers, of the delights and travails of houseboat life on San Francisco Bay, of oilspills and ruined birds, of the wreckage the fools of time have made of the coast of his youth, of Proposition 20, California's successful coastline initiative which sought to put an end to unrestrained progress—of all this and more.

Written by a man whose *California: An Illustrated History* has recently been nominated for the Pulitzer Prize, and superbly illustrated by Earl Thollander, whose drawings are reproduced for the book in an elegant two-color process, *On the Shore of the Sundown Sea* is a lyrical testament to what one of the longest and most beautiful coastlines in the world has given to one man—and to all of us.



The Second Wave

The "second wave" is our way of saying we have three new books off press—books we *didn't* have when the first wave of Fall titles broke in the October *Sierra Club Bulletin* (remember Bonnie & Claus?). And it is your way of seizing a second and last chance to make waves this Christmas with Sierra Club books.

If you let the first opportunity pass by, we hope you at least tucked your October *Bulletin* away in a handy spot. Take it out now, for it contains full descriptions of the other new titles on our list—books such as *A town is saved, not more by the righteous men in it than by the woods and swamps that surround it*; *The Sand Country of Aldo Leopold*; two new handsome portfolios of color prints, and a pair of new Totebooks.

If someone has absconded with your October issue, then you may refresh your memory on the page after next. And don't forget to consider again some of the best-selling titles of our backlist. For a reminder of those, please run your eye over the attached order form.

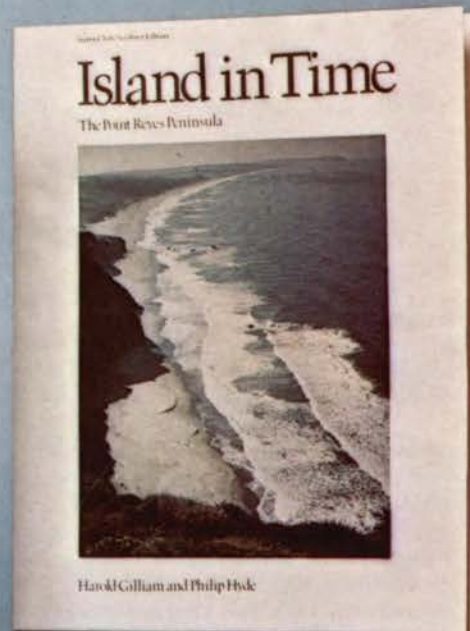
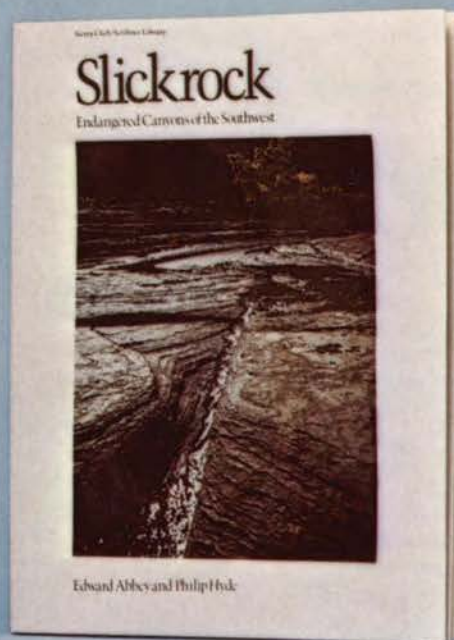
A final word about ordering. At this late date, we are racing the Christmas clock. Send your order *today*—and be sure to include the 15 percent surcharge for extra postage to speed your books on their way. But if the time seems a bit too tight for Christmas, well, who says you can't make waves on New Year's Day? Or any day, for that matter.

(Photo previous page: By Philip Hyde from *Island in Time*)



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the new Sierra-Scribner
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SOUTHWEST / WORDS BY EDWARD
ABBEY AND 68 FULL-COLOR PHOTOS BY
PHILIP HYDE / 144 PAGES / 8½" x 11" /
RETAIL PRICE: \$4.95 / MEMBER'S
PRICE: \$4.00.

Here, with the color fidelity and fine printing of the original Exhibit Format volume, is the long-awaited paperback edition of a book Roger Jellinek of *The New York Times* called "the most spectacular and the most militant one yet." Here are the canyonlands of Utah, their exquisite wildness threatened by fallout from Four Corners powerplants and by the dotted lines on the one-dimensional maps of the highway engineers. Here is Edward (*Desert Solitaire*) Abbey, articulate, angry, amusing as he describes the region's natural and human history and the contemporary forces that would destroy the wilderness in the name of industrial tourism. And here, too, is Philip Hyde, whose uncanny eye and skill with the view camera provide a visual feast of closeups and panoramas, from the incomparable Escalante across the Waterpocket Fold to the sandstone battlements of Canyonlands National Park. A beautiful book. A meaningful gift for *all* seasons.

Island in Time

THE POINT REYES PENINSULA / WORDS
BY HAROLD GILLIAM AND MORE THAN
50 PHOTOGRAPHS BY PHILIP HYDE
(INCLUDING 32 IN COLOR, NEW IN THIS
REVISED EDITION) / 96 PAGES / 8½" x 11" /
RETAIL PRICE: \$4.95 / MEMBER'S
PRICE: \$4.00.

Out of print for nearly two years, this popular tribute to a most popular national seashore has now been revised with an up-to-date introduction and some 32 new color photographs expertly reproduced by the distinguished Italian printer, Mondadori Editore. Harold Gilliam's text, as timely (and as timeless) as it ever was in the first edition of 1962, distills all the variable moods of the Point Reyes Peninsula even as it explores the perspectives of history and the phenomena of wind, fog, sand, sea and sun. And Philip Hyde's photographs illustrate superbly why the peninsula is, indeed, in the words of Stewart Udall, "an island . . . in the hour of our nation's need." Together, Gilliam and Hyde have collaborated in a work to be appreciated by those who cherish wild shores everywhere, and who understand, as David Brower did in commissioning their original effort, why "we need a place to stand and watch—to feel the pulse-beat of the world as the surf rolls in."

The First Wave

Being a recapitulation of new titles announced in the October *Bulletin*.

The Sand Country of Aldo Leopold

A PHOTOGRAPHIC INTERPRETATION BY CHARLES STEINHACKER / ESSAY BY SUSAN FLADER / SELECTIONS FROM THE WRITINGS OF ALDO LEOPOLD / WITH 35 FULL-COLOR PHOTOGRAPHS / 96 PAGES, 9" x 9" / RETAIL PRICE: \$14.95 / MEMBERS' PRICE: \$12.50.

Here is a handsome book in which a gifted nature photographer and a dedicated historian-biographer share their understanding of a person and a place—a person who has come to be regarded as a prophet in the evolution of a new relationship between man and land, a place little known and undistinguished save as it stimulated in that person and others a deepened respect for the larger community of life.

*A town is saved, not more
by the righteous men in it
than by the woods and
swamps that surround it.*

A LANDFORM BOOK BY MARVIN MORT AND CHARLES E. LITTLE / CAPTIONS BY GEORGE U. JONES / WITH MORE THAN 40 COLOR PHOTOGRAPHS / 128 PAGES, 10 $\frac{1}{4}$ " x 12" / RETAIL PRICE: \$19.95 / MEMBERS' PRICE: \$17.50.

Because of their proximity to the towns and cities where most of us live, the wildlands of urban America are no less important than the greatest of our national parks. And here, at last, is a book that pays special tribute to those fragile secret places. In his essay exploring the literary roots of the land-saving movement, Little warns that environmentalists must now balance their "predictions of apocalypse with visions of a better life." The color photographs by Marvin Mort help provide such visions.

The Sierra Club Gallery:

Trees by Richard Rowan
Mountain and Desert by Philip Hyde

TWO SEPARATE SETS OF LITHOGRAPHIC COLOR PRINTS / EACH PRINT 11" x 14" AND SUITABLE FOR FRAMING / EACH PORTFOLIO INDIVIDUALLY SHRINK-WRAPPED / RETAIL PRICE: \$6.95 EACH SET / MEMBERS' PRICE: \$5.50 EACH.

Wilderness Skiing

BY LITO TEJADA-FLORES AND ALLEN STECK / SKETCHES AND PHOTOGRAPHS / 276 PAGES / RETAIL PRICE: \$6.95 / MEMBERS' PRICE: \$5.50.

For the skier who is disenchanted with high costs, crowded slopes and snow-balling commercialism, here is *the* Totebook on how to get away from it all. Enchantingly and informatively written by ski instructor Lito Tejada-Flores with Allen Steck, editor of *Ascent* (the Sierra Club mountaineering journal). Included are chapters on: Nordic cross-country and alpine touring techniques . . . clothes, boots, waxes and accessories . . . planning the tour . . . shelter . . . food selection . . . snow hazards . . . first aid and evacuation . . . where to go—from New England to the High Sierra.

Hiking the Yellowstone Backcountry

BY ORVILLE BACH / 228 PAGES / MAPS / RETAIL PRICE: \$4.95 / MEMBERS' PRICE: \$4.25.

Hiking the Teton Backcountry

BY PAUL LAWRENCE / 176 PAGES / MAPS / RETAIL PRICE: \$4.95 / MEMBERS' PRICE: \$4.25.

The backcountry of Yellowstone and Grand Teton national parks contains some of the most scenic—and wild—country remaining in America today. Yet, for want of adequate guides, few hikers have been able to enjoy the wilderness that lies but a few miles from the parks' developed areas. Now, with these new Totebooks, ramblers may leave the madding crowds behind and strike out for higher, wilder country.

On October 28, fire gutted the warehouse of Western Book Service in San Francisco, destroying upwards of 50,000 Sierra Club books and calendars. Several other publishers lost substantial inventories in the blaze.

For those of you who may experience some delay in the fulfillment of a Christmas book or calendar order, we solicit your patience. We assure you that the employees of Western Book and the Club's own staff will do their utmost to compensate for this unfortunate interruption of service.

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Florida shelf development

Pumping Oil in Untroubled Waters?

FLORIDA, LIKE CALIFORNIA, attracts millions of tourists, spawns more than its share of zany schemes, and seems always on the verge of being developed back to the Stone Age. Both states, so rich in sun and resources, have a genius for environmental problems, and in Florida the newest potential disaster is the prospect of offshore oil development, an enterprise with which California has also had some experience. The Bureau of Land Management has recently proposed to lease for oil exploration some one million acres beneath federal waters on the Outer Continental Shelf (OCS) on the Florida Gulf Coast. Located beyond the three-league (10.35 miles) line that divides state and federal territory, these lands comprise the first area scheduled for oil leases since President Nixon's announcement in his April 18 statement on energy of his decision to triple the annual acreage of OCS lands leased by 1979. The Department of the Interior has made available a draft environmental impact statement of some 800 pages, and held public hearings in Tallahassee in late August. Environmentalists view the proposed OCS leases in Florida as the first sign of a new wave of offshore oil production which, if unchecked, will wash over the coasts of New England, Alaska, and Southern California.

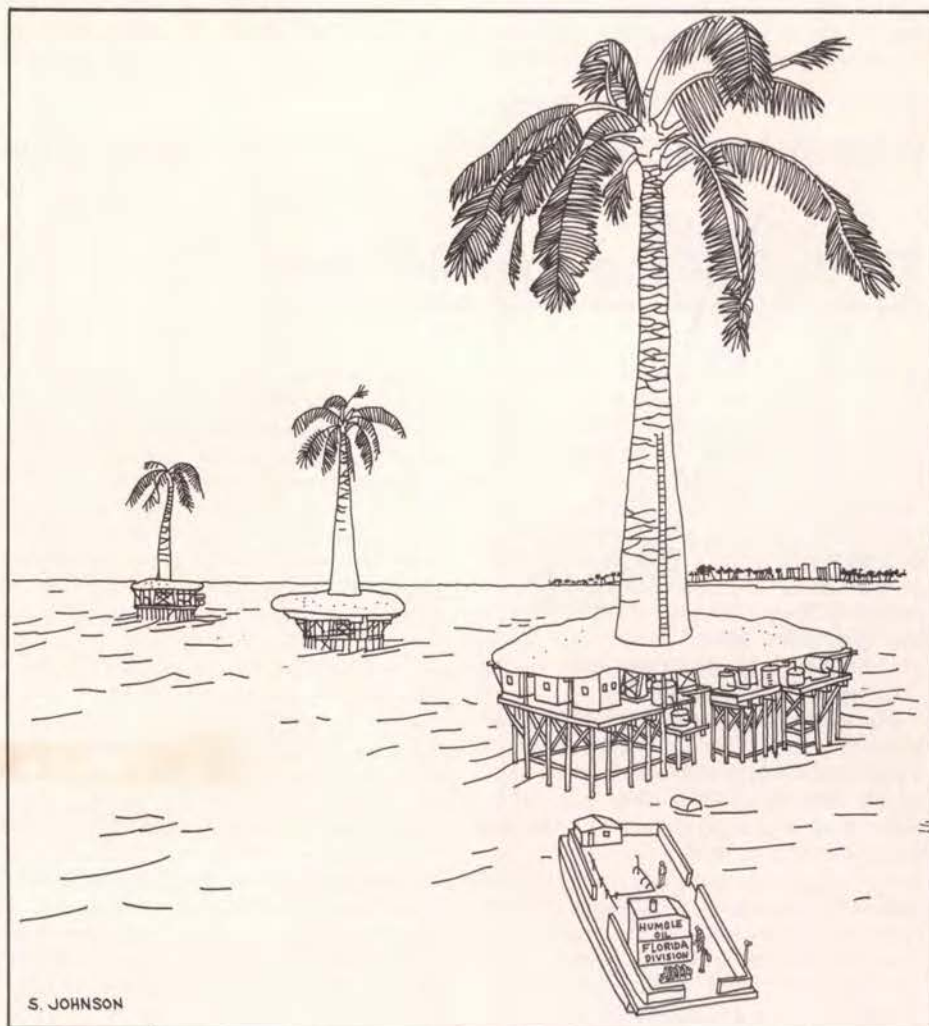
The oil industry, represented by the Florida Petroleum Council, marched into the Sunshine State armed with multi-colored brochures featuring pictures of ripe oranges and of horses grazing in lush fields and at the same time proclaiming our desperate need for energy, as if oranges and horses were somehow impossible without oil. The oil companies came prepared to defend themselves against irate housewives worried about oil-blackened birds on their white beaches, but they were unprepared for the sophisticated dialogue on energy and oil production prepared by a hurriedly assembled ad hoc task force of Florida environmentalists known as "Save Our Coast!" led by the Club's Florida Chapter Chairman, Ellen Winchester.

For some time after the Santa Barbara blowout, the fires on rigs in the Gulf of Mexico, and the tanker collision in San Francisco Bay, conservationists mainly focused their attention on the danger of large spills. Government responded to these same accidents with drilling moratoria and new regulations both on drilling and on shipping. Industry responded with oil clean-

up cooperatives and studies demonstrating that large spills do not cause widespread and permanent damage to the marine environment. Even though the immediate damage caused by large spills is no longer the only, or even the main, concern of environmentalists, it is an especially important question in Florida, where blue water and white beaches lure northern tourists and their dollars to the state. Florida environmentalists also worry about the integrity of their Gulf Coast wetlands, already under heavy assault from developers and easily damaged by oil. They point to a recent report by the General Accounting Office sharply critical of present OCS regulatory procedures. The credibility of the petroleum industry is also at an all-time low in Florida with regard to

oil spills because the industry and its minions in the state legislature have been trying to subvert the state's unique "unlimited liability" law, which was recently upheld by the U.S. Supreme Court.

Environmentalists are still worried about the immediate effects of oil spills—as they should be—but they are becoming far more concerned about the cumulative effects on the marine environment from the steadily increasing increment of oil added to the sea each year. (In mid-February the Department of Commerce reported that portions of the Atlantic Ocean were becoming huge whirlpools of oil and plastic.) There is growing evidence that the unnatural quantity of this natural substance now present in the ocean could, in the long run, have a dis-



astrous effect on the marine environment, and that, even now, this environment, as large as it is, is not in good health. For instance, the coral reefs of southern Florida are dying—and no one is sure why. Environmentalists are right to ask if this is an appropriate time to open the floodgates to unlimited offshore production.

Florida residents also have begun to realize that offshore oil will have an onshore price. The attrition of coastal land in this unique state has been accelerating, and effective coastal land-use controls have yet to be enacted by the state legislature. Where is the oil to go when it comes up from under the sea floor? The industry claims that no refineries are now under consideration, but many in Florida do not believe this, and almost everyone agrees that some onshore facilities will be required. In Louisiana, the onshore support facilities and the extensive channelization and canal dredging to move drilling equipment through the marshes have resulted in detrimental changes in runoff, tidal patterns, and salt water gradients. Scientists at Louisiana State University have established that the deltaic coast of their state is no longer gaining new land as it has for the past 4,000 or more years. Rather, it has been losing land at the phenomenal rate of 16.5 square miles per year, a total loss of about 500 square miles in the past 30 years. They estimate that the petroleum

industry, with its onshore facilities, pipelines, and access routes, is responsible for some 40 percent of this loss.

The real crux of the debate, however, is the nation's energy policy, with its over-emphasis on production. Environmentalists want to see as much attention given to energy conservation, land planning, and reform of the energy economic system as is now given to exploration and development. They are unwilling to surrender their coastal environment when the Administration—even as it seeks these leases—submits testimony to Congress against Senator Jackson's energy conservation bill, withholds funds for coastal land planning, and pushes for the continuation of an economic system designed to use up nonrenewable energy resources as quickly as possible.

People in Florida do not want to find themselves in the same position as the people of southern Louisiana, whose economy has so come to depend on oil that they cannot break free. Many oil workers there have bumperstrips on their cars reading "Oil Feeds My Family." No mention is made of what will do the feeding when the oil runs out of Louisiana's rich offshore beds some 30 years hence. But in a sense, we are all junkies of an oil-dependent economy, and perhaps conservationists in Florida will help us find a way to get this monkey off our backs.

Eugene Coan

WASHINGTON REPORT

Brock Evans

The Lumbering Administration

LAST WINTER, before coming to Washington, I called an acquaintance, a high official in one of the largest timber companies. "Oh, he's back in Washington, D.C. for awhile," his secretary said, "working with the Forest Service." He was, in fact, supervising some of the Forest Service's environmental work. This incident illustrates what has been a problem for environmentalists since 1969, when this Administration first took office: namely, its forest practices and wilderness policy have seemed to be consistently pro-industry.

The latest example of this bias is the long-awaited report of the President's Advisory Panel on Timber and the Environment, which was released in late September. Appointed by the President in 1970, the panel was to find ways to increase the nation's supply of timber while protecting and enhancing the quality of the forest environment. Unfortunately, in the words of a *Science Magazine* article, the panel "seems to have been tilted toward the industry viewpoint." For example, one of the five

panel members, Ralph D. Hodges, Jr., is executive director of the National Forest Products Association, the strongest timber-industry lobby in Washington. No environmentalist of equal stature was appointed.

As a result, the timber industry's viewpoint permeates the report, which emphasizes the alleged need to rapidly accelerate the liquidation of old-growth forests in the West. It criticizes what it considers the Forest Service's "conservative" policy on cutting, claiming that the current allowable cut could be increased by from 30 to 100 percent. It asserts that present forest practices, if "carefully done," will not result in damage, and asserts that environmentalists are wrongfully concerned (despite visual evidence) about what they regard as adverse impacts on the forest environment: damage to streams, erosion and flooding, loss of topsoil, and the deterioration of scenery. It ignores the fact that environmentalists became concerned in the first place precisely because the widespread pattern of bad forest practices had begun to take its toll. The

timber industry has its way on just about every point but wilderness, where the panel does admit that more areas should be reserved. But even here, the report is vague. As one environmentalist recently remarked, "They tip their hat to the environment on the way to the lumber truck."

We had hoped that this report would encourage national discussion between environmentalists and the timber industry on the problem of national forest management. But as *Science Magazine* said, "The report seems better designed to confirm the Administration in its past policy than to reveal a middle ground where environmentalists and people in the lumber industry might resolve some of their differences." It is regrettable that the panel did not produce a more balanced document, one with at least some emphasis on preserving non-timber values in the national forests.

The Administration's efforts on behalf of the timber industry go back at least to the beginning of 1970, when conservationists across the nation fought off the assault against the national forests mounted by the lumber industry's National Timber Supply Act, a measure that would have just about doubled the annual allowable cut. When we called up the White House to ask for its support, a secretary told us "You'll have to talk to Mr. Hodges about that—he's our expert." The "Mr. Hodges," of course, turned out to be the same Ralph Hodges referred to above. After the act was defeated in Congress, President Nixon issued an executive order directing the Forest Service to do administratively what Congress had forbidden it to do by law. Fortunately, Congress never appropriated the funds necessary to carry out the President's wishes.

Then, late in 1971, the Environmental Protection Agency, in response to a growing chorus of protest about forest-practice abuses, prepared a draft executive order that would have severely limited the practice of

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clear cutting. In some mysterious way, the timber industry and its lobbyists immediately knew about the proposed order, and when a flood of protests followed, the appropriate officials quickly backed off. Environmentalists did not hear about the draft until the day before it was killed. Three months later, in April, 1972, Secretary of Agriculture Butz issued a directive to the Forest Service to immediately accelerate the cut in the West by 300 million board feet.

Finally, late this year, the Administration's Cost of Living Council issued its own order to increase the amount of timber cut in the national forests by 20 percent. A former Under-Secretary of the Interior was appointed to make sure that the Administration's orders were followed. Administration officials were on the telephone every

day to demand compliance from local foresters. We have had to go to court to stop this one.

The pressing need to develop a new policy for the national forest will not go away. There are bills in Congress right now that make various attempts to deal with the situation. The old Timber Supply Act has been revived in a new guise, and hearings have already been held on it. Senator Humphrey has introduced a more comprehensive bill on the Senate side, and so has Congressman Meeds on the House side. Environmentalists have also introduced other legislation. We may yet arrive at some solution to the question, but it is unfortunate that the Administration could not have taken a more objective stand.

CAPITOL NEWS

Club challenges atom exports

THE SIERRA CLUB and two other environmental organizations have taken the Atomic Energy Commission, the Export-Import Bank (Eximbank), and the State Department to court in challenging the huge nuclear power export program. The U.S. exports billions of dollars' worth of nuclear power generating equipment and nuclear fuels without the evaluation of environmental impacts or alternatives, including exporting less energy-intensive technologies and alternate energy sources.

In a suit filed in the U.S. District Court in Washington, D.C., the Club (together with the National Park and Conservation Association and the Environmental Defense Fund) is seeking a declaration that the National Environmental Policy Act applies to the series of federal actions leading to the export program. Such actions include the entry into bilateral agreements that authorize the export of nuclear plants and fuels, the sale by the AEC of fuel enrichment services to foreign users, financing the export transactions by the Eximbank, and the licensing of both equipment and fuel exports by the AEC.

The complaint also challenges the continuing failure of Eximbank to develop any regulations under NEPA for evaluating the environmental impact of its activities, which

include financing industrial plants and offshore drilling rigs, as well as the nuclear export program. Represented by the Center for Law and Social Policy, the environmental groups seek to enjoin three federal agencies from entering into any new agreements under the program without NEPA safeguards.

The U.S. now has agreements with some 19 countries. Over the past three years, Eximbank financing for such exports has exceeded \$1.4 billion, and the AEC revenue from providing enrichment services for foreign plants is not more than \$3.5 billion.

The program has major impacts, not only around the world where the plants are located, but also within the United States. For example, huge amounts of energy are required to enrich nuclear fuel, and most of the exported fuel, including the associated radioactive wastes, are eventually transported back to the U.S. The wastes are stored in repositories in this country and must be isolated from the environment for thousands of years.

Sierra Club President Laurence I. Moss said of the suit, "The risks and environmental impacts of this program and alternatives to it should be assessed and made known for public discussion. Only in this way can we be confident that major federal actions such as those we are concerned with in this suit are responsible and in the public interest."

Senate passes stripmine bill

After two days of debate in which industry-supported amendments were handily defeated, the Senate passed, by an 82-8 margin,

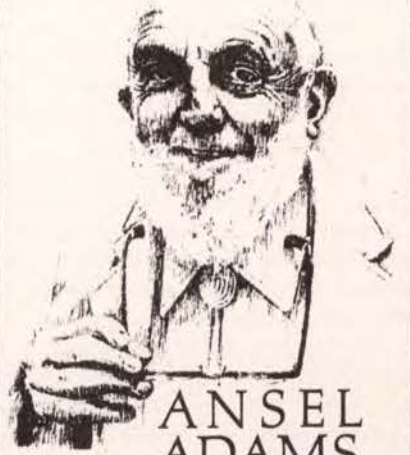
its first bill establishing federal standards to control the strip mining of coal, and sent the bill to the House, where the Interior Committee was considering similar legislation.

The final bill included a provision introduced by Senate Majority Leader Mike Mansfield—affecting mostly western states—prohibiting coal strip mining on lands where the federal government owns mineral rights, but private citizens own the surface.

The Senate rejected an amendment offered by Senator James Allen of Alabama that would have softened a major provision requiring all surface-mined lands to be restored to "approximately original contour" with all "highwalls, spoil piles and depressions eliminated." Senators Nelson, Schweiker, Baker, and Jackson led the debate in opposition to the amendment, declaring it would "gut" the bill.

Baker said the amendment would "leave Appalachia with the prospect of continuing to have these horrible scars marring the sides of her majestic mountains. . . . The least we can do [is] to relieve the environmental subsidy the poorest part of our country is paying toward the power bill of the rest of the nation."

Among the bill's provisions: (1) Strip mining is prohibited where reclamation is economically or environmentally unfeas-



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EDITORIAL

Laurence I. Moss

The True Costs of Energy

RECENT EVENTS in the Middle East have exposed the inadequacy of our current national energy policy and perhaps set the stage for a realistic assessment and redirection. The cut-off of Arab oil to the United States will be annoying and inconvenient, since about 10 percent of our crude and refined oil comes directly or indirectly from that area. Nevertheless, it is better that we learn the dangers of reliance on that source now than in the 1980's, when, according to the projections of government and industry, about 50 percent of a much larger quantity of oil consumed by the U.S. would come from Arab countries.

Conceivably we could abandon Israel and shape our foreign policy to suit the Arab leaders, as most of Western Europe and Japan have done, but even this is unlikely to solve our energy problems. The major petroleum-exporting countries have formed a rather effective cartel to control prices and supplies. Their latest action was a unilateral price increase, put in effect without even the pretense of negotiation with the oil companies or oil-consuming nations. We can expect more of the same in the future. If the U.S. plans to import anything like 50 percent of its oil from abroad, we will have to be prepared for repeated devaluations of the dollar and consequent increases in inflation at home. And even if we were willing to pay that price, it is doubtful that Saudi Arabia, the key to any great expansion in world production in oil, would find it in its self-interest to exchange its oil reserves for depreciating dollars at a faster rate than it can put those dollars to use.

What, then, are we left with? First, we can work harder to find acceptable ways of using energy sources that are in abundant domestic supply. These include coal, the sun, and nuclear fuels, both fission and fusion. Funding for research and development in the field of solar and fusion energy should especially be increased. The application of fusion energy is probably far in the future, but the technology of using solar energy for low-grade heating applications, such as space and water heating, is available. Artificial economic and institutional barriers to its wide-scale implementation should be removed.

Second, conservation of energy must become the keystone of our energy policy. There is no chance of meeting the demand for energy, if that demand increases at current and projected rates, without substantial increases in imports or sacrifice of environmental quality.

There are those who will say that we can solve the problem of energy supply by abandoning the nation's quest to improve and maintain environmental quality; that we should relax the standards in the Clean Air Act; that we should forget the problems of thermal discharges to rivers and lakes and not be concerned with the ravages of much of current strip-mining.

Our response must be that it is a poor trade-off to sacrifice environmental quality to obtain energy that is used for wasteful purposes; that it has long been the policy in this country to subsidize the energy companies, so prices are lower than they would be if they were set on the basis of achieving a true economic return on investment; and that because of these low prices, no one knows what the demand for energy would be within the context of a rational allocation of resources.

So let the U.S. put first things first. Let us eliminate the subsidies—the depletion allowances, the write-off of “intangible drilling costs,” the foreign tax credits for what are actually royalties or shares in ownership, the tanker subsidy program. Let us assess social and environmental costs, such as those of black lung disease and of air and water pollution, on the industry and the user of energy rather than on the victim or the general taxpayer. Let us apply incremental cost pricing to the regulated utilities, so that all users pay the full cost of obtaining new or replacement supplies.

When the user of energy pays for its full cost, we may very well find that we can have the energy we need with neither excessive reliance on imported oil nor sacrifice of environmental quality. In any event, let's not agree to relax our drive to improve environmental quality before the need for doing so is proven.

ible; (2) the Interior Department has six months to adopt final regulations for all state mining control programs and for mining on federal land, with federal standards to be imposed if a state does not adopt an acceptable plan; (3) 22 months after

enactment, no strip mining would be permitted without a permit issued under an acceptable plan of state or federal standards; (4) the bill authorizes \$100 million to reclaim orphaned lands and \$5 million per year in grants-in-aid to those states planning

and developing control programs.

Senators voting against final passage were Republicans Dewey Bartlett and Henry Bellmon of Oklahoma, Wallace Bennett of Utah, Carl Curtis of Ohio, William Scott of Virginia and Independent Harry Byrd, Jr. of Virginia.

Rivers and Harbors Bill passes House

The House passed H.R. 10203, the Rivers and Harbors Bill, containing a provision setting the discount rate for water project evaluation at 5-5/8 percent.

Conservationists said this would undo much of the good accomplished by the new principles and standards of the Water Resources Council recently signed by President Nixon, setting the discount rate for federal water projects at 6-7/8 percent.

The House bill then went to a House-Senate conference committee for reconciliation with the Senate version passed in February.

“It is important to get the President to veto this bill if we are to preserve one of the most important aspects of the new principles and standards,” said Sierra Club Assistant Conservation Director Charles Clusen.

Clusen added that the lack of proper cost-sharing rules “is responsible for our dismal flood damage situation in which damages have continued to rise despite the more than \$8 billion spent on flood control projects.”

Annual Election

The annual election for directors of the Sierra Club will be held on April 13, 1974. The Nominating Committee has presented the required seven names for the five positions to be elected. They are as follows: Mary Jane Brock, John M. Broeker, Brant Calkin, Richard Cellarius, Claire Dedrick, Theodore Snyder, Jr., and June Viavant.

Members of the Club may add to this slate of candidates by petition. The requirements for such petitions are: 1) a petition for nomination shall be directed to the Nominating Committee, Sierra Club, 1050 Mills Tower, San Francisco 94104; 2) each petition must be signed by at least 434 members in good standing (1 percent of the ballots cast in the last election); 3) petitions must be received at the Club office by December 31, 1973; 4) each petition must be accompanied by the signed, written consent of the proposed candidate.

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NEWS VIEW

McCloskey calls for new look at increased wilderness potential

INSTEAD OF LABORING to salvage about two percent of this nation's surface from the ravages of roads and commerce, it now appears that we have opportunities on as much as ten percent of our land—and nearly all federally owned too," Sierra Club Executive Director Michael McCloskey told some 450 participants in the Club's 13th biennial wilderness conference in Boulder, Colorado.

"As much as half of this is in Alaska, and not all of it may prove to be qualified to be protected as wilderness," McCloskey said, "but this figure defines the breadth of the task before us."

The ten percent of the U.S.'s land area, McCloskey said, is based on an estimated 274 million acres covered by six federal land management programs: (1) some 67 million acres which must be reviewed under the Wilderness Act in the National Park System, the national system of wildlife refuges and ranges, and acreage in primitive areas and adjacent areas in national forests; (2) at least 56 million additional acres of roadless

areas in national forests; (3) at least 650,000 acres of eastern national forest lands with wilderness qualities; (4) more than 100 rivers with as much as 600,000 acres that would fill out the National Wild and Scenic Rivers System; (5) as much as 25 million acres of roadless areas administered by the Bureau of Land Management; and (6) some 125 million acres withdrawn for temporary protection under the Alaska Native Claims Act.

"We must organize to look this all over, to get interim protection for it, to get the agencies to review it, and to get Congress to act to protect whatever deserves to be protected.

"This is the largest land-saving challenge that any people has ever faced. Let us not shrink from it. Ten percent is not an excessive figure. Ten percent means that 90 percent is turned over to developers. Ten percent is the amount that crowded Japan has been able to set aside. Ten percent is little enough. We spoke of two percent in the past because we didn't know that ten

percent had survived."

In another speech at the conference, Northwestern Law School (Portland, Oregon) student Jeffrey P. Foote charged that the effectiveness of the 1964 Wilderness Act is being threatened by interpretations made by the U.S. Forest Service.

The concept of "purity" for wilderness areas, he said, is being used by the Forest Service "solely as an antiwilderness tool." Foote said the Forest Service will consider for wilderness designation only those areas that show no signs of man's presence. Deserted, wild areas with traces of early logging, mining, or settlement aren't eligible under the policy.

He noted that opposition to the Eastern Wilderness Bill (S. 316) now before the Senate Interior Committee uses this inappropriate justification. "This policy," Foote said, "could exclude many western areas from consideration."

Club sponsors a National Environmental Inventory

"Sierra Club Sponsors National Environmental Inventory for '76," said the headline in the *American Revolution Bicentennial Newsletter*.

"People *do* care about conservation and protection of the nation's natural areas," the newsletter said. "However, the inevitable

President's Fund Appeal

You who are members have received my annual appeal for contributions and a brief report on Club activities in fiscal year 1972-73. (For new members and non-members, the report is available on request.) I hope that you are considering your response.

Since I wrote that report, some budget changes were made at the recent Board meeting in Utah. Your Board voted to raise the Club commitment to the Sierra Club Legal Defense Fund by \$18,000 and added \$8,500 to expected contributions to the Sierra Club Foundation for Club programs, including Alaska.

The total contributions now sought are the following:

Sierra Club (non-deductible)	\$277,700
Sierra Club Foundation (deductible)	534,700
Sierra Club Legal Defense Fund (deductible)	<u>162,000</u>
TOTAL	\$974,400

The vigorous activities of our legal arm neces-

sitated an increase in their original budget for 1973-74.

I want to take this opportunity to make a special appeal to those new members who have not been enrolled long enough to receive my annual appeal for funds in the recent mailing. In addition to your personal participation in some aspect of our program, I hope that you will feel motivated to give financial support to your Club. We particularly need greater support on a non-deductible basis so that we can expand our legislative and field offices program.

We solicit, also, the financial support of those readers of the *Bulletin* who are not members. If you would like to make a contribution, please use the enclosed envelope.

And I urge all our members to respond as generously as possible. If you have already made a contribution this year, you may wish to turn the enclosed envelope over to a friend who wants to join in our effort by sending a gift.

LAURENCE I. MOSS, *President*

question arises—where are these areas?"

Though many surveys have been conducted on a regional basis or on lands administered by various state and federal agencies, the newsletter said, this project "represents the first all-encompassing inventory of natural areas."

Recognizing the need for a comprehensive, nationwide inventory of all natural areas, the Sierra Club has enlisted the help of the U.S. Interior Department, the Agriculture Department, the American Institute of Biological Sciences, the Nature Conservancy, the Audubon Society, the Smithsonian Center for Natural Areas and other national organizations, the newsletter said. It continued:

"This comprehensive inventory of natural areas will have tremendous value as a tool for all concerned with land use and land management decisions and with the preparation of environmental impact statements.

"To the Bicentennial Celebration, this Natural Areas Inventory is a means of enhancing the public's awareness of the nation's natural landscape, both as it exists now and as it was at the time of settlement.

"It will also lead to positive, better informed efforts to preserve our native flora and fauna for future generations."

REGIONAL REPS REPORT

Midwest

Outboards to the Right of Us
Chainsaws to the Left—Ah! Wilderness!

OLD GENERALS may never die, but at least they have the tact to fade away. Old conservation issues hang around to plague generations of citizens. A perfect case in point is the Boundary Waters Canoe Area in northern Minnesota, one of the largest and most famous wilderness areas in the United States. The BWCA, as the area is often called, is totally remarkable within its Midwestern context, comprising some one million acres, more than half of which (532,000 acres) is virgin timber or lakes and streams within areas of virgin timber.

The U.S. Forest Service, which administers the BWCA, entitled its newly published management plan for the area *One of a Kind* and called the BWCA "Unique . . . Pristine . . . Endangered . . . Rugged . . . Primitive . . . Beautiful . . . Fragile . . ." But the Forest Service proposes to manage this area first, by denying that it is really wilder-

ness; second, by permitting widespread logging to continue unabated; third, by declining to take firm action against use by motor boats and snowmobiles; and fourth, by preparing an environmental impact statement so superficial and misleading as to set a new government standard for inadequacy.

Protection of the Boundary Waters started in 1902, and safeguards have since grown increasingly stringent culminating in the area's inclusion in the Wilderness Act of 1964, albeit with certain specific exemptions to wilderness status. Since 1940 the Boundary Waters has been divided into two zones: an "interior zone," which has traditionally received full wilderness protection, and a "portal zone," which has been subject to timber cutting and other disturbances. The portal zone is not inferior land—from this zone the Forest Service has sold nearly

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150,000 acres of virgin timber since 1940.

When Congress included the entire BWCA in the National Wilderness Preservation System in 1964, it made no distinction between the interior zone and the portal zone, but it did add language specific as to certain uses within the BWCA: "... the management of the Boundary Waters Canoe Area ... shall be in accordance with regulations established by the Secretary of Agriculture in accordance with the general purpose of maintaining, without unnecessary restrictions on other uses, including that of timber, the primitive character of the area, particularly in the vicinity of lakes, streams, and portages: Provided, that nothing in this chapter shall preclude the continuance within the area of any already established motorboats."

The Forest Service has seized upon this language with a vengeance, going far beyond Congress' rational intent. Logging, including clear cutting, has proceeded expeditiously without the slightest regard for "the primitive character of the area." In the latest plan, just released by the Forest Service in August, continued cutting is proposed for the portal zone, and administrative, noncommercial cutting is proposed for the interior zone, the latter being an

ominous departure from past tradition.

The Forest Service believes that logging must be encouraged to bolster the local economy of northern Minnesota, yet by the service's own statistics, only two percent of the employment in the three counties containing the BWCA is in timber-related industries. Perhaps more important, however, is the Forest Service's curious notion that cutting is required to maintain a proper ecological balance in the BWCA. With the suppression of fire in the last few decades, normal vegetational succession has been disrupted. But competent forest ecologists point out that fire, rather than logging, is the preferable and natural mechanism for restoring the forest and they advocate a program of controlled burning and permitting natural fires to burn where possible.

On the issue of snowmobiles the Forest Service has also stretched the language of the Wilderness Act to the breaking point. It takes the odd position that a snowmobile is nothing more than a winterized motorboat, and so, has insisted that it must permit these infernal machines on the same routes that motor boats are permitted to use in the summer. The new plan does propose phasing out snowmobiles in 1980, but makes no attempt to justify the seven-year delay.

The Forest Service does propose some good steps to keep the ever increasing visitation from ruining the area, but on balance, it is treating the BWCA's wilderness classification in a most cavalier fashion. Moreover, it has made a mockery of the NEPA environmental assessment requirements, choosing to dwell only on alternate means of introducing new policy, a procedural nicety that has not the slightest bearing on the substantive environmental impacts of such decisions as the continuation of logging in the portal zone and the introduction of administrative cutting in the interior zone.

Perhaps the best words on the BWCA problem come from the federal court judge, who enjoined cutting in the portal zone pending an environmental impact statement. "The court feels," he said, "that (the Forest Service's) interpretation of the Wilderness Act is not warranted. The language used makes it clear that the Secretary of Agriculture is to enunciate and enforce any and all restrictions which are necessary to maintain the primitive character of the BWCA. . . . Where there is a conflict between maintaining the primitive character of the BWCA and allowing logging or other uses, the former must be supreme."

Jonathan Ela

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Discounting the Engineers

A STAFF REPORT

FOR 70 YEARS, the mind of the American public has been fascinated by the image of engineering nature for the benefit of man—dams to bring water to the thirsty land and power to the growing republic, levees and channels to stem the annual rampages of river and stream. The same public has lately come to consider the real economic and environmental costs of this vision, and this last August 3, President Nixon endorsed new and more rational standards to govern our engineering zeal, controls that may abort some of the worst excesses presently planned by such boondoggling bureaucracies as the Army Corps of Engineers.

What Nixon signed on August 3 was the Water Resources Council's "Principles and Standards for Planning Water and Related Land Resources," a document that may, at last, reform our wasteful, outmoded, and environmentally disastrous water resource policies. The new Principles and Standards, which replace Senate Document 97 as the official rules by which future water projects must be planned and executed, went into effect on October 25.

The "Water Hustlers" find the new guidelines so objectionable that they have filed a lawsuit to prevent their implementation, which gives you some idea of how welcome the Principles and Standards are to most environmentalists. Among the welcome changes included in the new Water-Resources-Council directive are the following:

- Environmental quality must be recognized as a coequal consideration with national economic development in the planning and approval of federal water projects. Agencies are required to submit alternate plans for

each proposed project, one of which *must* consider environmental quality as its chief objective.

- The discount rate by which projected benefits for a federally funded proposal are calculated has been set at $6\frac{1}{8}$ percent instead of the $3\frac{1}{4}$ percent advocated by developers. Although environmentalists had called for a ten percent discount rate, the average cost of capital in the private sector, they welcome this new increase over the previous $5\frac{5}{8}$ percent rate as perhaps the single most important provision in the new Principles and Standards. The mathematics are complex, but what the significance of the discount rate boils down to is this: the higher the discount rate, the fewer the dams that will be built. They will no longer be economically justified. Environmentalists have claimed that the previous discount rate was, in effect, a government subsidy to developers because it resulted in an overestimate of projected benefits, that is, a greater return on federal-dollar investments than, in fact, was the case.

- The heads of various federal agencies are permitted, though not required, to review authorized but as yet unfunded—that is, obsolete—projects in light of the new guidelines. They should be encouraged to do so because many would be disqualified. The Army Corps of Engineers, for example, estimates that at least half of their obsolete projects would fail to pass the new test.

- Agencies are required to hold public hearings early in the planning stage of each project and to make generally available all relevant data pertaining to a given project.

- Changes in the present formula for sharing project costs between federal and local governments are to be revised. President Nixon has directed the Water Resources Council to pro-

duce cost-sharing reforms as soon as possible. These would throw much of the burden of paying for projects back on local jurisdictions, which would probably result in far fewer ever being completed. In other words, taxpayers all over the country would not be asked to pay so much for projects that benefit only local areas. Along with the new discount rate, this provision is one of the most important in the new Principles and Standards.

Conspicuously—and delightfully—absent from the Principles and Standards is the provision backed by developers that would have recognized regional-development benefits as a primary objective. In other words, the fact that a project might produce economic benefits in a particular region cannot be used to justify having taxpayers from other regions, through the mechanism of the national treasury, foot the bill.

Taken together, the various provisions in the new Principles and Standards guarantee that future water boondoggles will not slip by the public so easily as they have in the past. Probably they will not be approved at all, but if they are, it will be only after much more rigorous scrutiny.

Unfortunately, no sooner were the Principles and Standards in effect, than we learned that the House had passed the 1973 version of what has come to be known as the Omnibus Rivers and Harbors Legislation. Officially designated the Water Resources Development Act, H.R. 10203 would seriously undermine and in some cases cancel the reforms contained in the Principles and Standards. The bill would reinstate the old $5\frac{5}{8}$ percent discount rate and would freeze the rate at $3\frac{1}{4}$ percent for pre-1969 projects, which means that local developers would continue to be financed by the national treasury to a degree

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that has made building almost anything profitable. For example, it provides that the federal government should bear the *total* costs of building small-boat harbors—marinas, in other words. This remarkable provision amounts to nothing less than a federal subsidy to yacht owners, a curious form of welfare that would run counter to the basic thrust of the upcoming cost-sharing reforms, which everyone but a majority of congressmen agrees is long overdue. The bill also author-

izes other new bad projects at a time when everyone else is trying to stop them.

Finally, H.R. 10203 would authorize the Army Corps of Engineers to engineer the nation's coasts in order to supposedly prevent erosion, an enormously costly program that seldom does much more than wreck a shoreline since time and tides wait for no man. Provisions such as these mar the bill (which in other respects seems quite enlightened) and require

that environmentalists work for its defeat. The Senate is expected to act on this legislation in mid-November, and if the objectionable provisions are retained in the final version, as we expect them to be, it is necessary that we write to the White House itself to recommend that the President veto the legislation. Letters are needed now and should be sent to: William Timmons, Assistant to the President for Congressional Affairs, White House, Washington, D.C. 20500.

Last Days of the Emerald



IT WAS ONE of the earth's loveliest places. Through a shadowy canyon a wild clear stream leapt and tumbled, making its own free way, wandering with the land. Where a log lay across its course it broke into a white dazzle of waterfall. Like the forest floor beyond, its banks were clothed in a richly colored tapestry of leaf and needle and moss, which had a deep and easy spring beneath a walker's feet. In summer the maples along the stream illumined the mid-story of the forest with a soft green glow. In fall, the maples turned a brilliant gold as though celebrating the turn of the seasons. Above them and around them, the great old redwoods soared, their deep brown and gray fluted trunks solid and straight and somehow reassuring: those trees had stood at least a half a millenium in their places, and their ancestors had stood nearby for untold millenia before.

To one who stopped on the bank of this stream and listened, there were elemental earth-sounds to hear. There was the voice of the stream, quick and dancing and full of freedom. Behind it, there was the steadier, more insistent call of the nearby river that soon would claim its waters. And overhead, there was the tranquil wind—music in the high trees—a music as old almost as the land itself, and as elemental as the sound of waves against the shore.

The stream was known as Bridge Creek. Visitors to its confluence with Redwood Creek a few years ago experienced so profound a feeling that they returned to their seats in Congress and voted to incorporate this place in the new Redwood National Park.

But today, that place is no more. The wild free stream, the elemental earth-sounds, and the beauty are gone. I stood on the banks of Bridge Creek a few weeks ago and wondered if I had traveled to the right place on Redwood Creek—gone far enough upstream or found the canyon I had come to see. Where the bright clear waters of Bridge Creek had wandered freely, a hard straight race of silt-dulled waters poured between high levees of gravel, heaped up straight and even. The banks were rough and jagged underneath my shoes. The maples still stood, but uphill they blazed against an empty sky: for just beyond the national park boundary, a quarter-mile from the confluence of Bridge and Redwood creeks, the redwood trees were gone. I stopped to listen and sorrow. Above the hard new flow of Bridge Creek are the sounds of cats and chain saws and at intervals the thunder of a falling tree.

Is this to be the "park experience" of visitors to our Redwood National Park? Will the people who fought for—and paid for—a supposed national treasure continue to find that treasure increasingly despoiled? Will one of our greatest conservation efforts prove to be a pyrrhic victory indeed? Until we gain protection for the water-

Mile?

EDGAR WAYBURN

In the grove at the big bend of Redwood Creek stand the world's tallest trees—redwood giants threatened by clear cutting and erosion of the slope above and upstream.

(Below) Upstream from the tall trees is the ravaged gully of Bridge Creek, now dumping silt and debris into the mainstream of the Emerald Mile.



shed of Redwood Creek, the answer to these questions will be "yes."

The National Park Service, charged with protection of the Park and its esthetic and recreational resources, knows of the dangers to the narrow half-mile-wide strip of National Park, which, all too soon, may wind between logged and devastated slopes. The Secretary of the Interior, given authority to "acquire interests in land . . . to afford as full protection as is reasonably possible to the timber, soil, and streams within the boundaries . . ." recently sent a special investigating team to study the Park. The team's report stated flatly that "the worm-like corridor of the Park is in jeopardy" because it is in an actively eroding watershed that has recently been cut over and lies down-slope from current timber harvesting operations on the extremely slide-prone soils.

The Congress as well as the Depart-

ment of the Interior must be made aware of these facts, for it is already almost too late to save the Redwood National Park. Unless quick action is taken, we will have the same tragic loss of the great forest at Redwood Creek as occurred at Bull Creek in 1955. Congressional oversight hearings on the Redwood Park legislation are needed immediately. New legislation to halt destruction of the National Park, to enlarge it, and to protect the people's investment in this land is essential. One more great effort is needed to rescue the redwoods, among our priceless national treasures. Please let your Congressman hear from you now.

Edgar Wayburn is a member of the Sierra Club Board of Directors and former president of the Sierra Club.





MAN, LAW, LIFE

The nations may come to terms with the biggest chunk of our environment.

ICELAND EXTENDED its territorial limits to 50 nautical miles and announced that if British ships "continue ramming Icelandic ships," it will break off diplomatic ties with the United Kingdom.

- Canada extended its environmental jurisdiction of the sea to 100 miles, declaring that all shipping in this zone will be subject to Canadian standards.
- Ecuador and Peru extended their control over ocean resources to 200 nautical miles off their shores. They have been joined by an increasing number of other Latin American, African, and Asian states, including China.

Announcements such as these appear ever more frequently in the daily newspapers and signal a new era in the history of man's relationship with the sea. One wonders if the dispute between Iceland and Great Britain portends a time when the resources of the sea fall only to those nations fortunate enough to have coastlines or, in a way reminiscent of the Gold Rush era, to those nations able to defend their claims. Or will the current "sea grab" end in all nations sharing the ocean's riches?

Arvid Pardo, the U.N. Ambassador from Malta and the man who first called the world's attention to the need to create a plan to regulate the development of the ocean for peaceful purposes, remarked recently that "From a regime of virtually total freedom over oceans we are now passing to a regime of virtually total sovereignty over oceans." In the competition for resources, states are eager to

reap the benefits of the fishing grounds and the oil and mineral deposits extending beyond their traditional jurisdictions. For the Sierra Club and others interested in preserving the resources and quality of the ocean, Pardo's words serve as a warning to pay close attention to the environmental consequences of imminent international decisions regarding the future of the sea.

From the time of Grotius, 350 years ago, nations have tacitly accepted the principle of freedom of the seas, a doctrine that especially has benefitted the major seafaring countries of the world, whose interest in preserving freedom of navigation has not diminished to this day. Yet as technology developed and trade increased, the need for some regulation became obvious. So, over the centuries, an International Law of the Sea evolved from customary law and through treaties between various nations. The first real attempt to codify this largely unwritten law did not come until 1958. A second international effort to do so followed in 1960, producing four separate Geneva conventions on territorial waters, high seas, fishing and the conservation of living resources, and the continental shelves. These efforts were largely ineffective because they represented the views of only a portion of the world: the developing countries, for example, many not yet independent, were not represented. Even those countries that did participate have been slow to ratify the conventions.

Now, preparations are being made

for an upcoming Law of the Sea Conference — tentatively scheduled for 1974—that would establish international arrangements for managing ocean space. This present effort to regulate the oceans began in 1967, thanks to the leadership of Arvid Pardo, who advanced the concept that seabed resources are the "common heritage" of mankind, an unconventional view that has prodded nations to re-examine their traditional assumptions about who gets what. Yet few countries even now display much interest in including strong environmental safeguards in the proposed treaty arrangements. In fact, after the summer session of the 91-member nation U.N. Seabed Committee, it was clear that ever more states reserve to themselves the right to establish and enforce pollution regulations in waters under their jurisdiction. They are suspicious of international standards, except for the high seas. Right now, at least, most governments are more interested in defense, trade, and economic development than in preserving for future generations the enormous, but finite, resources of the sea.

In 1967, the U.N. General Assembly established the Committee on the Peaceful Uses of the Seabed. The committee had two tasks to accomplish, one of which—to ensure that seabed resources are used in the interest of mankind—has set off a world scramble to carve up the ocean for national self-interest. The other—to prevent the militarization of the seabed—has been partly accomplished as a result



AND THE SEA

of the treaty banning nuclear weapons and other engines of mass destruction from the ocean floor. Yet despite this limited step forward, a comprehensive plan for global ocean management seems increasingly more difficult to attain. The upcoming Law of the Sea Conference will attempt to define international waters, deal with fishing rights and conservation, and initiate measures designed to protect the marine environment, but given the broad range of issues to be covered, the conference will no doubt have to meet more than once before all disputes are resolved.

The sea covers more than 70 percent of the earth's surface and provides 70 percent of its oxygen. It is the cauldron where storms are born and the home of all waters. It provides man with an enormous amount of protein, and with proper management could provide substantially more. It contains as yet untold amounts of minerals and fossil fuels. Despite man's voyages and explorations, his forays for fish and whales and oil; despite his long association with the sea, man has just skimmed the surface, merely played about the edges of the deep. Yet for all this, the ocean, as the Cousteaus continually remind us, is in trouble. Coastal estuaries, essential to marine life, are constantly being destroyed; oil and plastics foul the open sea; traces of chemical pollutants have been detected even in deepwater organisms; several species of seals, whales, and pelagic birds are in danger of extinction either from poisoning or over-exploitation. Now, the

international race to exploit the mineral resources of the sea could deliver the final blow—and could result in frightening national confrontations—unless nations somehow come up with a plan to conserve the ocean's resources and fairly apportion them among all the world's peoples.

Most nations right now are preoccupied with gaining access to the sea's mineral and oil deposits. In an effort to gain control over this wealth, certain coastal states have moved toward the concept of establishing jurisdiction over an "economic resource zone" extending as far out as 200 nautical miles. While most nations appear to be accepting this concept, future negotiations will focus on the degree of national jurisdiction over this area. Should it include the right of a coastal state to regulate and enforce pollution standards? Is a nation entitled to impose standards higher than those set internationally? What rights would "landlocked" states have?

The U.S. is insisting that there be five international community principles agreed on in any zone: pollution control, peaceful settlement of disputes, freedom for other uses of the seas such as navigation and scientific research, revenue sharing, and security of investments. The U.S. maintains that it is in no nation's interest to subject the passage of vessels to the whims of national governments with varieties of regulations on ship construction design and pollution standards. All the maritime powers, in fact, are concerned with maintaining free-

dom of navigation over as much of the ocean as possible, including passage through international straits. Underlying this concern for the U.S. and other major powers are national defense issues. As a result, U.S. negotiators continue to insist on guarantees of freedom of passage, not only through straits and archipelagos but in the proposed economic resource zones that would be under some form of state control.

A bitter struggle has been brewing over who should be allowed to exploit the resources in the seabed beyond national jurisdiction, a fight between those who maintain that the developing countries ought to share in this common heritage of mankind and the mining interests in the industrialized countries who want to stake their claims to the ocean floor as soon as possible. Strong pressure from petroleum and mining interests is being exerted on the U.S. government to allow private companies to explore and exploit the rich resources in international waters before an international regime for the area has been agreed on. Egged on by competition from Russia, West Germany, France, and Japan, and fortified by the fact that the U.S. presently relies on imports amounting to over \$600 million for copper, nickel, cobalt and manganese, the mineral interests argue that ocean resources would supply the U.S. with a substantial percentage of our needs. This argument obviously finds support with national defense interests as well. It is reported that about 30 companies and several gov-



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ernments have already invested as much as \$300 million in development of technology to mine the seabed. U.S. companies include Kennecott, Tenneco, and Howard Hughes' Summa Corporation. Little is known yet about the effect such mining could have on the sea environment.

There is more information available, however, on the consequences of drilling for oil in the sea. In anticipation of environmental standards, major U.S. companies in recent years have taken pains to develop some environmental safeguards for their equipment and as a result can afford to support proposals for international environmental standards. But oil and mineral interests alike are impatient to get moving and are urging legislative proposals that would allow private exploitation in international waters before the Law of the Sea Conference can agree on international regulation.

International standards are also being sought to regulate fisheries, especially where they involve migratory species, such as tuna. The U.S. and other coastal states want to manage anadromous species (those that originate in inland waters and migrate outside national jurisdiction). But so far little attention has been paid to fisheries questions at the preparatory sessions for the conference. If none is apparent early in the conference, there will be increased pressure in this country for unilateral action. Senator Warren Magnuson of Washington and Congressman Gerry Studds of Massachusetts have already introduced legislation that would extend U.S. marine fisheries jurisdiction, on an interim basis, to 200 miles.

An "International Authority" to manage the remaining "free" area of the oceans is to be established by the conference. Debate revolves around issues such as the amount of power the authority will have for enforcement, regulation, and setting international pollution standards. How far should such standards extend? What body should regulate and enforce them? Debate also continues on how the revenues from exploitation of the seabed areas under national jurisdictions should be shared, and whether the new international regime covering the "ocean commons" should license such activities or engage in exploitation of resources itself. The U.S. envisions the Authority licensing com-

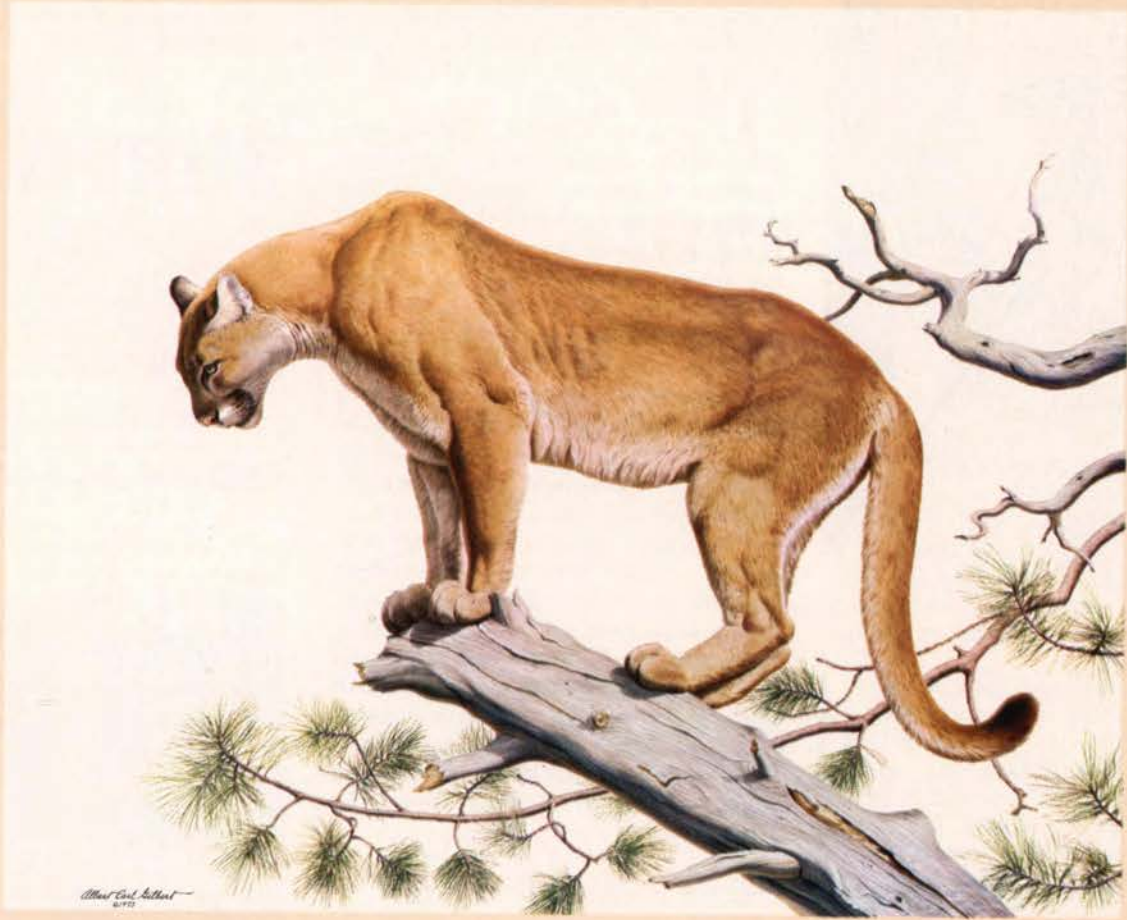
panies or governments to scoop up the manganese nodules from the ocean floor. Developing nations like Zambia, Zaire, and Chile, which now have ample copper and nickel deposits, want the Authority to do the mining itself, which would slow exploitation and thus prolong the dependence of other nations on present sources.

The Sierra Club's policy statement on the Law of the Sea, adopted by the Board of Directors in May, 1973, provided the first environmental guidelines for many of the issues discussed above. In announcing the Club's policy, Lawrence Lanctot, Chairman of the Task Force on the Oceans, said, "Environmental concerns have not yet been made an important part of the Law of the Sea negotiations. We want to be sure they are. The sea is the property of all mankind, and we have the responsibility to ensure that its environmental health and productivity are maintained."

The Club has been urging a comprehensive, rather than piecemeal, approach to marine pollution control, thus opposing treaties that deal with limited kinds of pollutants. The Club is particularly worried that coastal-state jurisdiction over extensive portions of the ocean may erode effective control of marine pollution unless there are stringent minimum international standards. The international authority that will be set up to have jurisdiction over the remaining ocean commons has been devised primarily as a resource development agency and could cause extensive environmental degradation unless environmental standards are imposed at the outset. The Club's concern in the coming months of negotiation is to ensure that the ocean institution will be carefully created to permit deep-sea mineral development consistent with maintaining the ocean's environmental quality.

During the summer negotiations, a few countries introduced draft environmental proposals, although most of them merely provide that states are "obligated to be concerned." There will be little effort to include specific standards or enforcement procedures in the final treaty. These will be left to the international mechanism set up to govern the ocean "commons," or to the organizations selected to police specific aspects of pollution. For example, the Inter-Governmental Mari-

Continued on page 39



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Prints of the "Cougar" by Albert Earl Gilbert may be ordered prepaid from the Sierra Club National Wildlife Committee, Box 2471, Trenton, N.J. 08607. The cost is \$50.00 each.

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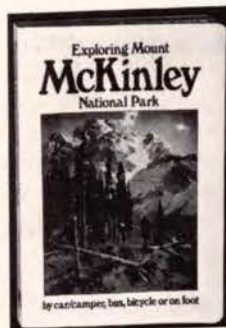
willingness to face reality or an over-awareness of that \$61 million in largely industrial campaign contributions, or a little of both. In any event, the interests of the American people are being poorly served.

The warnings about our energy consumption levels are now coming home to roost. We are well along in the first stages of running out of oil, and there is very little we can do if we maintain the present increasing level of consumption.

The short-range question asks if we can make the transition from our assumption of an unlimited supply of oil to the realistic position of living within a declining oil budget. Can we make that transition in an orderly fashion, seeing it as an opportunity, or will we resist reality and produce economic chaos? We taught ourselves and the world the affluence produced by a production/consumption society. Now can we lead the world toward the acceptance of quality rather than quantity, toward population control and an economy that serves the people while living within a rational natural resource budget? And the answer is: If we want to.

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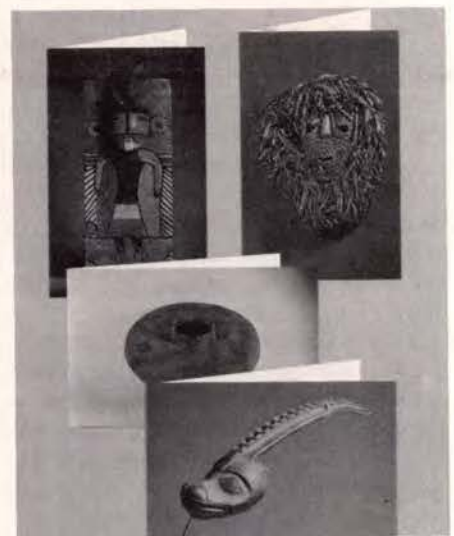
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Wes Walker

(1) Virgin Islands Base Camp, St. John, Virgin Islands—February 2–16. Leader, Richmond Barton, 616 Walton Ave., Mamaroneck, NY 10543. Limit 14, cost \$240.

Camp in a tropical paradise at Cinnamon Bay in the Virgin Islands National Park. Underwater swimming trails are fantastic, tropical fish and coral formations in crystal clear water off beautiful beaches. Campers will stay in fully outfitted floored tents, with hot showers and flush toilets nearby. Jeeps are available for group trips to remote parts of the island. You'll enjoy the best weather in the Caribbean, and unlimited swimming. Age limit 16, or 12 if accompanied by a parent. The cost of the trip does not include air or ground transportation.

(2) Rabbit Ears Pass Ski Tour, Colorado—February 12–17. Leader, Marty Sorensen, Rt. 2, No. 7 Spruce Canyon Circle, Golden, CO 80401. Limit 10, cost \$85.

This moderate 20-mile tour plus side trips for ten experienced cross-country skiers will parallel the Continental Divide at a general elevation of 9700 feet. The powder snow in Colorado is diaphanous and the country around Steamboat Springs is superb. Four nights of tent camping on Rabbit Ears Pass will be an unforgettable experience.

(3) Mountain Ski Tour, Arizona—February 18–22. Leader, John Ricker, 2950 N. 7th Street, Phoenix, AZ 85014. Limit 10, cost \$70.

This first of its kind national trip will be a leisure snow hike or snow-shoeing experience. An opportunity to learn about and practice snow camping will be its main feature. The exact locale will be determined by the winter snowfall—we may go to the high mountains of northern or eastern Arizona or to somewhat lower elevations in the central part. Areas considered are the White Mountains, San Francisco Mountains or Sierra Ancha. Moving days will be short, not over 5-6 miles, and a base camp may be set up.

1974 Spring Trips

The 1974 Spring Outings will encompass a wide variety of wilderness trips ranging from canoeing on the Suwannee River in Georgia to camping on the wilderness beaches of Hawaii; from ski touring in Colorado or Arizona to experiencing the tropical paradise of Virgin Islands National Park. Most trips, however, will focus on the canyon and desert country of the Southwest and Mexico, a region that is in its prime in the early spring when water is plentiful, temperatures are comfortable, and wildflowers are in full bloom.

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

(5) Mazatzal Wilderness Trail Maintenance, Arizona—March 23–31. Leader, Alan Schmierer, 231 Erica Way, Portola Valley, CA 94025. Limit 20, cost \$45; \$25 deposit per person.

On this new southwest desert trail project, we will move from virescent Windsor Meadow to clear flood-swept portions of the Deer Creek trail. Situated in a precipitous western section of Tonto National Forest, we will be working amid serene, isolated canyons with elevations topping at 7900 feet.

(6) Okefenokee Swamp—Suwannee River Canoe Trip, Georgia and Florida. March 23–30. Leader, Dick Murlless, Rt. 3, Box 619, Savannah, GA 31406. Limit 17, cost \$135.

Okefenokee remains perhaps the most enigmatic and pristine swamp in the United States and the most famous in the world. We will spend the first three days crossing through the heart of the swamp, where it will be necessary to spend one night sleeping in the canoes. Canoeing skills are desirable, but the most important prerequisite is some wilderness camping experience and a cheerful acceptance of whatever comes. This is a journey for adventurers. Members must bring or hire their own canoes. Age limit 17, or 14 with a parent.

(7) Island of Lanai, Hawaii—April 5–14. Leaders, Ray and Lynne Simpson, 3040 Smyth Rd., No. 11, Berkeley, CA 94720. Limit 30, cost: \$450 from California; children under 12, \$355; \$25 deposit per person.

Visit remote, rural, relaxed Lanai—a last opportunity to see the island before commercial tourist development begins. Our trip is intended for the beachcomber, swimmer, snorkeler, and bon vivant. Our camp will be at Hulopoe Bay, known for its excellent snorkeling. Day hikes are planned—some of these may be extended to overnights. Transportation will be by jeep and school bus. Our last two trip days will be spent camping on Oahu, to take advantage of the Bishop Museum's excellent Hawaiian and Pacific collections. Hawaiian residents may join us on Lanai for \$170.

(8) Easter Grand Canyon Raft Trip, Arizona—April 7-20. Leader, Kurt Menning, P.O. Box 582, San Jose, CA 95106. Limit 23, cost \$475; \$50 deposit per person.

Again this year our raft trips are oar-powered—no motors, no pollution. Nearly 170 rapids, magnificent scenery, and great geological displays as we float 300 miles from Lees Ferry to Lake Mead. Some prior experience with raft trips is advised; minimum age is 16. We will be camping out on river beaches and you should be prepared for a little rain and for staying dry and warm while on the rafts.

(13) Ventana/Los Padres High-Light, California—April 7-12. Leader, Jerry Lebeck, 339-17 Mile Dr., Pacific Grove, CA 93950. Limit 21, cost \$140.

Explore the Ventana Primitive Area at Easter time as well as the Los Padres Forest; hiking from rugged and remote, oak- and pine-filled valleys of the interior to the coastal redwood groves. From the 3000- to 4000-foot peaks of the Santa Lucia Mountains, enjoy magnificent views of the California coastline. See the Sierra Club Exhibit Format Book **Not Man Apart**. The trip will be moderately difficult.

(14) Trace Creek Trail Maintenance, Missouri—April 7-14. Leader, Roger Pryor, 4603 Westminster Place, St. Louis, MO 63108. Limit 20, cost \$45; \$25 deposit per person.

We will be constructing a connecting link between two trails in the Potosi Ranger District of the Clark National Forest. About 100 miles southwest of St. Louis, our work area is in typically rugged Ozark forests. This area is close to the proposed Bell Mountain Wilderness Study Area, and there will be opportunity for participants to visit this area as well as some of the scenic Ozark streams.

(17) Owyhee River Raft Trip, Oregon—April 21-25. Leader, Rolf Godon, P.O. Box 991, Tahoe City, CA 95730. Limit 20, cost \$345; \$25 deposit per person.

This is a new oar-powered trip for the club—on a beautiful and little known river. It is much like the Middle Fork of the Salmon for white water, and a mixture of Grand Canyon, Hells Canyon, and pre-dam Glen Canyon for scenery and geology. There will be four days on the river and one day exploring the lava areas on the way out. This will be a fairly active trip for active people. Minimum age is 12.

(19) Kanab Canyon High-Light, Arizona—April 27-May 4, Leader, Ray Des Camp, 510 Tyndall St., Los Altos, CA 94022. Limit 25, cost \$210.

South from Kanab, Utah, Kanab Creek cuts a spectacular canyon which reaches the Colorado River at the western edge of Grand Canyon National Park. We will combine high-light and knapsack formats to explore both the main and tributary canyons. For ambitious and interested ones, a two-day knapsack trip will go down the canyon to the Colorado River. A moderately strenuous trip in a strikingly beautiful country.

FOR MORE DETAILS ON SPRING OUTINGS . . .

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

(20) Baja California High-Light, Mexico—May 12-18. Leader, Wes Bunnelle, Box 784 Waldo Point, Sausalito, CA 94965. Limit 25, cost \$180.

The high-forested wilderness of the Sierra San Pedro Martir is the destination of this mid-May outing. After meeting at noon Sunday we will spend the first night in live oaks at 6000 feet at the end of an early mining road. Then we commence a circuit of little-visited open pine country. There will be one layover at La Grulla Meadow, a lush green carpet with a sparkling trout stream. The 50 trail miles of the outing will range from 6000 to 9000 feet.

(21) Salt River White Water Boat Trip, Arizona—May 12-16. Leader, John Ricker, 2950 N. Seventh Street, Phoenix, AZ 85014. Limit 16, cost \$70.

Heavy winter snowfall and warm spring weather make the upper Salt River ideal for white-water boating in May. We will put in at U.S. Highway 60 and end the trip at Roosevelt Lake. There are numerous rapids which can be negotiated with a little practice by anyone with experience. The river is rocky and in places narrow; 4- and 6-man rubber boats are recommended. The last four days will be leisurely with an opportunity to explore side canyons and Indian ruins. Members will supply their own boats.



Unknown

Knapsack Trips

Knapsack trips offer the freedom and challenge of wilderness exploration with everything you need on your back. The leader is free to follow his own route, alter plans on whim, and camp almost anywhere. Young and old are today showing an eagerness for the adventure, solitude and personal challenge of knapsacking. Sierra Club trips provide all these rewards as well as the example of how to knapsack knowledgeably and comfortably. Knapsacking is strenuous activity, however. For a trip of a week, the starting load may weigh from 30 to 40 pounds, but the exhilaration and extra physical effort make you feel more a part of the wilderness. With today's new designs in backpacking equipment, almost anyone in good health and physical condition can enjoy knapsacking.

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

Trips are categorized as leisure, moderate, and strenuous as rated by the individual leader. The ratings are made as accurately as possible on the basis of total trip miles, cross-country miles, the aggregate climb, terrain difficulty and elevation. Of course, the effect of optional recreation activities and the weather cannot be accurately predicted; early-season trips in high mountains, for example, tend to be more adventurous because of snow and full, rushing streams.

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

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

(4) Verde River Knapsack, Arizona—March 17–23. Leader, Don McIver, 8035 N. 16th Avenue, Phoenix, AZ 85021. Limit, 16; cost \$75.

We will follow the river trail for most of the trip, hiking cross-country when required. This is seldom visited country between two wilderness areas; naturalists and photographers will enjoy the freshness and variety of the area. This will be a moderately strenuous knapsack.

Unknown



(9) Escalante Canyon Knapsack, Utah—April 7–12. Leader, Blaine LeCheminant, 1857 Via Barrett, San Lorenzo, CA 94580. Limit 16, cost \$85.

A unique combination of deep, narrow, meandering canyons, hidden alcoves, natural bridges and arches, hanging gardens, seeps, and waterfalls. Minimum age 12. A lottery system will be in effect. Participants will be selected by January 30.

(11) Island in the Sky Knapsack, Saguaro Monument, Arizona—April 7–12. Leader, John Peck, 4145 E. Fourth St., Tucson, AZ 85711. Limit 14, cost \$65.

This moderate hike, planned to coincide with the desert in bloom, will take you from the desert at 3000-foot elevation to the mountain top at 8600 feet. Weather can range from hot and dry to cold with snow or rain. Access by air is easy to Tucson.

(10) Superstition Wilderness Junior Knapsack, Arizona—April 7–13. Leaders, Helen and Larry Gaudreau, 710 S. Alton Way, Denver, CO 80231. Limit 16, cost \$90.

The Superstition Wilderness area is in a rugged mountain range 50 miles east of Phoenix. It is particularly attractive in the spring with its colorful wildflowers and running streams in the center of a desert setting. Suitable for junior backpackers aged 12–15 with some previous experience.

(12) Grandviews of Grand Canyon Knapsack, Arizona—April 7–13. Leader, Bob Madsen, 3950 Fernwood Way, Pleasanton, CA 94566. Limit 16, cost \$70.

This moderate knapsack trip proceeds from Lipan Point on the South Rim in Grand Canyon to the spectacular open canyon area below the Palisades of the Desert. The narrow canyon area in the Granite Gorge below Grandview Point will also be included.

(15) Royal Arch, Grand Canyon Park Knapsack, Arizona—April 14–20. Leader, Tom Pillsbury, 1735 Tenth St., Berkeley, CA 94710. Limit 12, cost \$95.

Mainly cross-country, this trip will start at the western end of Grand Canyon National Park near Apache Point and will end on the old Bass Trail. It will be a strenuous trip with no water available until Royal Arch. A short rappel will be necessary to descend to the river.

(16) Guadalupe Mountains Knapsack, Texas—April 19–23. Leader, John Baker, 115 Woodin, Dallas, TX 75216. Limit 16, cost \$70.

Terrribly difficult, very rewarding . . . that's the gist of this trip to a little known 8000-ft. mountain range jutting into the desert along the Texas-New Mexico border. Each member must bring his own food, water, and stove. Limited to experienced backpackers in top condition.

(18) Grand Gulch Knapsack, Utah—April 27–May 4. Leader, Frank Nordstrom, 800 Glade Road, Farmington, NM 87401. Limit 16, cost \$90.

Canyon walls tower a thousand feet over the hikers below. Many ruins and pictographs are mute evidence of cultures long forgotten. Desert pools and huge stone arches tempt the photographer. Water is rarely a problem.

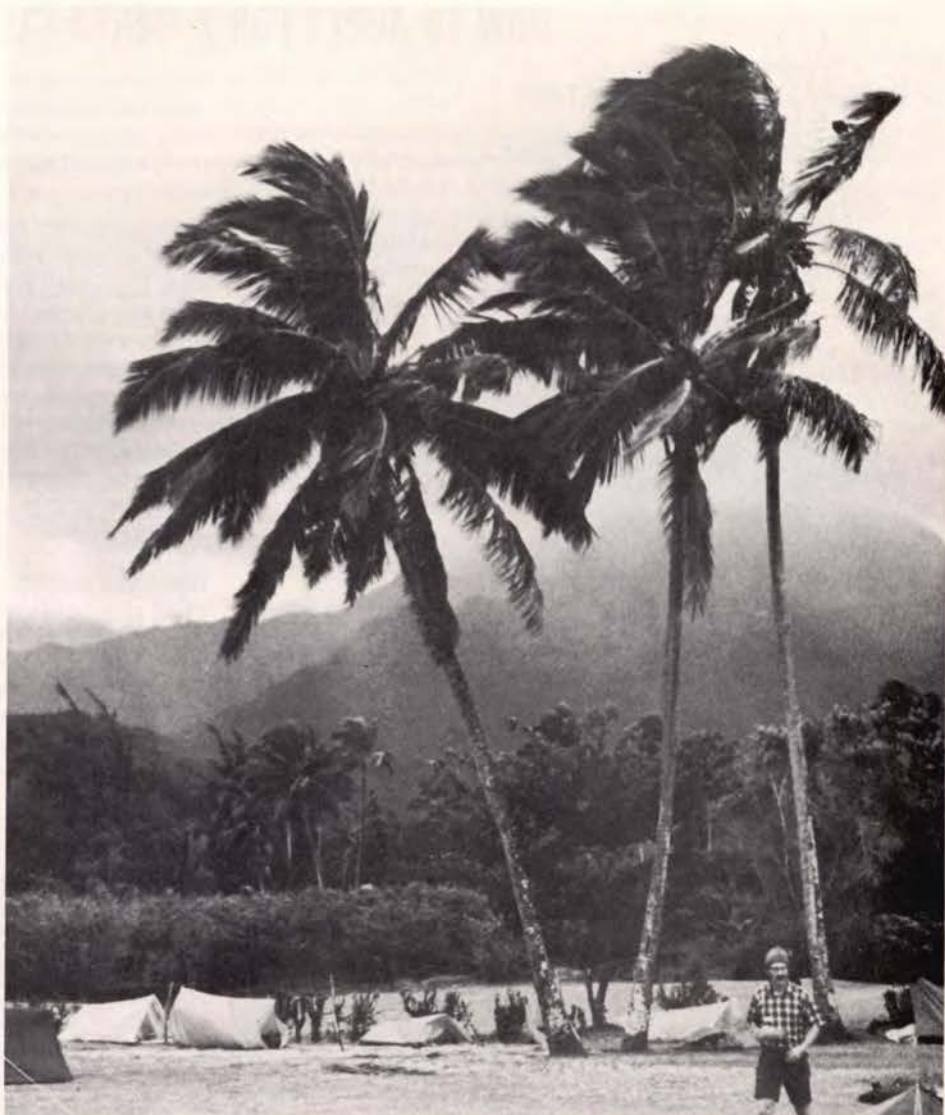
OTHER 1974 WILDERNESS OUTINGS

More than two hundred other outings will be described in the Annual Outing Issue of the Sierra Club Bulletin, which will be sent to all members in early January. Included will be many more trips in almost every category . . . knapsack trips, boat trips, highlight, burro, bicycle and family trips. Information about these outings is **not** available in the club office at this time.

FOREIGN OUTINGS

SPRING 1974

Sierra Club Foreign trips offer members a unique opportunity to come to know the scenic areas and natural history of other lands. Trips are as close to the land and people as possible and include walking and hiking, with visits to cultural sites in the cities. A \$50 per person deposit is required with your reservation. Prices quoted are approximations, and do not include air fare.



D. A. Eberwine

La Paz Boat Trip (321) February 4-16

Deserted off-shore islands and forests of giant cactus highlight our trip to remote Baja California Sur. Leader, Jim Dodds, 2013 Skycrest Dr., No. 1, Walnut Creek, CA 94595. Limit 28, cost \$500.

Galapagos Islands (330) February 7-March 12

In the mind-stirring Galapagos, we will visit some of nature's distinctive wildlife adaptations, as well as blue lagoons and quiet coves. Leader, Al Schmitz, 2901 Holyrood Dr., Oakland, CA 94611. Limit 14, cost \$1025.

New Zealand Ramble (318) February 4-March 3

This camping tour of New Zealand's vast, sparsely populated land offers scenery from high desert to tropical fern forests; from spectacular mountains to geothermal areas. Leader, Michael Passovoy, 3843 Hope St., Klamath Falls, OR 97601. Limit 20, cost \$700.

Micronesia (324) February and March

Micronesia's atolls and brooding "high islands" offer environments varying from rain forest to almost deserted beaches, and superb snorkeling and diving. Leader, John Edginton, 1508 Fernwood Dr., Oakland, CA 94611. Limit 15, cost \$1200.

Kenya and Tanzania (327) February 16-March 7

Quartering East Africa, these 25-day trips will include areas from Kilimanjaro to the Great Rift Valley, from Lake Victoria to the Indian Ocean. Leader, Al Schmitz, 2901 Holyrood Dr., Oakland, CA 94611. Limit 16, cost \$1285.

Patagonia (315) March 1-April 1

Patagonia is a wild and little-traveled country, at times scoured by high winds, its roads winding through a spectacular offering of lakes, glaciers, and mountains. Leader, Harold Seielstad, 709 Seminole Way, Palo Alto, CA 94303. Limit 16, cost \$1350.

Trisuli Valley, Nepal (333) March 29-April 29

In three weeks of moderate hiking north of Kathmandu we will pass through many primitive and seldom visited Thamang villages, with a backdrop of 23,000-foot peaks. Leader, John Ricker, 2950 N. Seventh Street, Phoenix, AZ 85014. Limit 16, cost \$1060.

Puerto Vallarta Boat Trip (335) May 6-18

After a tour of Puerto Vallarta, we will embark on native fishing pangas to float along a hundred miles of sparkling ocean, teeming with bird and fish life. Leader, Ellis Rother, 671 Laurel St., San Carlos, CA 94070. Limit 30, cost from Los Angeles \$465, from San Antonio \$424, members joining in Puerto Vallarta. \$320.

HOW TO APPLY FOR A SIERRA CLUB TRIP

• RESERVATION INFORMATION

Our trips are open to Sierra Club members, applicants for membership and members of organizations granting reciprocal privileges. Children under 12 need not be members. You may apply for membership by including the membership application and fee with your outing application.

Reservations are generally accepted in order received; however, some trips require the leader's acceptance of each applicant. If this requirement applies, it will be noted in the Bulletin write-up or in the trip supplement.

One reservation form may be used by an individual or by a family to apply for each trip. Here 'family' means parent(s) and their children under 21. Other family members must submit separate applications and deposits.

Mail to the Sierra Club Outing Department address listed below. Please do not include with dues or book orders.

• PAYMENTS, CANCELLATIONS REFUNDS AND TRANSFERS

Generally, everyone pays the same price for a trip. Children are not entitled to a reduced price except on special family outings which are listed in the write-up.

Domestic Trips

Send in \$25 with each family or individual reservation application. The reservation deposit is applied to the total trip price and with few exceptions is non-refundable. Some trips may require a larger deposit; check the individual trip description for this information.

The **balance of the trip price** is due 90 days before the beginning of each trip. You will be billed before the due date. If payment is not made on time, your reservation may be cancelled.

Refunds following cancellation of a confirmed reservation (less the non-refundable deposit) are made as follows: 100% up to 60 days before the trip begins; and 90% during the 60-day period before the trip begins. Refunds are based on the date notice of cancellation is received by the Outing office. No refund will be made if you leave during the trip.

If you have a confirmed reservation and wish to **transfer**

to another trip, a \$25 transfer fee will be charged. But if your reservation application is still pending the leader's acceptance or if you are on a waiting list, we will transfer all payments you have made.

Foreign Trips

There are no "family" reservations on foreign outings, so send in \$50 per person with your reservation application. This reservation deposit is applied to the total price and is nonrefundable. An additional payment of \$200 or more is due 6 months before the trip begins.

The **balance of the trip price** is due 90 days prior to trip departure. You will be billed before the due date. If payment is not made on time, your reservation may be cancelled.

Refunds following cancellation of a confirmed reservation (less the \$50 per person non-refundable reservation deposit) are made, as follows: 100% of any payment up to 6 months before the trip begins, or 100% of all payments if you cancel within 6 months and the vacancy created is filled from the waiting list. If no replacement is available, 100% of all payments, less any incurred costs and budgeted overhead. Refunds are based on the date notice of cancellation is received by the Outing office.

Requests for **transfers** of a confirmed reservation from a foreign trip are treated as cancellations. Refunds are made under the cancellation policy stated above.

• ADDITIONAL CONDITIONS

Reservations are subject to additional conditions relating to transportation, emergency evacuation, and conduct during a trip. A complete statement accompanies each reservation acknowledgment and is available upon request.

If you must cancel a confirmed reservation or a space on the waiting list, please let us hear from you promptly.

All payments for both domestic and foreign trips will be refunded under the following conditions: 1) if a vacancy does not occur; 2) if a person cancels off the waiting list; 3) if a reservation is not accepted or 4) if the Sierra Club must cancel a trip.

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

MEMBERSHIP NO. (CHECK BULLETIN LABEL)			Trip number	Trip name	Departure date
Print Name: FIRST	LAST		DEPOSIT ENCLOSED	(Leave blank)	No. of reservations requested
Mr.			\$		
Mrs.					
Ms.					
Mailing Address			If you have already received the trip supplement, please check. <input type="checkbox"/>		
City	State	Zip Code	Residence telephone (area code)	Business telephone (area code)	
PLEASE PRINT YOUR NAME AND THE NAMES OF ALL FAMILY MEMBERS GOING ON THIS OUTING			Age	Relationship	Membership No.
1.					How many national trips (not chapter) have you gone on?
2.					
3.					
4.					
5.					
6.					

Sea (Continued)

time Consultative Organization (IMCO) has been suggested as the agency to enforce shipping-pollution standards. The new U.N. Environment Programme may also play a role in enforcement procedures.

In August, the U.S. introduced a number of environmental proposals reportedly after having overcome initial Treasury Department objections over the financial implications, especially regarding revenue sharing arrangements for resource exploitation. The U.S. and several other maritime countries argued for strong international standards governing vessel pollution and objected to coastal states having authority to enforce their own standards on the grounds that this practice might be abused and thus interfere with freedom of navigation. Many coastal states want to set their own standards. Pakistan stressed that unless the advanced countries help the developing by sharing advanced pollution-control technology, the developing countries would not be able to meet strict international standards and will have to go through the same stages as have the developed countries, "with resultant pollution." While many developing countries seek strong state control over pollution standards, they also favor strong international control within the international seabed area.

Norway has offered a suggestion for an impact statement procedure. It provides that before any state undertakes activities in the seabed an environmental assessment be made and filed with the international organization responsible. It also suggests that the information be communicated to states that could be affected and that there be consultation prior to any action.

Canada remains the state most strongly committed to environmental safeguards. In an effort aimed at protecting its fragile Arctic coastline and extensive fishing interests, Canada has called for an agreement that would allow a state to take appropriate action to protect the seas within its territorial jurisdiction and, as mentioned earlier, has a 100-mile environmental protection zone.

The current U.N. General Assembly will decide if enough progress has been made to begin the international conference. Many are anxious to get on with the meeting and feel that no

more compromise is possible until countries do meet at the highest level. Others, however, believe that more informal consultation is needed. The organizational meeting which formally opens the conference is expected to take place as planned at U.N. headquarters in New York during the current General Assembly session.

The Sierra Club's International Office is working with a number of organizations from the U.S. and other countries to encourage stronger interest among the public and the press in this critical international conference. Special public meetings and other activities will take place before the organizational meeting opens in New York. There is to be a high-level press conference of eminent scientists who will add their voice to the growing number of environmentalists who fear that in the grab for the riches of the sea, the sea itself will be lost for all mankind.

Patricia Rambach directs the Sierra Club's International Office at the U.N. Headquarters in New York City.

Statement required by the Act of Congress of August 24, 1912, amended by the Acts of March 3, 1933, July 2, 1946, June 11, 1960 (74 STAT. 208), and October 23, 1962, showing the OWNERSHIP, MANAGEMENT AND CIRCULATION of the *Sierra Club Bulletin*, published ten times yearly at San Francisco, California—for December, 1973.

1. The names and addresses of the publisher, editor, and executive director are: Publisher: Sierra Club, 1050 Mills Tower, San Francisco, California; Editor: William Bronson; Executive Director: Michael McCloskey.

2. The owner is the Sierra Club, an incorporated non-profit membership organization, not issuing stock; Laurence I. Moss, President, 3241 N Street, N.W., #2, Washington, D.C. 94590; E. Paul Swatek, Treasurer, 311 Alewife Brook Parkway, Somerville, Massachusetts 02144.

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

The average number of copies of each issue of the publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was 125,000.

(Signed) William Bronson

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