

Sierra Club Bulletin



March 1975

Net Energy

"I hope you never go up Mt. Rainier without Dacron[®] fiberfill II."

Jim Whittaker, mountaineer and first American to top Mt. Everest.



"Here in the Northwest, nothing stays dry very long. "Ours is a wet-cold environment. Furthermore, even in summer, you can expect alternate freezing and thawing any

time you get above Mt. Rainier's timber line.

"I've found that this near-freezing wetness demands a filling for sleeping bags and outerwear that, although fully saturated, can be wrung out and, like wool, still provide some insulation.

"Du Pont's Dacron* polyester fiberfill II is such a filling.

"Believe me, I'm not anti-down. In dry-cold, you can't beat down.

"Down gives you the best loft in relation to its weight and compressibility. And loft is what determines warmth.

"But down can collapse when it gets wet. It can lose its ability to insulate.

"'Dacron' fiberfill II is different. Once, as a test, I took my parka and soaked it in a stream. Then I stomped out the water and wore

the damp parka over a T-shirt in 35° weather. Within five minutes my upper body felt warm, although my legs got very cold from the dripping.

"Below freezing, the problem is less critical. You can always shake the ice out and hang your bag up to sublimate. 'Dacron' fiberfill

II responds quickly to this technique since it absorbs little moisture.

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"Where possible, I'll carry two sets of gear. One with down for dry-cold. One with 'Dacron' fiberfill II for wet-cold.

"But if you can carry only one, I'd advise the 'Dacron'."

* * *

You'll find most manufacturers of sleeping bags offering "Dacron" fiberfill II in quality-constructed models. Usually at very affordable prices.

For a list of suppliers, and more details on the filling's advantages, write us: Du Pont, Dept. SC, Fiberfill Marketing Division, 308 E. Lancaster Ave., Wynnewood, Pa. 19096.



* Du Pont registered trademark. Du Pont makes fibers, not sleeping bags.



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Cover: Photographer Alan Ross shows us Yosemite Valley in storm and high light. Inside, Roger Olmsted describes the sound and the fury that has led to a new Yosemite Master Plan and Theodore Snyder wonders whether we have finished creating national parks altogether.

Founded in 1892, the Sierra Club works in the United States and other countries to restore the quality of the natural environment and to maintain the integrity of ecosystems. Educating the public to understand and support these objectives is a basic part of the club's program. All are invited to participate in its activities, which include programs to "...study, explore, and enjoy wildlands."

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MANDATE for the Environment

To the ramshackle coalition of special interest that are supposed to control our elections comes a breath from the grass roots, a vote for life, a view toward man's harmony with nature.

MARION EDEY

INDUSTRIES IN A HURRY to capitalize on the nation's energy shortage have been predicting for over a year that there would be a "backlash" against any further restraints on their pollution and depletion of resources. But this year's elections proved just the opposite, that environmental awareness is higher than ever, especially in the western states under pressure from energy-development schemes. National, state, and local conservation groups were more active in the elections and scored more victories this year than ever before. Thirteen of the 17 candidates supported by the League of Conservation Voters won their elections, including several who were considered long shots by political pundits. Despite the tight money supply, the league was able to raise over \$80,000 for these candidates through fund-raising appeals to conservationists. Another national group, Environmental Action, helped to defeat eight of the 12 Congressmen they branded as the "Dirty Dozen." The strong showing of environmental candidates goes beyond the successful efforts of any one organization.

A Democratic sweep is generally helpful to environmentalists, but this was certainly not the only reason for our success. Five of the six Republicans supported by the league also won. The only exception was Newt Gingrich, who came within 2,000 votes of unseating an entrenched incumbent, Representative John Flynt (D-Georgia). Gingrich had never run before. Neither had Larry Pressler, another Republican, who did succeed in defeating Representative Frank Denholm (D-South Dakota). Pressler had almost no money, but a lot of help from

local conservationists who were bitter about a water-diversion project.

Both local and national conservationists worked to re-elect Representative Alan Steelman, a key environmental vote on the House Interior Committee. As a freshman Republican, Steelman was redistricted to give him an area that usually votes 62 percent Democrat, yet he still survived. His opponent tried to attack Steelman for supporting the land-use planning bill and for opposing the Trinity River Project in Texas. But Steelman says that his strong conservation credentials helped him convince the voters of his independence and his concern for the public interest. Steelman is only the most dramatic example of a pattern wherein moderate, conservation-minded Republicans did survive, while their more reactionary colleagues were thrown out of office.

But one of the reactionaries who did return is Representative Sam Steiger (R-Arizona), the executioner of the land-use planning bill, and one of the most destructive members of the House Interior Committee. Both the league and Environmental Action marked him for defeat, although most politicians believed him to be safe. Steiger has traditionally won by at least 62 percent of the vote, but this time he barely survived, with less than 51 percent. People were so surprised by this narrow margin that it is tempting to call it a psychological victory. Steiger's opponent, Pat Bosch, campaigned hard on the issues of environment, inflation, and corruption. Often she linked them together, pointing out that Steiger had killed a bill to regulate land developers while his own aide was linked to such devel-

opers, who were under indictment for fraud. Steiger became so rattled that he boasted over Arizona television that he was under consideration to be Secretary of the Interior, a claim that spokesmen at the White House denied. After some digging, Jack Anderson concluded in his column that "it was Steiger himself who asked to be considered for the job." Although she received little help from her party, Pat Bosch ran way ahead of the other Democrats in her area. She wants to run again, and we look forward to another confrontation in 1976.

The most dramatic environmental victories were not in the Congress, but in the gubernatorial elections in Colorado and Alaska. Many people have fled to Colorado to escape pollution elsewhere, only to find that Denver too is strangling from too much growth, while the rest of the state is threatened by strip mining, oil-shale development, and underground nuclear explosions. These issues gave conservationists a clean sweep in the elections on every level and helped Dick Lamm defeat the incumbent Governor John D. Vanderhoof. The race was once considered a long shot because Vanderhoof was a friendly, cautious governor who made few political mistakes, while Dick Lamm was full of radical ideas. A past President of Zero Population Growth, Lamm was author of the nation's first therapeutic abortion law and the moving force behind laws to regulate land developers. In his campaign he stressed the need to limit growth and insisted on tax reform and strict reclamation requirements as a precondition to any oil-shale development.

Vanderhoof began his campaign by saying that "Coloradans must accept

oil-shale development whether they like it or not," but later, under pressure from Dick Lamm's ideas, he stressed that "all pains must be exercised to minimize environmental damage." Voters were skeptical of his change of heart because he had received thousands of dollars in campaign contributions from real-estate, oil, and banking interests that would profit from oil shale and other development. Gary Hart also unseated the incumbent Senator Peter Dominick, who had received a 100-percent rating from the oil companies, yet ran a lavish, phony campaign designed to paint himself as a conservationist.

The Alaska race was also decided largely on the growth issue. The incumbent Governor William Egan wanted to promote development at almost any cost and tried to scare voters by claiming that his opponent Jay Hammond was against growth of any kind. Hammond kept insisting that development must be selective, that each project be judged on its merits, and "if the advantages of exploitation are not clear, you ought to leave it in the ground, on the stump, or in the water." Hammond won a hairline victory by less than 200 votes, one of the closest elections anywhere in the nation.

Hammond is a former fisherman, trapper, and long-time conservationist. In the 1960's, he stood virtually alone in opposition to the Ramparts Dam. In 1968, he was one of the few state senators who dared suggest that the state should get more information on the impact of the Alaska pipeline and consider alternatives to the proposed route. But the pipeline has now arrived, and the fairy tale promises of jobs and prosperity did not come true. Outsiders have rushed in and taken many of the best jobs. Prices are skyrocketing. Therefore, the voters in Alaska had become more critical of development and skeptical of oil-industry promises by the time election day rolled around.

Hammond has a reputation as an independent who does not want to sacrifice the state's rich resources for some short-term oil-industry profits. Now, he will be fighting to protect the fisheries from oil pollution by tankers and offshore oil drilling. The Interior Department is planning to lease huge areas in the Gulf of Alaska and Bristol Bay, among our most valuable spawning grounds for salmon and other

commercial fish. Hammond must fight for enough time to do the necessary studies to find out where and how the drilling would be least destructive, and for funds to regulate oil development. He will certainly take a tougher stand than Egan, who sold leases to Shell Oil Company to drill in Kachemak Bay without even bothering to learn of its value for the crab and shrimp fisheries.

Dick Lamm is a liberal Democrat, and Jay Hammond a fairly conservative Republican, yet they have a lot in common. Both question the growth ethic, and both are struggling to protect their state's environment from federal and corporate officials who are bent on a speedy exploitation of their resources. In California, conservationists were elated by the victory of Democrat Jerry Brown for Governor, Republican incumbent Evelle Younger for Attorney General, and over 80 percent of the other candidates supported by conservation groups statewide. Brown has already appointed Sierra Club Vice President Claire Dedrick as his Secretary of Resources, has asked for increased funding for environmental programs despite his generally austere budget, and has indicated clearly that he is disenchanted with the state's freeway program.

Conservationists estimate they picked up three votes in the California State Senate, traditionally the branch of state government most hostile to the environment. These included the defeat of long-time conservation *bête noire* Clark Bradley. In addition, for the first time, a majority of the boards of supervisors in both Los Angeles and San Diego counties will be committed to preserving the environment. An already friendly State Assembly was substantially strengthened. Environmentalists seemed to fare less well in the congressional elections, largely because most of the worst members were leaving office by resignation. Chet Holifield and Craig Hosmer, the nuclear industry's Capitol Hill fan club, both resigned, as did anti-conservation congressmen like Charles Gubser and William Maillard. Conservationists did manage to defeat long-time pork barrel advocate Bob Mathias in Fresno, but Bob Wilson easily survived a challenge in San Diego from Coleen O'Connor, and, in a big disappointment, Monterey Congressman Burt Talcott combined voter apathy with a last-minute blitz

portraying himself as a strong conservationist to edge out a victory over challenger Julian Camacho. Camacho's defeat by less than 2,000 votes was the most frustrating defeat in an otherwise successful year.

Years ago, most environmentalists favored a stronger federal role because they assumed that the federal government would be more responsive to the broad public interest than the less visible state governments. This stance appears to be changing as the administration and the large energy corporations seem to agree that certain states rich in fossil fuels or offering good sites for nuclear power plants should become energy colonies, who must accept the risks and pay the price for continuing high consumption by the rest of the nation. But the states do not want to be colonized. Strengthening their right to refuse is certainly not a permanent solution to the energy shortage. But it will put more pressure on the federal government to adopt tougher energy conservation measures and promote less destructive energy sources.

How will the federal government respond to this challenge? After watching President Ford pocket veto the strip-mining bill, we do not expect too much improvement from the executive branch. But the elections give us a reason to hope that the new Congress will be more responsive to environmentalists. Such predictions are dangerous because severe economic problems will put increasing pressure on environmental values. Even the most unrealistic and dangerous crash-energy programs may sound attractive to people if we have another oil embargo. High unemployment makes it easier for companies violating pollution standards to blackmail their employees with threats to shut down. But at least we have a much improved Congress to cope with the tough years ahead.

Ninety-three of the old House members are gone, and most of them had very poor environmental voting records. On the League of Conservation Voters chart, their average score was only 31, compared to an overall House average of 43. The departing senators had an average score of 39, compared to an overall average of 51. (These charts show how all members vote on environmental issues, and can be obtained by writing to the League of

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PARSON MALTHUS TOLLS THE BELL

"If the earth must lose that great portion of its pleasantness which it owes to things that the unlimited increase of wealth and population would extirpate from it, for the mere purpose of enabling it to support a larger, but not a happier or a better population, I sincerely hope, for the sake of posterity, that they will be content to be stationary, long before necessity compels them to it."

John Stuart Mill
Principles of Political Economy



Alan Ross

CHARLES WARREN

THE UNITED NATIONS World Food Conference in Rome is but another lost opportunity to prevent the extirpation from the earth of "that great portion of its pleasantness which it owes to things." One should rage at the twisted perspective of man's place on earth which permitted the conference to ignore the fact that the "posterity" for whose survival John Stuart Mill expressed such concern may well consist of those whom each of us today knows and loves. It is no longer permissible to defer consideration of the consummate gluttony with which we are devouring the finite resources of the earth. There is no longer time to tolerate the belief that future generations will accommodate our folly. Ours is the generation that must respond to its own folly.

We are at the beginning of an epoch marked by events unanticipated by most and characterized by all as "crises": food, energy, inflation, unemployment, environment, government credibility, among others. Almost without exception, each is viewed as a separate event with scant relationships to the others. Each crisis

is parceled out to its particular bureaucracy, which responds with its conventional wisdom and solutions.

Thus the United Nations will continue to have world conferences to resolve this or that crisis, while individual nations attempt to adjust their own policies and programs to the particular crisis-impacts to which they are especially subject.

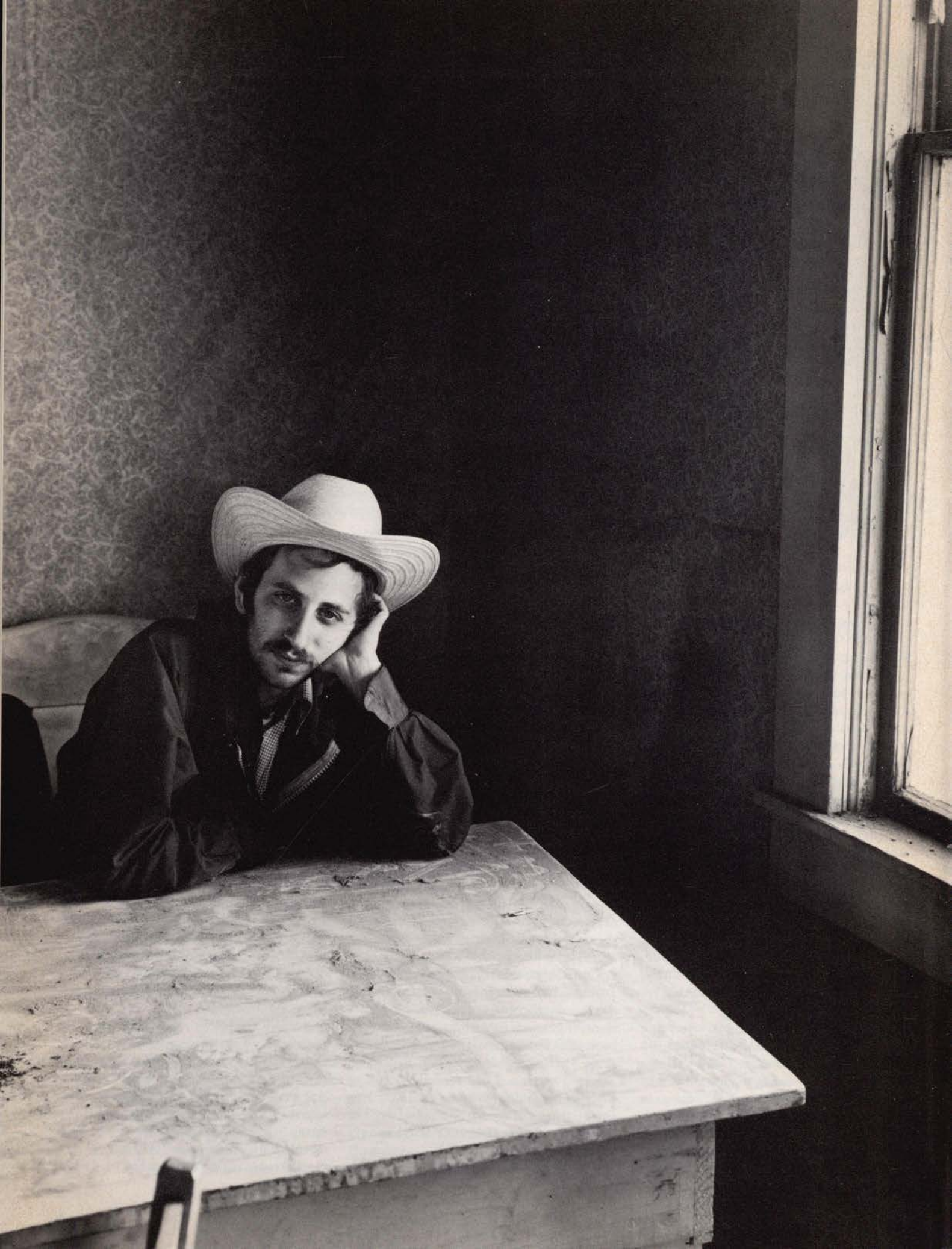
The confluence of these events is more than coincidental. It is a harbinger of a radical change in man's relationship with his earth. Simply put, such events are manifestations that exponential growth in the consumption of finite resources has reached a critical stage, and that conventional wisdom does not relieve, but aggravates the problem.

In order to deal with each crisis in a rational manner, it is necessary to understand the consequences of exponential growth in a finite-resource system. Environmentalists, particularly, must acknowledge such linkages. Some traditional conservationists appear to be as confused as those opting for business as usual, perhaps because they joined the environmental movement to ensure that their biases as well as personal options are preserved.

Anti-environmental literature abounds with such examples as snob zoning and the wish to create at public expense outdoor experiences reserved for only those able to afford such diversions.

However, others within the environmental movement have a profound knowledge of ecological relationships and are pioneering a new knowledge, understanding, and political base. They perceive the range of inter-relationships, plan accordingly, and most importantly, forestall willy-nilly action by government or their fellow citizens. Too often, public policy is stampeded by public panic or institutionalized stupidity into single-purpose solutions that attack symptoms rather than causes, and ensure that a social Brownian movement ensues without necessary reflective action.

Reality requires a perspective of man and his earth lengthier than those that presently rule his institutions. For example, if we were to carry single-purpose planning to its ultimate conclusion, malnutrition might be eliminated within ten years: strip the forest, develop all maximum fertilizers from feed stocks, and build massive water



projects. But at the end of ten years what would be the consequence?

If we single-mindedly determine to meet all needs and requirements, there is no shortage of oil, nor will there be for the next ten or 20 years. But to squander petroleum reserves leads to impoverishment far beyond the depletion of fossil fuels, and on a scale that touches not just those who plundered the till to perpetuate growth.

This innocence of wisdom is no better illustrated than by the United Nations World Food Conference, the avowed purpose of which was to "agree on the measures necessary to provide all humanity with a quality diet at a cost which the poorest can afford." Pointedly, the objective was limited to a mere ten-year period. To accomplish this fantastically complicated objective, the Secretariat of the World Food Conference produced a four-point program:

(1) an urgency feature designed to immediately shift 20 million tons of grain to avert starvation in India, Bangladesh, Sri Lanka, and Sahelian Africa;

(2) a 10-million-ton grain reserve for local or regional shortages and restoration of the 1950-1960-era grain stocks of 60 to 70 million tons, enough to feed about 300 million persons for one year;

(3) an early warning system composed of data such as crop projections, yields, and weather on a yearly basis;

(4) a fund of \$18-20 billion per year was proposed for agricultural development in the lesser-developed countries, with \$5 billion being provided from external funding sources such as the World Bank on a per-annum basis.

The conference planners were volatile and myopic. They talked endlessly of shortages and little of solutions. They saw a food shortage based primarily upon: intervention in the world market by certain nations that had not previously participated; shortages in fertilizer and fuel created by petroleum-price inflation; and *unusual* weather—particularly floods and drought cycles in the Indian subcontinent and in Africa. The planners demonstrated nothing of that broader perspective which recognizes that the food crisis is not an isolated phenomenon, but part of a larger complex of problems that together constitute the crisis of industrial society.

The fallacy of modern industrial

states is their commitment to growth at exponentially increasing rates in a world where resources are finite. The inevitable result is system collapse. The symptoms of pending collapse may go unrecognized until it is too late to prevent it. For example, within the next ten years, it is probable that over 250 million persons will die of starvation. They will die in Asia, Africa, and Latin America. In the United States, to the extent our production is available to the world market, prices of food products will rise disproportionately to other products and a larger percentage of our countrymen will be malnourished and hungry. The demand for food and increased inability of the earth's resources to accommodate demand is at the heart of the problem.

In 1850, world population was one billion; in 1920, two billion; in 1975, four billion; and today, our population is primed to double to eight billion in the next 32 years. The time it takes for the population to double is getting shorter and the amount being doubled is expanding.

To minimize and eventually eliminate famine, we must bring into equilibrium the world's need for food as determined by population, nutritional levels, and the earth's food-producing capacity, represented by land, water, fertilizers, and energy. Since the food-producing resources are limited, our efforts, incontestably, must directly address the cause of burgeoning demand—population. Instead, Micawberites in government perversely take comfort in optimistic estimates of man's ability to tinker with and adjust our resources.

A common claim is that there are vast acreages of land still uncultivated in the world. In truth, all of our best lands are already in production. The remaining land is marginal and will require immense and perhaps impossible capital investment. One estimate of developing new land is set at \$2,000 per acre, and much is unsuitable for cultivation because it is in the tropics—where the lateric soils will not sustain continuous cropping—or in swampy areas with poor drainage, or in areas where soils are poor. Overall, probably 500 million additional acres have crop potential. This represents only a little more than ten percent of the land currently cultivated. As it happens, this additional land is situated in the United States, Canada,

Argentina and Australia. The amounts available will be insufficient to provide the 40-percent increase in global food production necessary in the next ten years.

Another assumption is that we can make the desert bloom. In fact, it is becoming increasingly clear that water, not land, may be the crucial limiting factor of food production. Massive water-distribution projects for the developing countries are beyond fiscal or technical range because of the coordination and planning required. Many of the major rivers in the poorest nations form national boundaries—impoundments, diversions, and the control of which stir conflicts between neighboring countries.

The role and significance of fertilizer in the development of agriculture is a recent phenomenon. Fertilizer use has increased 400 percent in 20 years while crop yields have increased only 50 percent. This lopsided relationship is due to the diminishing returns stemming from each additional increment of fertilizer applied to a portion of land, and to the larger fraction of the available fertilizer being used in the richer nations, where rates of fertilizer application are already high. Fertilizer use will certainly increase, but to what extent is unknown.

Given the recent sharp price increases in fertilizer and the slim prospects for a price roll back, one should not be too optimistic about substantial gains in food production from the sharply increased use of fertilizers. When fertilizer is expensive, only the richer countries can afford it. The irony is that a ton of fertilizer in a non-developed country would yield ten tons of additional food, but in a developed country only three to five tons. The rising price will serve to put fertilizer out of reach of those who need it most.

Energy is another material central to the development of world food supplies. Much of the world's agriculture is labor-intensive, but even in these countries energy can have a crucial role in increasing output—diesel irrigation pumps, tractors, and farm-to-market trucks, for example. Energy price hikes quickly foreclose increases in production, since fuel energy purchases usually absorb a large fraction of a farmer's income in these countries. Thus, rising fuel costs will doubtless reduce production.

The industrial nations, on the other

hand, have become strongly dependent on low-cost energy to support their food system. The impact of increased fuel costs will thus be widely and dramatically felt. The principal effect will be higher food prices with unknown but certain effects on production and processing.

Many of the potential techniques for increasing agricultural yields will require increased reliance on chemicals such as herbicides and insecticides. Worldwide use of such chemicals has tripled in the last 20 years, but increasing use is again complicated by the energy crisis as both are petrochemical products and thus are tied intimately to fossil-fuel shortages. A five-fold increase in global use of such petrochemicals is seen, but the predictions do not address the problem of availability or cost.

Finally, there are the vagaries of the weather to contend with. Meteorologist Paul Berghorsson has carefully pieced together a record of the earth's weather over the last thousand years. It shows that the past 50 years have been a period of unprecedented warmth and climatic stability. Though some meteorologists do not agree, Berghorsson and others conclude from this that we are about to enter a more typical period, when the temperatures will be cooler and the climatic pattern more variable. Evidence is also accumulating that suggests a cooling trend resulting from atmospheric pollution. When food is in short supply, even small weather changes can have devastating consequences.

With all these improbables, is it possible to expand production at the rate necessary to accommodate anticipated demand? World food production has been increasing at a linear rate for the past 15 years. To meet 1985-demand projections, production must increase at a rate substantially greater than the historical trend. Given the shortages and constraints imposed on agriculture, it seems difficult to continue the historic trend in production, much less achieve greater gains each year. If the constraints are as serious as some believe, the production trend may actually begin to lag behind the historic rate. In fact, there is strong evidence that a worldwide decline in per-capita food production began in 1970.

Until 1970, numerous countries produced more food than they could

consume, so food was available for export. The United States had prime agricultural land in storage; food surpluses were sufficient to feed the world for four months; the fish catch was bountiful. The "Green Revolution," with the application of petrochemical fertilizer and pesticides, was increasing yields of wheat and rice.

Since 1970, all has changed. There are only four countries which produce food for export: the United States, Canada, Australia, and Argentina. Now, there is no agricultural land in storage. The fish catch is declining. The "Green Revolution" was quelled by the force of a four-fold increase in the price of fertilizer and pesticides essential to its success. Our world grain reserves have dwindled perilously. The need for larger herds of livestock for larger numbers of persons have resulted in overgrazing and destruction of the agricultural capacity in Sahelian Africa. The Sahara Desert is moving southward 25 miles each year. Similar destruction of the ecosystem in Bangladesh has resulted in aggravating floods and the destruction of crops, particularly as a result of clearing more land at the base of the Himalayas. India, in its quest to industrialize and develop nuclear energy, ignored its agricultural problems and population growth, and today blithely sets aside areas where famine is officially eliminated by a fiat denying its existence. Russia, unable to satisfy growing consumer demands, particularly for meat, is forced to buy grain on the world market. China still imports more than it exports. All of this is symptomatic of a food-supply system being crushed by the pressure of inexorable demand. With these indicators, one would assume that world leaders gathered in Rome would respond with urgency and concern.

The U.S. position was set forth by Secretary Kissinger. It implicitly assumed that research and development could meet the goals of feeding twice as many people as now inhabit the earth. The U.S. position directly, albeit obscurely, recognized that population is the problem and declared that the United States is prepared to treat this with the same degree of seriousness as client nations. The United States' participation in terms of world food requirements and export involvement is that it will wait until clients states are prepared to help solve the problem. This policy

was directly designed to bring to the attention of the Third World the necessity to link population and food policy within the normal constraints of full agricultural production. The United States will offset the petrodollars outflow by the politicization of food policy in terms of aiding our allies or others who will do our bidding and withholding from those nations which have no physical or political bargaining power.

The position of the Holy See set an objective of freedom from hunger for mankind and a redistribution of wealth between the rich and poor nations. However, the Church's long-standing position on population control was advanced in terms of governments' not having the right to dictate in any form population policies that would interfere with individual preferences. This opposition to even elementary population planning represents a gross disservice to mankind. For the choice before the world is clear: either decrease population growth rates to permit subsistence consumption levels of available resources, or condemn increasing numbers of people to malnutrition and starvation.

Representatives of the Third World countries found solace in the Vatican's philosophical justification for their refusal to consider population growth as an element of hunger and famine. They preferred instead to demand more food aid, particularly from the United States. In strident language they attacked any suggestion that they had a responsibility to maintain their population at a level consistent with their native agricultural capacity.

Curiously, it was China that emphasized the major alternative for underdeveloped and developing countries. The Chinese delegate contended that relying on international relief in the intermediate or the longer run was yielding to policies of "imperialism, colonialism, and big-power hegemonism." China argued that such aid in the past destroyed native agricultural independence. Paradoxically, the Chinese also implied that large populations were required to keep the world revolution in ferment as well as the drive for socialist structural independence. But they cannot have it both ways.

Perhaps one of the largest disappointments in terms of the World

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It's your turn to be heard

Yosemite Master Plan at Stake

THE SIERRA CLUB grew out of a love for Yosemite in particular and the gentle Sierra wilderness of which it is the spectacular and unique condensation, the archetype. The club cut its political teeth in the battle over the destruction of the twin Hetch Hetchy gorge, a battle that split the club into opposing factions, a battle lost to those inside and outside the club who saw "the greatest good for the greatest number" in terms of the benefits of a municipal water system, benefits that today seem no more than passing fancies as the watershed of Northern California is dammed, diked, and pumped to Los Angeles.

What is this greatest good for this greatest number? The fight is still with us, and at Yosemite, where the dam builders fear to tread there now exists in the mind of an entertainment corporation and an equivocal park service the idea that the greatest good implies packing in the greatest numbers of people who can afford synthetic accommodation and synthetic sport.

A master plan for the future of Yosemite, the first of our great natural parks, is at issue. A design so obnoxious that it called into question the intelligence and integrity of the park service, has been suppressed and finally killed. This draft plan followed the Music Corporation of America's (MCA) purchase of the Yosemite Park and Curry Company, the concessionaire that has operated the hotel, motel, tent camp, stores, restaurants, and whatnot at Yosemite up to the present time. The Curry operation was hardly a triumph of environmental integrity, but it is easy to see how a really progressive bunch like MCA could turn over a lot more bucks a lot faster in a lot jazzier milieu. The scenery alone was more than any Disney enterprise could offer, but it was scarcely being *exploited*—even though the present Neanderthal facilities drew enough people to create a midsummer smog problem.

There is an essential conflict between the best intentions proclaimed by MCA at this late juncture and the inviolate public future of the park. At today's building and operating costs, an outfit like MCA is easily tempted to push for maximum use and occupancy—a year-round circus. Today it is MCA and Yosemite, tomorrow it will be some other progressive conglomerates and other parks.

Now is the time to speak up for the national and natural treasures of our park system. What happens at Yosemite is going to point the way and the wave of the future.

Under pressure from the Sierra Club and people of intelligence and sensitivity everywhere, the park service has shelved the MCA-inspired plans and set the stage for a new master plan by holding public hearings as to how Yosemite should be developed—or better yet returned to a more natural state, a condition in which the average American can enjoy the surpassing beauty of one of nature's greatest wonders.

Meetings in the counties adjoining Yosemite started in February. This March and April there will be meetings in California's metropolitan areas and in major cities in the East. Watch your newspapers for hearing dates. If you cannot attend the meetings, write to the National Park Service and to your local congressman; get into the record by all means.

Your Yosemite Task Force has been fighting the good fight for a park that will with-

stand the impact of our growing need for the spiritual refreshment that a setting like Yosemite can provide. This task force needs your help and your intelligence to see to it that Yosemite becomes what Frederick Law Olmsted (its first state commissioner) and John Muir (its first great publicist) held it should be: a park for all people for all time.

If the proposed new master plan for Yosemite National Park is to be a significant improvement over the old one; if the public meetings are to be anything more than a courteous exercise: it is essential that we make our views known to the National Park Service. Write to: John Reynolds, Yosemite Master Plan Team Captain, National Park Service, c/o Golden Gate National Recreation Area, Fort Mason, San Francisco 94123; to work with the Task Force, Sonya Thompson, Yosemite Task Force, Sierra Club, 220 Bush St., San Francisco 94104.

Roger Olmsted



Tahoe in Two Thousand A.D.

The article in this issue of the *Bulletin* titled "Tahoe Regional Planning" gives us a solid insight into a multi-government attempt to save the environment of perhaps the most beautiful lake in the world. It is a story of the failure of a process set up so recently as 1967 to meet the pressures of the mid-1970's—pressures that must grow rather than relax in coming years.

It is the position of the Sierra Club's Tahoe Task Force that nothing short of a major shift from traditional zoning and development can ultimately save the lake and its surrounding basin from total depopulation in the tradition of American business and real estate practice. While the task force has not prepared a final plan for the lake, the phrase "The Year 2000 Plan" is one that catches the imagination.

The basic idea in that for the first time in a major endangered recreational area public policies will be instituted that roll back undesirable *existing* development over a period of 25 or 30 years. Obviously, such a plan would have important implications for many endangered (or even destroyed) beauty spots of America.

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This revolutionary—but eminently sensible—proposal will appear in a future issue of the *Bulletin*. In the meantime, it is worth considering some of the implications of such a program, implications that are inherent no matter what the final details of the proposal may be.

The first implication is obvious, and appears in the article by Tom Graham. There must be a virtual moratorium on the large-scale resort-type development that is going on at present despite the ineffective efforts of conservationists to move the regional planning agency to at least strong negative action.

Less obvious is that federal- and state-supported "progress" is also potentially damaging to the Tahoe Basin and is, in fact, encouraging the very trends that the con-

servationists are fighting. Now, most will agree that expansion of the airport to modern jet size is a bad idea, even if the money comes free from Washington. But what about more traditional forms of public improvement? If one looks to the 2000 logic, straightening up supposedly hazardous places in the roads is not much of an idea. And to get right to the heart of where even the best intentioned people live, how about improved sewage facilities? Facilities that will, in the nature of things, be "overbuilt" to sever a larger population?

Anybody in full possession of his intellectual faculties will agree that *somehow* it must be possible for our civilization to enjoy its natural and recreational resources without destroying them in the manner that Tahoe's resources are being destroyed. But what is equally clear is that the machinery for preserving or recreating an amenable environment at places like Tahoe is woefully inadequate.

Roger Olmsted

WASHINGTON REPORT

Brock Evans

Forest Affairs in Cabinet

AT THE BEGINNING of this year's session of Congress, a "forest industry's affairs letter" was circulated to all the members, as the viewpoint of the timber industry on forest management.

"We've been besieged," the letter complained, "by rhetorical sensationalism from extremists who conjure horrors ahead if we don't stop everything. . . . Pseudo scientists have confused people with their 'it could happen' threats. . . . For 200 years now we have been pulling this nation out of the wilderness to provide present and future generations with a better way of life. . . . But we seem now to listen to environmental charlatans who would turn the nation back to wilderness. Environmentalism is a game played by the rich and politicians when the going is good . . . but always at the expense of the poor."

Thus spake Dean Sherman, author of the newsletter, as he exhorted the new congressmen to forget about the environmental laws, as they apply to the forests, and get on with the business of ordering the U.S. Forest Service to cut more trees. His statements, and those of other industry spokesmen in recent weeks, bear some examination at this time because it appears that they are launching yet another of their periodic assaults on our national forests. Already, industry spokesmen have descended on the White House and upon Congress several times, pounding

away at this year's theme: we must drastically increase the amount of logging in the public forests, and we cannot let wilderness and parks set aside stand in the way.

The recent history of the controversy over national-forest management seems to follow an almost cyclical trend. It is a history of periodic attacks by the timber industry, in its efforts to force up the allowable cut (the amount of timber that can be cut each year), and to defeat wilderness legislation. This effort began back in the 1950's, when a series of concerted industry drives succeeded in forcing the Forest Service to more than double the amount of timber cut; it continued through the 1960's, with efforts to keep the price of federal timber low, and to strike down environmental requirements for road building; and it culminated in 1969-70, with an all-out drive by the industry to pass a law legislating more logging, the National Timber Supply Act, which was defeated by environmentalists in an epic campaign. The industry came rolling back in 1973, with a contrived "lumber-price crisis," claiming that unless more timber was put up for sale immediately, the construction industry just could not build houses. The Nixon Administration went along with it and ordered a one-billion-board-foot increase to be put up for sale. Environmentalists defeated this move with a lawsuit. Houses went on being built anyway.

The timber industry proposes to attack the forests this year through legislative actions and, more importantly, through its traditional friends in the White House and at high levels in the Agriculture Department. These last two avenues have given them most success in the recent past. Now, the industry is back again with a new device called "ECHO," an acronym for Economic Harvest Optimization. ECHO, put simply, is a method of looking at the forests which takes into account only economic criteria. The forests are regarded as just another crop. The timber industry calls this "intensive forestry," but what it really means is eliminating all of the remaining giant trees in the public forests as fast as possible.

The Forest Service is supposed to follow a different policy, called "sustained yield" or "even flow," which means that for each year or period of years, no more timber will be cut in the national forests than is grown. Environmentalists naturally prefer this concept, as opposed to the liquidation idea. Even though there is ample documentation that the Forest Service has severely overcut some national forests, the basic policy seems sound. The environmental consequences of any accelerated logging program in terms of damaged water and soil quality, not to mention damage to potential wilderness and park areas, would simply be enormous.

But the industry is pressing its attack home, and right now the pressures on the Forest Service are severe. In response to expressions of environmentalist concern over the past few years, the Forest Service has instituted a new land-use planning process, under which it has already withdrawn substantial commercial timber from the cut in parts of the West for environmental reasons. In a 1973 directive, it also clarified its non-declining yield policy, making it plain to the industry that it would not change voluntarily.

The industry responded on December 16, 1974, with a full-scale meeting with Secretary of Agriculture Earl Butz, urging him to press for the adoption of ECHO in the Forest Service planning process. Having apparently met with a rebuff there, on January 10th, representatives of a broad cross section of industry and labor went directly to the White House itself for a meeting with the Domestic Council staff and representatives from the Department of Agriculture. On February 4th, the industry/labor delegation also conducted briefings for senators and representatives.

Just as in 1969, when we watched the buildup toward the National Timber Supply Act, there appears now to be a similar buildup toward some kind of legislative/political solution to the "problems" the timber industry feels it is having with the Forest Service. Legislation is being circulated among members of the Northwest delegation, which may have the ultimate effect of increasing the timber cut. We may see the administration attempt to repeat the infamous order of two years ago to greatly increase the cut without any environmental consideration. We are certain to see a renewed press within the appropriations committees of Congress for more funds for "intensive" (liquidation) forest management.

Environmentalists, of course, will keep an eye on all of these developments, and will fight not to let them come to pass. It may be that the poor housing market, with the resulting drop in timber demand, will squash these efforts before they get off the ground. If not, environmentalists are united as never before against any attempts to strip the national forests and to eliminate the last unprotected wilderness.

REGIONAL REPS REPORT

Northwest: Forests Where the Trees Were

TWICE EACH YEAR, in January and July, each national forest announces its newest timber-sale plans. With 40 national forests in the four Northwest states, each year more than 2,500 new timber sales are scheduled, amounting to billions of board feet in volume, and affecting hundreds of thousands of acres. The Sierra Club and other groups scurry to plot each new sale on maps and to determine whether they would invade potential wilderness areas, destroy trails, or create unacceptable impacts on water quality and other environmental values. Questionable sales must be investigated and, where necessary, objections must be raised.

This year, increasing numbers of sales are being proposed on the edges of roadless areas. Lands within roadless areas are being opened to cutting as rapidly as land-use planning and environmental-impact statements can be processed. It comes as no surprise that the timber industry, aided by some in the Forest Service, is mounting great pressure to open up—and then cut down—the remaining national forest roadless areas, even as they press for increases in the allowable cut on each national forest.

At the same time, the timber industry is also orchestrating a major campaign to discredit the concept of sustained-yield forestry.

Slick ads, special briefings for members of Congress and high White House aides, and a barrage of industry-viewpoint articles placed in various magazines—all tout "intensive forestry" and dismiss sustained-yield concepts. "Even-flow" policies of the Forest Service (to permit cutting only the amount that is being grown, so that the level of cutting is sustainable year after year) makes no sense if you think about economics the way the timber industry thinks about economics.

Some insight on these issues comes in a fascinating new Forest Service research report, "The Rocky Mountain Timber Situation, 1970." (Citizens can obtain copies of the report "The Rocky Mountain Timber Situation, 1970" without cost from the Intermountain Forest & Range Experiment Station, Ogden, Utah 84401. Ask for Bulletin INT-10, 1974.) Covering the eight Rocky Mountain states, it gives a statistical rundown on the overall timber situation for both private lands and national forests. The marginal paragraph headings give the flavor of the report: "Industry relies heavily on publicly owned timber . . . even while overcutting its own land;" "There is a shortage of large trees . . .;" "Getting nonstocked lands into production would increase supplies, but right now . . . land is being cut



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EDITORIAL

Do We Need More National Parks?

THE NOTION has been going around in high administration circles that the National Park System is complete. The argument runs that with the addition in 1974 of such areas as the Big Cypress National Preserve in Florida and the Big Thicket in Texas the system has been rounded out and should be expanded no further. Supposedly, all the "crown jewels" of America's natural beauty are now securely under the lock and key of the Park Service.

This is the same argument we heard a hundred years ago for closing the patent office: everything useful has already been invented.

The notion advanced above is but a cover for the real reason. The federal government does not want to spend any more money on acquisition of park quality lands that are not in the public domain. This is an entirely different line of reasoning: if one cannot afford any more crown jewels, the face-saving way to bow out of the market is to declare that one already owns all of them that are worth having.

In these days of increasing deficits, spending for more national parks is a form of saving. I do not think that posterity will mind paying off these debts, when the asset will be there still.

An argument used to justify the spending of no more money is the alleged difficulty of acquisition. It is clear that many of the new parks will be made up of lands that must be acquired from private owners, and that such lands will be purchased under threat of condemnation, if not by the outright exercise of the right of eminent domain. Politicians appear to shrink from allowing the exercise of this power for most purposes. Yet, the Corps of Engineers regularly condemns thousands of acres for reservoirs, with no more than token opposition. I can see no reason why there should be any difference when the Park Service sets out to condemn land for a reservoir of open space.

Must we then pass up the Congaree Swamp, the last remaining red-river bottomland swamp, in its almost original condition? Are the six national champion trees there not the facets of a spectacular jewel? A National Park Service study in 1963 recognized the Congaree's forest of champions as a national treasure. If we wait, our children can see there a mighty array of champion stumps.

What has happened to the concept of parks near urban centers where the people can get to them easily? The vast majority of our people live in the cities; but the vast majority of our national parks are as far away from the cities as they can be. The more people are crowded together in urban living conditions, the more they need nearby parks where they can take a nature break.

Shall we forego the Santa Monica Mountain and Seashore Park? Do we mean to declare that the wealthy may buy their own private preserves, and for the rest of us there can be nothing?

Nor does the park system yet have representative tracts of many natural regimes. The Tallgrass Prairie comes at once to mind. And we have come as near to exterminating the prairie as we did the buffalo that went with it. The least we can do is see that something of both is allowed to survive.

The National Park System is far from being rounded out. We have established no more than its outlines. Far more parks remain to be established than have already been created. We have a long way to go before we will have finished building the National Park System.

Theodore A. Snyder, Jr.
Vice President

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faster than it can be regenerated."

Why is the industry so eager to cut the remaining old-growth timber in the national forests? The report documents that cutting on private-industry lands in the Rocky Mountains "was well in excess of growth" throughout the 1952-1970 period. "Because removals from industrial lands have exceeded growth for at least two decades, these lands cannot be relied upon to provide much of the future sawlog output—the volumes simply are not there."

If you were managing your lands as the timber industry has managed theirs, you would not encourage people to talk about "sustained yield" or "even flow," much less "multiple use!"

How about regeneration, once the old-growth timber is cut? We begin with a backlog: "In 1970 there were about 2.7 million acres of nonstocked productive land in the Rocky Mountains—that is, 2.7 million acres of *commercial forest land*. Each year, at present levels, another 247,000 acres are cut over. Meanwhile, each year, only about 82,000 acres are regenerated (70,000 by planting and seeding, only 12,000 acres by natural means).

Given this imbalance between cutting and regeneration, the report concludes: "If the current trend continues, the 2.7 million acres will blossom into more than 4 million acres of nonstocked land by 1980." "Blossom" is an unfortunate choice of words, but

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the report goes on to call this situation just what it is: "galloping desolation."

In the face of these trends, we are continually told that the great threat to future timber supplies is not overcutting, but removal of land from the timber base by "extremist" withdrawals for wilderness.

The report also sheds light on that assertion. It analyzes the elements of total "removals" of growing stock and finds that between 1952 and 1970, the "total removals of growing stock more than doubled to 1.1 billion cubic feet per year." Of this total, 93 percent resulted from logging; only 2 percent from withdrawals of forest land for nontimber use.

Some 27 million acres of national forest land in the eight-state area were inventoried as "roadless areas," but only 11 million acres are classified as commercial-forest land. On the six million acres actually proposed for further wilderness study by the Forest Service, the volume of timber would sustain an annual cut of 154 million board feet. The report notes that this amounts to less than 4 percent of the 1970 sawtimber removals. As the authors say, "... any anguish

over the prospect of such a 'loss' [of timber] should be tempered with the knowledge that ... in 1970, twice the amount of wood was left in the woods as logging residue, and about 12 times that much sawtimber ... was lost to mortality." Acre for acre, more land is being denuded annually—and not being regenerated—than is being set aside for wilderness.

Citizens concerned about forest management have long decried overcutting and have urged that forestry ought to be a conservative art, in which cutting is permitted at levels no greater than the level of growth that can be assured and sustained. If you cannot assure regeneration, you have no business denuding the land. But, speaking of business, there is a good deal of short-run money to be made in "liquidating" old-growth timber. And, if you have already liquidated the old growth on your own industrial lands, then why not liquidate the old growth on the people's forests, too? If that means liquidating roadless areas, wildlife, hiking trails, and anything else in your path, so what? Just who, if anyone, counts those intangibles in their end-of-the-month balance sheets?

Doug Scott

NEWS VIEW

House reorganization welcomed

THE FIRST WEEKS of the new Congress have brought major changes in the procedures and power structure of the House, changes that offer hope of increased responsiveness to conservation needs. The House Democratic Caucus voted to replace long-time House Agriculture Committee Chairman W. R. Poage (D-Texas) with Washington's Tom Foley. Poage has been a major antagonist of conservationists on a variety of issues, and Foley's assumption of the chairmanship, combined with the generally more responsive composition of the Agriculture Committee, should ensure a much more sympathetic reception of efforts to improve the quality of the stewardship exercised by the Forest Service over the National Forests, as well as on pesticide, stream channelization, and other rural conservation issues.

Under heavy pressure from conservationists and consumer groups, Congressman Jamie Whitten (D-Massachusetts), chairman of the Appropriations Subcommittee on Agriculture, Environment, and Consumer Protection, agreed to surrender his subcommittee jurisdiction over environmental and consumer issues to another subcommittee headed by Congressman Edward Boland (D-Maryland). Boland's subcommittee originally had environmental jurisdiction, but in 1971, alarmed by the growing strength of the environmental movement, Committee Chairman George Mahon (D-Texas), reassigned environmental issues to

Whitten, who has used his power to hamstring the efforts of the Environmental Protection Agency and the Council on Environmental Quality by attaching provisions to their appropriations prohibiting them from using money to carry out certain of their legal duties under environmental-protection laws such as the Clean Air Act.

A major revolution also swept the key House Commerce Committee. Although there was no challenge to the chairmanship of West Virginia's Harley Staggers, younger members of the committee did succeed in reducing Staggers' control over the committee, ensuring a more heavily Democratic makeup for Commerce Committee delegates to House-Senate Conferences. Congressman John Moss (D-California) succeeded in wresting the important Investigations Subcommittee away from Staggers, while Congressman Paul Rogers (D-Florida) retained his jurisdiction over environmental and health issues, and John Dingell (D-Michigan) was made the head of a new subcommittee on energy.

The House also joined the Senate in voting to open up future House-Senate conferences where the fate of important legislation is decided, and the Democratic Caucus gave the leadership the power to appoint all members of the powerful House Rules Committee.

The effect of these changes is to remove many of the roadblocks which have pre-



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vented conservation legislation supported by a majority of the House from reaching the floor for a vote. The crucial problem remaining is the Rules Committee, which during the last Congress played a significant role in the defeat of land-use-planning legislation and the bill to preserve the New River in North Carolina, and produced a major delay for mass-transit legislation. The House leadership now has the power to ensure responsible action on the part of the committee; the question is whether it has the will and the desire to use that power.

Outer continental shelf hearings under way

THE ALREADY WELL-FUELED debate over the appropriate level of federal offshore-oil lease-sales for the next few years was further stoked at three hearings held by the Department of the Interior on its draft environmental impact statement on proposed lease-sales in three areas: the Gulf of Alaska, Southern California, and the Atlantic Coast. The hearings were held in Anchorage, Los Angeles, and Trenton.

In Anchorage, Sierra Club Alaska Representative Jack Hession reported that the new Hammond administration's relatively cautious initial position about federal leases was dramatically undercut the second day

of the hearings by the state's request to the oil industry for tract nominations on state-owned offshore lands in the Beaufort Sea on Alaska's northeast coast, an area even oil men rank as very hazardous. Environmentalists expressed the fear that if the state decides to lease there this year this might soon encourage the Department of the Interior to lease federal tracts in the area as well. Federal leases in that area had been scheduled for late 1977, allowing sufficient time for needed study and planning.

Hession, focusing on more immediate Alaskan Outer Continental Shelf leases, testified that, "by proposing to lease this year in the eastern Gulf of Alaska, the Interior Department has rejected the recommendation of the Council on Environmental Quality that OCS development be undertaken in the most environmentally acceptable way." (The CEQ had ranked the Gulf of Alaska first in terms of environmental risk.) "It appears," Hession continued, "that the Interior Department is deferring to the wishes of an industry which stands to gain enormous economic advantages at both the economic and environmental expense of the public."

Speaking for the club at the hearing in Los Angeles, Southern California Representative Mary Ann Eriksen charged that the environmental impact statement "completely failed to justify the necessity of leasing ten million acres in 1975." She reported that, although the stated objectives of the statement are orderly resource development, protection of the environment, and receipt of fair market value, it gives little evidence that these objectives can be achieved.

"Of utmost importance," she said, "is the fact that the government admits there are

large gaps in scientific information. This lack of knowledge and failure to discuss pertinent existing data are clearly illustrated by the inadequate treatment of seismic conditions. Since 1812, there have been six earthquakes of magnitude six or more whose epicenters were in the offshore area of southern California. Yet the statement evaluates the earthquake hazard in one paragraph."

The final hearing took place in Trenton, New Jersey. Officials of several eastern states were very critical of the draft environmental impact statement on the leasing program, as was the Environmental Protection Agency.

Sierra Club Treasurer Paul Swatek, appearing on behalf of the club, said, "There is no sense of priorities in the impact statement. It does not focus on key issues. Material of relevance to important matters is frequently scattered and is hard to find. This means that any merit the document does possess is hard to perceive. We cannot help but contrast the hundreds of pages devoted to abstract discussions of the geology, oceanography, and biota of specific areas with the almost complete absence of a discussion of federal-state cooperation under the Coastal Zone Management Act." Swatek stressed that the planning process under the Coastal Zone Management Act is not an interminable one, but rather was designed to be accomplished in about a three-year period.

Soon after the Trenton hearing was over, Interior Secretary Morton announced that any action with regard to the Atlantic OCS will be put off until the U.S. Supreme Court decides the jurisdictional issue now before it.

Meanwhile, attention is turning to Congress, where Senator Ernest Hollings (D-South Carolina) and 13 cosponsors introduced S. 426, a bill amending the OCS Lands Act to require a federal exploration program, rather than the current method of simultaneously leasing for exploration and production. This bill also requires that

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coastal-zone plans be formulated in frontier areas before decisions are made to lease for production. Provisions of the bill also include modification of the bidding and leasing system, a requirement for preparation of a comprehensive outer-continental-shelf leasing plan, subject to congressional approval, and the adoption of "best available technology" on all equipment connected with new drilling operations. The bill allows citizens the right to sue to force compliance with the act and sets up a \$100-million liability fund to be used in event of oil-spill accidents. On introducing the legislation, Hollings said, "This would enable the government to measure promptly the extent of the publicly owned oil and gas resources, put the decisions about production of those resources in the public sector, and enable coastal states to plan for offshore oil before final decisions are made."

Economic health and environmental goals do not conflict

Independent economic analysis continues to indicate that there is no unresolvable conflict between achieving environmental goals and restoring health to the nation's economy. The Joint Economic Committee of the Congress concluded in a recent report that

environmental investment should not be delayed as a result of the present economic situation, because "the benefits of this investment clearly exceed the costs, their contribution to inflation has been and will continue to be minimal, delays will only increase the ultimate cost of environmental cleanup, and the stimulative effect of these expenditures on employment in the near future will be beneficial to the economy."

A more detailed econometric model prepared for EPA by Chase Econometrics, Inc., indicates that the effects on the economy to date of environmental expenditures have been minimal, and that future levels of expenditures will not contribute in a major way to economic problems. The study estimated that in 1974, total abatement costs amounted to about one percent of the Gross National Product, and this proportion would likely rise to 1.7 percent in 1976, and then decline. The study projected a 1975-1976 inflation effect of only 0.5 percent resulting from pollution-abatement expenditures, and an average annual increase during the decade 1973-1982 of only .03 percent per year.

In spite of this evidence, opponents of environmental protection continue to allege that conservationists are responsible for economic problems. In California, the timber industry incited a demonstration against requirements that timber-harvesting plans comply with the state's Environmental Impact Review Process on the grounds that a court decision upholding this rule was responsible for unemployment in the woods and lumber mills. The demonstration was aimed at the new administration of Governor Jerry Brown, and against his Secretary of Natural Resources, former Sierra Club Vice President Claire Dedrick. Within ten days of this demonstration, however, employment in the industry began to pick up, admittedly because the demand for timber products was rising, and heavy lumber inventories were being eliminated.

A study by Ralph Nader's Public Interest Research Center exploded the myth that auto-safety and emission standards are responsible for the huge rise in auto prices in recent years and the resultant decline in employment in Detroit. The study noted that of the total increase of \$1,800 in the cost of a new car from the 1967 to the 1975 model years, even pro-industry figures attributed only \$400 to safety and emissions controls, and of that, \$150 represented the profits made on these features by the manufacturers and the dealers!

Detroit drags feet on auto-emission controls

The Environmental Protection Agency completed its hearings on the subject of requests by auto makers for a one-year extension on tough auto-emission standards for hydro-

carbons and carbon monoxide due to take effect in 1977. With the exception of the manufacturers themselves, almost all witnesses opposed the proposed extension. The National Clean Air Coalition's Clarence Ditlow argued that the auto industry had failed to establish the need for an extension on the grounds of economic, technical, or fuel economy, and that the Ford Administration's own studies indicated that neither the one-year extension discussed at the hearings nor the five-year delay proposed by the President were needed.

Similar sentiments came from city and state officials. The National League of Cities and U.S. Conference of Mayors objected that the nation's urban areas "should not have to sacrifice environmental quality and economic vitality because one segment of American industry is able to skip out of doing its part. We fervently hope that the administration will rule against the auto industry's request for a delay in emissions standards." Considerable attention focused on the issues of technical feasibility and economic costs. Citizens for Clean Air, of New York City, testified that they had used "off-the-shelf" catalyst equipment to meet the 1978 emission standards for all three auto pollutants, including oxides of nitrogen, with a 20-percent increase in fuel economy over the 1974 levels. Honda, the only manufacturer to have a version of the

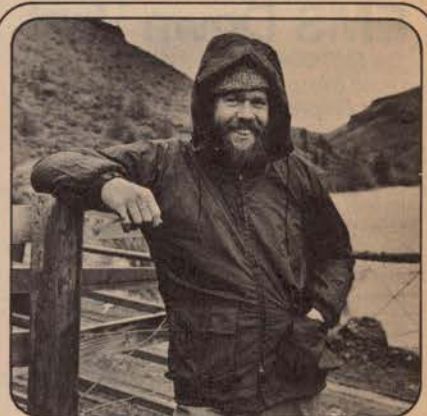
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stratified-charge engine in full-scale production, indicated that its engine could meet pretty much any emission standard desired. Major manufacturers of catalytic converters indicated that their industry could supply an adequate quantity of so-called "three-way" catalysts to meet both the 1977 and 1978 standards on time without significant fuel penalties. Other manufacturers, both domestic and foreign, indicated that the systems they were planning to use to meet the standards would exact significant fuel penalties, and some insisted that they were not sure they could meet the nitrogen oxides standard at all.

Long-time observers of the automotive-pollution issue noted that the same pattern which drove the Congress in 1970 to mandate tough emission standards still occurs: the bigger the auto firm, the less it is able to develop clean-engine technology. Those on the inside of the auto industry, those with the most knowledge, are consistently unable to make progress as fast as the newcomers like Honda and the outsiders like Citizens for Clean Air. Even when once better techniques of achieving standards are demonstrated, many companies persist in using techniques that will be less satisfactory to the final consumer.

The uninvited guest at the EPA hearings was a recently released agency report which

indicated that sulfate pollution resulting from the use of catalytic converters would pose a major health problem in less than two years in California, and shortly thereafter nationally, unless remedial steps were taken. The report identified three possible remedies: reduction of the level of sulfur in the lead-free grade of gasoline used by catalyst-equipped vehicles, modification of the catalysts themselves to inhibit formation of the sulfates, or substitution of a different emission-control technology not involving the catalyst. The report, however, seemed quite pessimistic about the prospects of any of these remedies being adopted before sulfates created a health problem, a conclusion challenged by outside observers who felt that both desulfurization and the adoption of alternative emission-control technologies were possible in much shorter times than EPA indicated.

Showdown imminent on whale boycott

Japanese representatives at the International Whaling Commission's (IWC) scientific meeting in La Jolla, California, have broken with the Soviet Union, the other major whaling nation, by rejecting the majority position on scientific methods to be used to calculate whether or not given stocks of whale species should be freely harvested, harvested under quota, or totally protected. These categories, established at the last meeting of the IWC, were designed to provide a selective moratorium that would prevent any species from becoming endangered in any part of its range. Quotas based on these categories will presumably be set at the next IWC meeting in June, 1975, based on the recommendations of the commission's scientific committee. It seems likely that the Japanese, whose scientists objected to the calculation methods, will reject the quotas based on those methods.

The question that will then arise is whether or not "all reasonable alternatives for the achievement of conservation objectives have proven ineffective." This is the criteria that President Ford recently set for the invocation of the Pelly Amendment, which prohibits the importation of fish products from "countries conducting fishing operations which diminish the effectiveness of a conservation program of an international fishery convention to which the U.S. is a party."

If Japan does object to the quotas, there would certainly be increased interest in Congress to extend the boycott to all Japanese products. Legislation to this effect has already been introduced. Officials from the National Oceanic and Atmospheric Administration indicate that efforts on the part of environmentalists have been an important factor in whale-conservation achievements,

and that continued, visible efforts are crucial. Bob Hughes, chairman of the club's wildlife committee, has indicated that the club will "continue its boycott of Japanese products as an ongoing protest to the lack of progress in saving whales." Project Jonah has announced a major effort on April 27, 1975, to muster widespread support for conserving the great whales. Information on this event can be obtained from Project Jonah, P.O. Box 476, Bolinas, California 94924.

National Research Council calls for caution on coal development

Citing "serious hazards to health and the environment" associated with the generation of electricity through the burning of coal, the Committee on Mineral Resources and the Environment of the National Research Council (NRC) called on February 12 for a "low-growth" policy toward such uses of coal. The committee said that if reductions in availability of other conventional energy sources should force a rapid increase in coal utilization, then the government must move "with great caution, only where necessary, and only when accompanied by strict regulations and technological controls." The panel joined the Environmental Protection Agency and other investigators in rejecting the "intermittent controls" favored by some public utilities, and called instead for the "installation of

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National Whale Symposium

THE GREAT WHALES and their smaller relatives will be the subject of a national public conference at Indiana University in Bloomington, Indiana on November 9 through November 12, 1975. The National Whale Symposium will gather together experts from the social and natural sciences, arts, and humanities, and concerned citizens to consider the plight of whales and dolphins. Through such fields as international law, biology, literature, folklore, and music, the symposium will explore the past and present relationships that man has had with the whales, and formulate what mutually beneficial relationships might be pursued in the future. The National Audubon Society is joining Indiana University and other national organizations in sponsorship. For information write: The National Whale Symposium, 605 South Fess Street, No. 3, Bloomington, Indiana 47401. Phone: 812 339-1484.

pollution-abatement equipment in both new and existing coal-fired plants."

A rapid increase in electrical generation from coal has been a linchpin of both the Nixon and Ford Administrations' energy policies. The Ford Administration is actively trying to weaken the safeguards contained in last year's energy legislation, safeguards designed to ensure that power plants are converted to coal only where this can be done without endangering the public health. The Administration seems to have backed off from its original arguments that equipment was not available to clean up sulfur emissions from coal-fired facilities. It now agrees with the Environmental Protection Agency that stack-gas scrubbers will do the job, but does not favor installation of scrubbers in "isolated" power plants because it would rather delay the capital costs of the equipment until the mid-1980's, by which time it hopes that coal gasification technology will be in use. In this way, these utilities will avoid altogether the need to install clean-up equipment. The NRC report specifically rejected intermittent controls. However, it warned that control of nitrogen-oxide pollution from coal-fired power plants was one of the few instances where the necessary technology to control pollution is not available, and it called for serious efforts to develop control techniques.

Take a Caribou to Dinner?

THE ANNUAL DINNER, traditionally associated with the organization-meeting of the Sierra Club's board of directors, will be held this year on May 3 at the First Unitarian Church in San Francisco. The program following the dinner will feature the world premiere of the club's new film on Alaska and an address by Lowell Thomas, Jr., Lieutenant Governor of Alaska.

A wine-punch social period will begin at 6:00 p.m., followed by dinner at 7:15 p.m. The program will start at 8:30 p.m. and will be open to all interested persons.

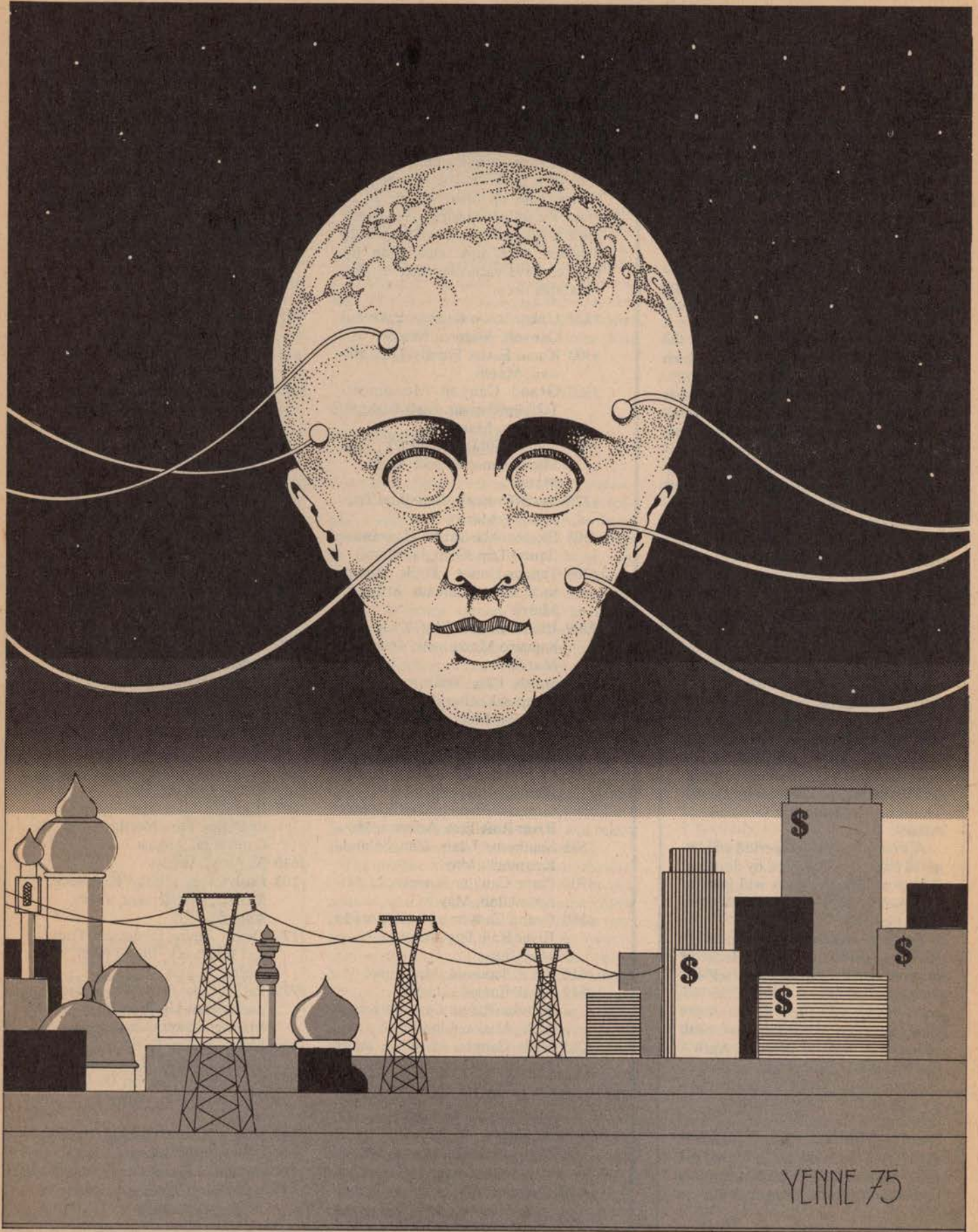
To order tickets for the dinner, at \$6.50 per person, send your letter of request, check, and stamped, self-addressed envelope to: *Sierra Club Annual Dinner, 220 Bush Street, Room 1050, San Francisco, CA 94104*. Mail orders will be filled between April 1 and April 25. Tickets will be held at the door for paid requests received after that date. Tables for six, eight or ten people must be reserved on a first-come, first-served basis. The table must be completely paid for at the time of reservation. Space constraints limit the number of dinner tickets to 400.

Club Outings Filling Up Fast

With the publication of the Outing Issue of the *Sierra Club Bulletin* in late January, reservations are pouring in and the trips are filling quickly. To be sure of a place on the trip of your choice, sign up now! As we go to press, the following trips have already been filled, most with waiting lists; however, it is not uncommon for trips to have vacancies later as cancellations occur:



- #307 Unkar Basin Knapsack, Grand Canyon, Arizona, March
- #300 Kauai Easter Family Trip, Hawaii, March
- #302 Grand Canyon Monument-Tuckup Canyon High-Light, Arizona, March
- #301 High Uintas Knapsack Trail Maintenance Project, Utah, March
- #325 Sea of Cortez Leisure Boat Trip, Mexico, March
- #306 Okefenokee-Satilla -Suwannee Canoe Trip, Georgia, March
- #308 Tannar-Hance Trails Knapsack, Grand Canyon, Arizona, March
- #309 Island in the Sky Knapsack, Saguaro Monument, Arizona, March
- #311 South Bass Trail to Tapeats Knapsack, Grand Canyon, Arizona, March-April
- #402 Kanab Canyon-Thunder River Knapsack, Arizona, April
- #401 Canyonlands High-Light, Utah, April
- #500 Grand Canyon of the Colorado River Raft Trip, Arizona, May
- #503 Southern Utah Canyonlands Knapsack, May
- #504 Paria Canyon Knapsack, Arizona-Utah, May
- #260 Grand Canyon of the Colorado River Raft Trip, Arizona, May-June
- #616 A&B Scotland, May-June
- #617 A&B England, June
- #2 Brooks Range Caribou Knapsack, Alaska, June-July
- #215 Hells Canyon of Snake River Historical Restoration Clean-Up, Oregon-Idaho, June-July
- #234 Talchako Lodge Work Project Service Trip, British Columbia, June-July
- #70 Gila Wilderness Threshold Trip, Gila Forest, New Mexico, July
- #199 Cathedral Range Junior Knapsack, Yosemite Park, Sierra, July
- #71 Adirondack Mountains Threshold Trip, New York, July
- #72 Nelson Lake Threshold Trip, Yosemite Park, Sierra, July
- #163 Turret Peak Photography Knapsack Trip, Sierra, July-August
- #73 Nelson Lake Threshold Trip, Yosemite Park, Sierra, July-August
- #74 Chamberlain Lakes Threshold Trip, White Cloud Mountains, Idaho, July-August
- #622 Galapagos Islands, Ecuador, July-August
- #169 Saddlebag Lake-Twin Lakes Leisure Knapsack, Yosemite, Sierra, August
- #206 Tower Peak Junior Knapsack, Yosemite, Sierra, August
- #75 Margaret Lakes Threshold Trip, John Muir Wilderness, Sierra, August
- #52 French Canyon Back Country Base Camp, Sierra, August
- #121 Yosemite-South High-Light, Sierra, August
- #97 Klamath River Teen-Age Family Canoe Trip, Northern California, August
- #630 Norway, August
- #103 Lost Lakes Family Knapsack, Minarets Wilderness, Sierra, August
- #179 Desert Alpine Ecological Transect Knapsack, Inyo Forest, Sierra, August
- #229 Parker Lake Plane Wreck Backpack Clean-Up Project, Minarets, Sierra, August
- #86 North Silver Divide Country Threshold Trip, Sierra, August
- #88 Navajoland-Canyon De Chelly Threshold Trip, Arizona, August
- #98 Rogue River Teen-Age Family Canoe Trip, Oregon, August
- #104 Gardiner Basin Family Knapsack, Kings Canyon, Sierra, August-September



Systems of Energy and the Energy of Systems

THOMAS A. ROBERTSON

What net energy return means and how it affects you at the birth of the Age of Scarcity

BURMAH, THE SECOND LARGEST oil company in Britain, falters, threatening the development of much-needed North Sea oil for that nation's troubled industries. Texaco, one of the largest U.S. oil companies, drops its plans to develop oil shale, a highly touted domestic energy alternative. Inflation punches up through 20 percent in Japan and Italy. Elsewhere, it continues to contradict predictions of lower rates.

In Washington, Senator Mark Hatfield and Congressman Mike McCormick clash in a committee conference on energy research and development. The discussion concerned an obscure concept called "net energy." Few recognize the relationship of net energy to the problems of oil companies and economies. Even fewer appreciate the importance of this concept to the stability and well-being of the industrial society in which we live. Senator Hatfield insisted the concept of net energy should be one of the criteria in a selection of energy research and development. Congressman McCormick said he was concerned that the evaluation of energy technology for its net-energy potential would be restrictive to energy research. Mr. Hatfield, the Senator from Oregon, held his ground and the section on net energy was retained in the bill. This brief encounter was a milestone in the history of industrial society. In those few minutes, for the first time, two leaders touched on the keystone issue of how this society is powered.

The term net energy first trickled into the consciousness of industrial society in the fall of 1973, when Howard T. Odum, Graduate Research Professor of Environmental Engineering at the University of Florida, was asked to submit a paper to *AMBIO*, the publication of the Royal Swedish Academy of Science. The result, "Energy, Ecology, and Economics," came out in December, 1973. As copies of the paper were circulated (it was reprinted in some 14 publications throughout this country and abroad), the concept of net energy made a strong impression on concerned readers looking for better opportunities in these changing times. The concept of net energy is a product of Professor

Odum's energy system analysis. Energy is used by Odum and his associates as a common denominator. Symbols of energy processes and of connecting flows track energy in its many forms to show the workings of all systems and combinations of systems. From this whole-system view of energy, environment, and economics, concepts such as net energy and a host of other significant insights emerge.

When Paul Samuelson, a Nobel Laureate in economics, says, in a recent *Business Week* article, "I think the greatest error in [economic] forecasting is not realizing the other possibilities," he is making a strong case for questioning our existing processes of perception. Economists, using symbols called money to understand the allocation of resources and work, cannot see those things in the systems of society and nature that money does not immediately track. For example, money—the symbol—shows little about the services provided by the environment for which no money payments are made. "If you don't pay for it, it doesn't exist," is perhaps too harsh a characterization of the economic point of view, but it does make the point.

The delayed effects through our economy caused by the rippling out and back of increased primary energy prices for oil, coal, and gas are dynamic properties of our social economic system about which little is known. When our leaders say a \$3.00-per-barrel import tax will cost the consumer only \$275 a year, they are ignoring how the butcher, the baker, and the candlestick maker (candle wax comes from paraffin, a derivative of crude oil) pass their costs on to the consumer. The so-called "free market," which economists and others speak of, is so surrounded by confusion that it is hard to find any real meaning in the term. There is certainly little that is "free" about the flow of money resources and work through industrial society. Government with its immense regulatory ability, corporations, unions, and consumer advocates all seek to do what they think is best for themselves. By the various means of legislation, lobbying,

and associations, they disturb any "free" flow through the system. Truly beneficial results are increasingly difficult as the system in which they operate becomes more and more complex. Social good, corporate good, and even governmental good, to say nothing about good government, become more and more elusive. The counterproductive tendencies of a high-energy industrial system reveal today's profit as tomorrow's losses.

Energy systems analysis lowers this perceptual barrier by integrating all parts of the systems under consideration first into conceptual approximations, and then into accurate simulation of the essence of the problem at hand. The result of this process of inquiry tends to be forced by the realities of the system and is much less dependent on the perceptual bias of the observer. For this reason, net energy appears to be one of these unforeseen systems circumstances.

Net Energy and Inflation

NET ENERGY begins as a simple concept. *It takes energy to get energy.* What counts for use by society is the net energy "profit" from the work we (society) do to extract the given supply of energy. The accounting must be done in terms of both energy and money. Money alone as an accounting medium is not working. In other words, net energy is the amount of energy available from a given resource for use by society after subtracting the energy required to search for, extract, process, and transport the energy derived from that resource.

The energy/dollar problem is one involving two different but not separate functions in our economy, and the best way to understand this subtle distinction is first to consider energy alone. Our effort as a society to find, process, and use fossil fuels can be likened to that of a family fueling its members with food. In our case, the family at first lives next door to a grocery store that is fully stocked but charges nothing for the food. The family's only cost is the energy they burn in walking to and from the store. As long as the store is nearby and the trip is

short, the family is unaware of any significant "price" and happily assumes either (a) that the store will never be exhausted, or (b) that another full store will spring up outside the first by the time the first runs out of food.

Unhappily, the store runs out, and no new store takes its place. (Several stores, which we might liken to alternative energy sources such as solar and nuclear power, appeared, but none had yet proved to contain any appreciable supply of energy/food.) The family must now go to a store several blocks away—a trip that begins to exact a noticeable amount of food-energy cost to the family. Eventually, the only stores that can be found still stocked with food the family must have are a half-day's trip away. One day, the family realizes that it is spending the same amount of energy in traveling to and from the distant store as is contained in the food they pick up during the trip. There is, in other words, no net energy.

Now add dollars to the above story. We start with each unit of energy having an equivalent unit of money attached to it. The family gets money for all work it does outside of going to the store. After the family gets food/energy from its nearby store, it is able to use its surplus energy to do non-store-going work for which the family receives money. With this money the family can buy still other kinds of work. (Work, in this sense, means the goods and services available from society.) The non-store-going energy is net energy. It is easy to see that as the family spends more and more of its energy going to those more distant stores, it has less and less energy to do its money-making work.

Several variations on this theme occur. In the example above, if we do less work we get less money. This is what would happen if we had that "free market" the economists talk about. However, you and I are part of a representative government that would find it hard to accept such a rigorous relationship between energy, money, and the work we do. Governments, in order to make things look better, "grow" by adding money to that which is already in the system. This works as long as there are resources available to back up the money. However, if resources are diminishing, this only makes us feel as if we have more ability to buy work, and only delays the time when we must reckon with reality. Understanding the basic elements of net energy is like learning to ride a bicycle. Once you learn, you cannot believe how hard it was to get started; at the same time, you will never forget it.

The fundamental cause for inflation can be seen as changes in net energy. As our concentration of resources diminish (the stores are more distant and harder to get to), we do more work to bring in less and less net energy. Consequently, the amount of work done per unit of money diminishes. Three associated causes for inflation are:

(1) Increased primary energy (crude oil,

coal, and gas) prices. An example is the OPEC price hike in 1973 and the coal-strike settlement in December, 1974. Crude oil imports, as well as excise taxes, also fit this category.

(2) Increasing the money supply without having the energy to do this additional work. Examples are dropping the margin on the stock exchange, increases in credit such as reducing the reserves over which banks loan money, forcing interest down, and putting money into pump-priming projects without the ability to power them.

(3) Decreasing productivity; in other words, getting less work from the energy we have. As economic writer Hazel Henderson says, "We are creating transactional costs faster than we are producing output." Everyone has his pet example of this.

Energy-Investment Ratio and Leverage

THE NET ENERGY available to an economic system can be seen as an energy return on the energy invested. This "energy-investment ratio" changes over time as concentrated resources become more dilute. A hard point to believe, but one that we must consider, is that a time finally comes when your energy-investment ratio is so diminished you can no longer do the things you could do in the past. Businessmen speak of leverage, by which they mean investment ratio. Energy-investment ratio is the basic leverage that determines the winners and losers (if there ever are any) between competitors, be they individuals, corporations, or nations. No businessman would venture into any enterprise without being aware of the comparative leverage between himself and his competitors.

Where money was working well in a stable economy, it moved energy in all its forms of resources, goods, and services, and it accurately and effectively allowed us to account for all the processes of industrial society in which we are involved. Modifications we now find in the availability of resources, particularly energy, are symptomized by inflation, which causes a deterioration in the quality of information we use in business and finance to move resources in our economic system. The energy-investment ratio and other elements of energy systems analysis form a new economics. Using energy as an accounting medium along with money can re-establish the information quality of our economic system so necessary to the best understanding and use of scarce resources by our society.

Changing Energy-Investment Ratio

THE BEST INDICATION that a change is taking place in the United States energy-investment ratio has come from a paper done by M. King Hubbert of the U.S. Geological Service for Senator Henry Jackson's National Fuels and Energy Policy Study. In

Hubbert's paper, which reviews fossil fuel energy availability for the future, we find a chapter titled "Discoveries per foot of Exploratory Drilling." Looking for an indication of work done for energy returned, as an energy-investment ratio, Hubbert found that, "The rate of discovery [of oil] is subject to wide fluctuations in response to extraneous conditions such as economic and political influences. In fact, the rate of discovery may be increased to maximum or shut down completely in response to managerial or political fiat, or to the changes in the economic climate." But in pursuing his investigations Hubbert found that the amount of oil discovered per unit of depth of exploratory drilling is almost exclusively a technological variable and is highly insensitive to economic or political influences. For example, while the officials of a large oil company can authorize its staff to double the amount of exploratory drilling in any given year and thereby increase the discoveries per year, *no oil company management can successfully order its staff to double the quantity of oil to be found per foot of exploratory drilling.*

Hubbert's figures raise vital questions about our energy return on energy investment for oil production in this country. His report suggests an 870-percent reduction in the return on our energy investment over the past few decades. Here is a fact that bears directly on the ability of the nation, or the whole of industrial society, to power itself. For all the discussion of national energy policy and the current economic crisis, how many policy makers do you see touch on the essence and magnitude of the problem suggested here?

Hubbert touches on the question of net energy almost by accident, but it is a sound start. The next step is for Odum and others to refine the applications of systems analysis to all the existing and proposed energy and economics circumstances of our society. From this will come the best opportunity for us to see how what we want to do differs from what we will have to do. Then, appropriate choices can be made with a more accurate understanding of their consequences.

Another set of numbers illustrates the differences in petroleum-resource concentration and their international implications. Norbert Tiemann, administrator for the Federal Highway Administration, says in several speeches: "The United States oil demand is now about 17 million barrels a day—and growing. However, to meet the need, we are producing only some ten million barrels of oil per day from half a million wells, an average of about 20 barrels per day per well. In contrast, Saudi Arabia could easily produce an equal amount of oil, if it chose, from about 700 wells—an average of more than 15,000 barrels a day per well." Put another way, the Saudi Arabians can produce with 700 wells what we need 500,000 wells to produce.

Energy and Competition

THE CONDITIONS OF CHANGING and diminishing net energy or energy-investment ratio is a fundamental element in all competition, particularly among the nations in this turbulent world. Odum and his colleagues are using energy systems analysis to ask questions about the competitive position—the leverage—among nations. He is concerned that all of the available primary energies available to the United States will yield less net energy than Arab oil. This means, he says, that we cannot compete using our own resources.

Odum's analysis, from energy systems studies of net energy done by himself and colleagues at the University of Florida, looks at several of our "promising" energy technologies.

- For strip mining western coal, we get approximately 3 units of energy back from each unit of energy invested.
- For nuclear energy, if the plants last 40 years, we get back between 2 and 3 units of energy for each unit invested.
- For Arab oil at \$10.00 per barrel, we get back about 6.5 units of energy for each unit we invest.

In other words, *all* the energies readily available to the United States will yield less net energy than Arab oil. Again the numbers are approximate. They should be seen not as precise statements, but as accurate indications of questions we should be asking if, as the numbers portend, we are headed for some unpleasant surprises in the near future.

Will West Germany and Japan be in a better position to outcompete us by not having the promised potential of domestic energies to confuse them? They are forced to use Arab oil and deal with the balance-of-payment problems. We should not forget—oil is of little value if there is no viable industrial society to burn it. And what about Russia? What is the net-energy profile of that nation, given that its vast resources are spread thousands of miles from industrial centers? What questions about competition are exposed when this nation's administration makes antique gunboat diplomacy noises in a nuclear missile age? What about changes in our global military posture since the 1940's and 1950's, when the United States controlled over half of the world's energy? How well can we power our threats when we now use 30 percent of the world's energy, but are largely dependent on the import of energy and other resources critical to the health of our industrial nation? These are all critical questions; who is asking them in context with the larger systems in which we live?

Net Energy Policy

THE CONCEPT OF NET ENERGY cannot be found in the final report of the Ford Foundation Energy Policy Project. Further-

more, its implication that our economy may be uncoupled from energy as reported in the *Congressional Quarterly* recently is simply not true. To his credit, David Freeman, director of the Energy Policy Project, did invent the phrase "Burn America First" to fault administrations for their tendency to strip the nation of its remaining diminishing energy reserves, thereby potentially threatening even more our future competitiveness. The point made by Freeman is not addressed in the administration's Project Independence report. Project Independence also failed to recognize the concept of net energy, even though Federal Energy Administration officials were quoted last summer in *Business Week* as saying it was a viable concept.

When Senator Hatfield and Representative McCormick opened the debate on net energy, it was no longer an academic or philosophical question. "Burn America First" is the announced policy of the Ford Administration and many other national leaders.

Energy and the Individual

WE TEND TO LOOK at articles like this one and view them as though we were some third party, remote from the reality they attempt to describe. This objectivity is necessary and wise. What is different here and today, more than ever before, is the topic under discussion. It affects you directly—now and into the foreseeable future. For example, the question of whether we do or do not get pay raises this year or next are very real at this time. This paper ties basic influences on inflation directly to changes in energy availability. With a 15-percent inflation rate last year, you lost that much purchasing power. Did your raise cover this loss? Remember, we are talking about energy as it relates to *all* prices. The increased electric and gasoline and fuel prices you are paying are only the beginning of a long chain of events that ultimately affects everything in our society.

The possibility of a 20-percent inflation rate is too real to ignore. With it, we lose one half of our purchasing power over the next five years. Even at a rate of inflation of 15 percent the "half life" of the dollar does not give us too much longer. Finally, if you did get a pay raise and produced no more than you did last year, your increase is a direct contribution to inflation.

Individuals must no longer see these questions as separate from themselves. We are caught right dead in the center. This begs the question what can we do. To ask questions is only a part of the answer. We must ask better questions, using processes that allow us to see ourselves in the extended and integrated systems of man in nature. As Walter Lippman said, "Our conventional wisdom is no longer working . . . it was made for a simpler time."

H. T. Odum would say what wisdom we have was made by a simpler time. New times

call for a new wisdom, one he and others feel is available through energy systems analysis and a better understanding of man in nature. New perceptual processes are at hand, not only with Odum at the University of Florida. We also find Jay Forrester at MIT, Dennis Meadows at Dartmouth, K. E. F. Watt at the University of California at Davis, and others using new processes to see our world. These new processes of perception allowed us to raise the questions found on these pages. The universities are exploring new ways to present these processes and the questions they ask. You can do your part by seeing that these processes and questions, or better ones if needed, are applied in ways that you can understand, by leaders that we can all trust.

Epilogue

HOMER LEA, a political military strategist, said the following at the turn of the century: "To free a nation from error is to enlighten the individual, and only to the degree that the individual will be receptive of truth can a nation be free from that vanity which ends with national ruin. . . . No state is ever destroyed except through those avertable conditions that mankind dreads to contemplate. Yet nations prefer to perish rather than to master the single lesson taught by the washing away of those that have gone before them. In their indifference and in the *valor of ignorance*, they depart together with their monuments and their constitutions. . . ."

Past words and actions reflecting "the valor of ignorance" haunt industrial society at each step along our journey into the future. In spite of this, there is promise in our society's heritage: The "age of power," which began with the Industrial Revolution and has culminated in the "communications revolution," has, in its passing, provided us with the tools for transcending our ignorance. The wisdom of our "simpler times" can be the foundation for a new wisdom. The quality of our new existence will be the result of how well we apply our potential to be truly wise to the problems of the great transformation which is already upon us.

Tom Robertson is coordinator of the Energy Center at the University of Florida. The center's activities are directed toward better understanding the complex interactions between energy and society. An important aspect of this goal is the work of Howard Odum and his colleagues, whose energy systems analysis, or "energetics," led to the concept of net energy. The purpose of this work is to facilitate our transition to an age of increasing shortages by showing how we can best utilize the resources that remain. Tom McCall, former governor of Oregon, has recently announced that he will join the center staff as head of its Institute of Applied Energetics. The institute will encourage the increased use of energetics as a tool for understanding the problems of our age, and will promote the implementation of policies based on that understanding.

MANDATE (Continued)

Conservation Voters, 324 C Street S.E., Washington, D.C. 20003.)

The new members should be much more sympathetic to environmental issues than those they replaced. Many ran partly on these issues and received help from conservation groups. The league's chart scores were a favorite campaign weapon. Former Congressman Abner Mikva kept comparing his own scores to those of the incumbent Republican Sam Young. Finally, Young lost his cool during a television debate and accused the league of being a Democratic front. A reporter reminded him that the Illinois Republican Senator Percy received high scores from the league, making Young look extremely foolish. This illustrates the growing effectiveness of ratings by nonpartisan citizen groups of many kinds.

Many key environmental committees have experienced a heavy turnover. The House Appropriations Committee lost 12 members, only three of whom were at all helpful on environmental issues. We are especially glad to be rid of Representative Scherle (R-Iowa), a promoter of destructive water projects, pesticides, and agribusiness. His opponent, Tom Harkin, understands that environmentalists, consumers, and small farmers must band together to work for a more responsible long-term use of the land. We are delighted that he has won a seat on the House Agriculture Committee, where friends are hard to find. This committee also lost 12 members in the elections, including the second-ranking Democrat, Representative Frank Stubblefield, a member of the Dirty Dozen. Conservationist Richard Ottinger has won a seat on the Joint Atomic Energy Committee, where he is badly needed. Several conservation-minded freshmen won seats on the Science and Technology Committee, which now handles research and development of non-nuclear energy sources.

All of the ten vacancies on the House Commerce Committee were filled by newcomers, most of them concerned about environmental issues. Although economic pressures will be severe, this should improve our chances of resisting efforts to weaken the Clean Air Act. Prospects are mixed for the House Interior Committee, where several of our friends transferred, but

again, we are hoping that several of the freshmen will be good. One of the oil industry's most powerful allies on the House Ways and Means Committee, Representative Joel Broyhill, was toppled by Joe Fisher, an economist and environmentalist. Broyhill was famous for his efforts to force unwanted freeways on the District of Columbia while blocking funds for desperately needed mass transit.

Yet even more important than the specific changes on the committees is the new willingness of the freshmen to challenge the seniority system. Most of them campaigned on the need for reform, and are eager to prove their independence. The move by the Democratic Caucus to select its committee chairmen rather than replacing or reappointing them automatically on the basis of seniority is a further encouraging sign for environmentalists. No longer can a single man frustrate indefinitely the will of the entire Congress merely because he is secure in his own district and cannot be defeated in an election back home. Despite our success in some of these elections back home, we feel this reform is long overdue.

Marion Edey is chairman and coordinator of the League of Conservation Voters.

FOOD (Continued)

Food Conference was the news media's coverage of the world problem, which largely consisted of noting which delegate ate at which restaurant. Shuffling between the delegates and the media were certain representatives of nongovernmental organizations, whose generally reported thesis was that malnutrition and famine would disappear if the people of the developed countries would embrace vegetarianism. One particularly aging agronomist from France declared, "Meat eaters are cannibals feasting on the flesh of children of the poor."

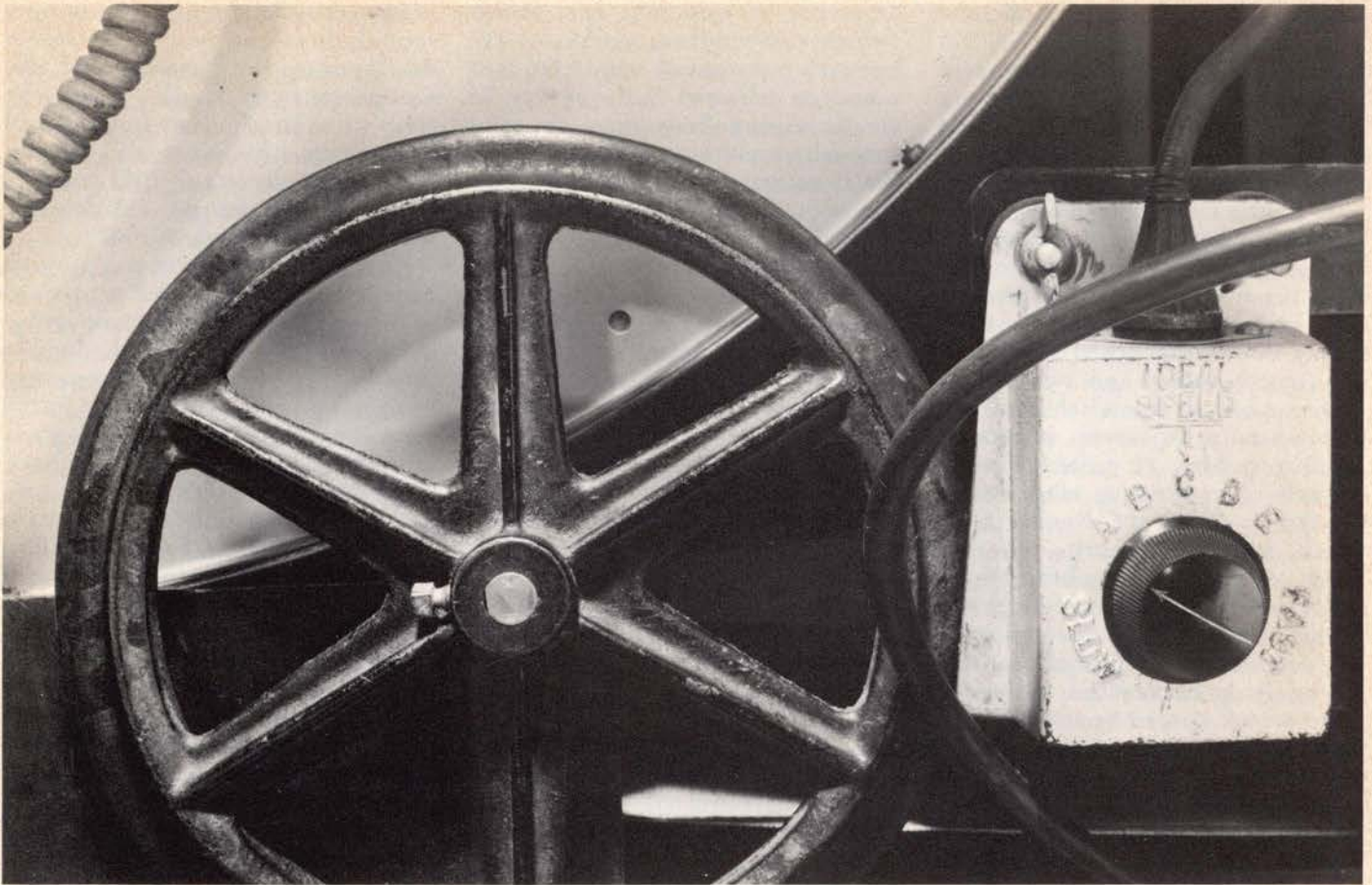
The only attempt by any organization to require a more comprehensive view of the implications of food demand given exponential growth in global population and other resource limitations was made by the Sierra Club's representatives to the World Food Conference. The club's proposal included a 30-year demand forecast on food, together with an assessment of the world's agricultural lands now in, or suitable for, agricultural produc-

tion. The assessment would be made by analyzing the productive capacity of the land, requirements for energy, capital, and irrigation. In addition, the proposal included a method of preserving world options by controlling the urbanization of farmlands now in or potentially able to be used for production, except in extraordinary cases of health, safety, and welfare. A monitoring system as well as a passive early warning system was recommended for the earth's oceans to determine the extent to which toxic wastes and other pollutants were reducing the ability of the sea to provide food. The real hope, as expressed by the club's representative, John Zierold, was that since limitations to growth in a finite resource system were not intuitively accepted by those responsible for developing both national and world food policies, perhaps by induction they would infer from a data base of their own computation what they were resisting as gratuitous advice.

What needs to be done? Perhaps one of the most salient comments at the World Food Conference was actually made before it began. Economist Barbara Ward and a group of other experts convened a World Food Forum prior to the arrival of the delegates to the conference itself. They argued that only conservation can work in the short term, and that the long term requires both increased productivity and *population control*. In addition, research that is basically and environmentally sound and nondestructive of the essential resource base and availability of capital must be focused in order to realize the world's potential agricultural productivity, particularly that of the developing nations. Surveillance must take place in all countries in order to provide both short- and long-term information on food requirements and crop potentials, as well as an assessment of the implications of future needs and the degree to which energy, water, land, and capital are available. And, finally, that in the developed countries production must not only be stimulated, but that some form of equalized distribution must occur in order to feed those already here.

The solution that must be adopted not merely for the sake of posterity, but for millions of people alive today, is to establish a balance between avail-

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Alan Ross

Tahoe Regional Planning

The mill grinds slow but none too fine

THOMAS GRAHAM

IF CALIFORNIA IS AMERICA'S window to the future, then Lake Tahoe's experiment with regional government may be a barometer for change in the years ahead. Although the economic, political, and environmental problems that plague the Tahoe Basin are not dramatically different from those associated with other fast-growing communities throughout the country, the way these problems are being scrutinized by local, state, and national government is different.

Tahoe is unique in two respects. First, it has an incomparably beautiful natural setting, and second, because of this distinction, an unprecedented attempt has been made by the state and federal governments to protect it

from further degradation. Up until a few years ago, developers were given carte blanche in the Tahoe Basin by local jurisdictions. Now, with the advent of regional government, the days when developers could do virtually anything they pleased may be over.

California Assemblyman Edwin Z'berg, chairman of the Assembly's Natural Resources and Conservation Committee, introduced legislation in 1967 that ultimately led to the formation of the Tahoe Regional Planning Agency (TRPA), a bi-state compact between California and Nevada that allows for regional review of all proposed projects for the Tahoe Basin. The TRPA, considered by many as a futuristic concept in environmental planning, was originally designed to provide restraints on growth for an area that is considered of national importance. While the establishment of the TRPA was a noble effort to

correct the excesses of poor—and more often, absent—land management, the agency has failed miserably in attaining this objective according to conservationists and developers alike.

On December 18, 1969, the Congress enacted the Tahoe Regional Planning Compact, which recognized "a need to maintain an equilibrium between the region's natural endowment and its man-made environment." In order to achieve that goal, it established an area-wide planning agency with power to adopt and enforce a regional plan of resource conservation and orderly development. The region referred to in the compact includes Lake Tahoe, the adjacent parts of Douglas and Washoe counties in Nevada, and the adjacent parts of Placer and El Dorado counties in California. Thus, the compact involves the federal government, two states, four

For more on Tahoe, see Commentary, page 12.

counties and two cities (South Lake Tahoe and Carson City).

The TRPA consists of three separate entities—a staff, the Advisory Planning Commission (APC), and the Governing Body. The staff reviews projects and submits its recommendations to the Governing Body, which has the last word in the decision-making process. In the meantime, the APC reviews public works projects and general planning items. The Governing Body is composed of three local representatives and two out-of-basin appointees from each state, and one federally appointed, nonvoting member, making 11 members in all.

There are two voting blocs on the Governing Body: the Nevada bloc, which is predominantly pro-gambling, and the California bloc, whose majority is favorable to development in the Tahoe Basin. Conservationists criticize the composition of the Governing Body because six of its ten members are chosen by and from the basin itself. They claim that it is inappropriate for local officials to represent environmental concerns when they have demonstrated in the past that they are more receptive to economic and political pressures.

Another provision that has proved extremely unpopular among those who wish to limit further development

The rules governing the TRPA assure that the agency's most significant decisions will be no decisions at all.

in the Tahoe Basin is commonly referred to as the dual majority rule, which stipulates that all actions require a majority vote of *both* state delegations on the Governing Body. Some say this provision virtually guarantees that controversial developments will not be stopped. With the votes apparently stacked already in favor of local interests, the dual-majority provision makes it next to impossible to reject a major project because the two blocs on the Governing Body seldom agree. Therefore, projects are seldom rejected.

Complementing the dual-majority provision is a third one, which provides that whenever the agency is required to review any proposal, public

or private, it must take final action (whether to approve, modify, or reject such a proposal) within 60 days after it is delivered to the agency. If the Governing Body does not take final action within that time, the project is automatically approved. Since agreement is difficult to attain on controversial projects such as hotel-casinos, developers have had little fear of rejection.

The Governing Body is sanctioned to adopt all ordinances, rules, regulations, and policies necessary to implement the adopted regional and interim plans. The TRPA has been accused of being negligent in enforcing its prerogative, but TRPA sympathizers shrug off this retreat from responsibility by pointing to the agency's lack of staff, lack of funds, and lack of support. In fact, the main problem remains the inability of the California and Nevada delegations to agree on objectives.

Within 18 months after the formation of the agency, the Governing Body was supposed to adopt a comprehensive regional plan, which would include five elements: land use, transportation, conservation, recreation, and public services and facilities. Implementation of this plan has been another area of dispute between conservationists and the TRPA. Jim Bruner, executive director of the League to Save Lake Tahoe, a Tahoe-based conservation group consisting of homeowners and concerned citizens, deplors the piecemeal way that the regional plan has been drafted. Part of the problem lies with the TRPA's failure to incorporate all five categories into the regional plan. Bruner claims the present regional plan doesn't consider transportation, recreation, conservation, and public services along with land use. He criticizes the land-use plan because it would allow almost triple the present population in the basin.

Assemblyman Z'berg admits that the bi-state agency he helped mold has fallen far short of its intended goal. "When the legislation was introduced," he said, "the governor [Reagan] and the counties involved were opposed to the idea. As a result, it got compromised down to where three of the five members on the agency are from the Basin." He suggests Nevada's State Legislature compounded the whole thing when it introduced the dual-majority rule.

The TRPA failed to take final action recently on two proposed hotel-casino developments in Nevada when the California bloc on the Governing Body voted unanimously (5-0) against the projects, while Nevada's bloc split 3-2 in favor. Because a dual majority did not oppose the projects, developers have begun construction.

As if matters were not complicated enough by the open-ended provisions of the compact and the uncooperative attitudes of the local jurisdictions, a diverse range of interest groups are vying for a commanding voice in the planning process. Dick Heikka, executive director of the TRPA, put the situation in perspective when he revealed recently that there are 38 active lawsuits against the agency, totaling about \$300 million in inverse condemnation claims for taking away individuals' rights to develop their own property. Heikka confides that he personally has been sued for \$23 million for his part in refusing projects.

"The decisions we make are compromises," Heikka admits, "maybe unpopular with everybody." He points out that local governments, from greed and lack of knowledge, promoted development far beyond the basin's capacity to absorb such impacts. Because most counties have been able to realize substantial revenues from subdivisions, he diagnosed Tahoe's past growth problems as "shortsightedness." Heikka feels that his agency's regional plan is in 90-percent compliance with its intended environmental mandate.

The plan now provides for 300,000 people in the Tahoe Basin, which is about twice as many as now visit the area on peak holiday weekends, according to the TRPA director. Once the 300,000 figure is reached, redevelopment will be the only option left for developers. The year 2000 is the projected date that the Tahoe Basin will reach this proposed population limit.

Citing the agency's accomplishments, Heikka boasted that "We have returned 12 percent of the land to public ownership, we've made a major turnover in the planning policy and we've cut 500,000 people out of what the counties had zoned for development. That's where we got the lawsuits."

The agency's land-use ordinance prohibits billboard advertisement around the Lake area, which Heikka

cites as another major accomplishment.

Heikka, however, is apparently one of the few people satisfied with the TRPA's performance. Because of a growing controversy over its legal authority and its performance under the bi-state compact, an "Ad Hoc Evaluation Committee" was appointed in November, 1973, by then-chairman John Meder to review the agency's activities and to report its findings and recommendations to the Governing Body.

This report was released recently and has itself become extremely controversial. Among other things, it recommends that the compact be amended to provide for four, rather than two, gubernatorial appointments—one additional for each state, to represent the public at large. It also recommends that the federal appointee be given a vote on the Governing Body, thus creating an equal ratio of representation between Tahoe residents and the public at large. The federal appointee would have the swing vote.

Another revision calls for eliminating the dual-majority provision and adopting a simple majority vote. Needless to say, should these recommendations be adopted as amendments to the compact, they would deal a devastating blow to local business interests in the basin and, at the same time, serve to elevate environmental concerns.

One of the recommendations made by the committee singles out Nevada's gambling industry by advising the TRPA Governing Body to petition Nevada's State Legislature to limit gambling in the Tahoe Basin to that land area presently occupied by gambling establishments. Z'berg thinks Nevada's State Legislature may curtail further casino development in the Tahoe Basin if he threatens to introduce legislation that would legalize gambling in California. He realizes that it would be a long shot, but he feels it may be the only way to get Nevada to cooperate.

How Nevada will react to these proposals is anyone's guess. The gambling industry, according to general consensus, owns and runs Nevada. Gamblers claim that the environmental impact from their activities is negligible compared to California's abuses. Denni Small, director of community affairs for Harvey's Wagon

Wheel, one of the major casino developments at Stateline, Nevada, feels that California was the real advocate of uncontrolled growth. He complains that casinos have been unjustly blamed for disorderly development, when it has really been California developers who have caused the greatest amount of environmental degradation. He claims that hotel- and casino-related development has only been a small part of the overall development of the Tahoe Basin.

"We have supported the idea of a regional governing agency from the outset," Small emphasized. "We feel it is in our best interests to see to it

The casinos complain that they have been unjustly blamed for disorderly... development at Lake Tahoe.

that Tahoe's natural setting is safeguarded. Needless to say," Small continues, "if Tahoe's attractiveness were diminished, our business interests would not be served."

Yet what the gambling industry says and what it does are sometimes two separate things. For example, it has not curtailed hotel-casino development in the basin since the inception of the TRPA, nor, from all indication, does it intend to. Harvey's recently began to develop a hotel and resort project, asserting that it has a permit by default since TRPA failed to act within 60 days, though this is being contested in lawsuits. Other casino developments are proceeding to do likewise: the Park Tahoe, the Hotel Oliver, Harrah's, and the Tahoe Palace.

When asked what impact further competition would have upon existing casinos along Stateline, Small, sounding more like an entrepreneur than a planner, said, "We've learned that competition works for the benefit of private enterprise as well as the public. With the increasing number of people who come to Tahoe for gambling, it would offer a wider variety of entertainment." He did not mention the environmental costs or benefits to be derived from such development. The automobile traffic generated by the lure of the gambling attraction has been a major source of air pollution, according to a recent study by the California Air Resources Board.

Small emphatically denounced the Ad Hoc Committee's proposals to strike the dual-majority rule and 60-day provision. He also dislikes proposals that recommend adding two additional out-of-basin appointees to the Governing Body, along with granting the federal appointee a vote.

"I think we've had our share of outside input in the decision-making process here at Tahoe," Small contended, "more than any other community I can think of."

In many ways, though, it has been the failure of *local* governments and *local* business interests to provide sound planning that fostered a regional approach to Tahoe's problems. The California Tahoe Regional Planning Agency (CTRPA), which was the forerunner of the TRPA, also played a significant role. The CTRPA was originally created by the California State Legislature in 1967 in order to provide regional planning and environmental standards for the California side of Lake Tahoe. When it became apparent that "half a lake couldn't be saved," legislation was introduced to create a bi-state regional agency.

Nevada's State Legislature had to be convinced to cooperate in such an effort. But Nevadans were not as enthusiastic about adopting a regional planning agency. They obviously saw such an agency as a threat to their gambling operations, which provide the bulk of their tax revenues. Besides, as Small indicated, poor planning was not considered Nevada's problem. They agreed to introduce legislation creating the Nevada Tahoe Regional Planning Agency (NTRPA) only after toning down compact provisions.

Shortly after Congress enacted the bi-state compact between Nevada and California forming the TRPA, both state agencies became dormant. But in the spring of 1974, because of what critics call the TRPA's impotence, California reconstituted the CTRPA, with additional members added in order to achieve state-wide citizen representation. The California legislature also wanted substantially more enforcement of ordinances than provided through the bi-state TRPA. Interestingly enough, the Ad Hoc Committee recommends that the TRPA make the same changes in order to become more effective.

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O Tempora! O Mores!

Recollections of a High-Trip Tenderfoot

PEGGY WAYBURN

THE HIGH TRIP was a particular Sierra Club invention. It was never meant to be purely a pleasure trip that moved crowds of humans and mules through the mountains just for the fun of it. It always had another purpose. The High Trip was designed to take as many people as possible into John Muir's Range of Light, to acquaint them with its beauty, and to send them back as fervent, and hopefully articulate, disciples of his wilderness.

From its inception in 1901, the High Trip prospered. Not only did it make many converts, but it acquired a devoted coterie of repeaters who filled its rolls every summer. Since it was a large trip and covered a lot of ground, the High Trip always had an inevitable impact on the mountain terrain. As other people and groups moved into the Sierra Nevada, this impact became more critical. By the late 1940's, the Sierra Club was becoming sensitive to the problems the High Trip posed: already the trip was taking fewer mules, and the packers were carrying extra feed; and already the itinerary of the trip was being planned to avoid heavily used or fragile areas. Still the Club Fathers had to question whether the High Trip was really worth it. Had it outlived its purpose? Was it time to end its sunny days? David Brower presented the club's decisions on these matters in a graceful apologia for the High Trip, which appeared in the March, 1948 *Bulletin*. "Are Mules Necessary?" Brower asked. The answer was "yes." In 1948, the High Trip was still a valued Sierra Club institution.

I was unaware of any of this when I went on the High Trip that year. I had recently married a man who loved the mountains, and I embarked on that summer's outing with him only because I was trying to be a good wife.

It was my first outdoor venture and secretly I thought the whole idea was crazy. I was also scared. I was a New York City girl who had grown up thinking that a mile's walk on the level was a good hike. I had never slept outside. Until I married, I had never seen a sleeping bag, let alone owned one. For many years, in fact, I had thought a sleeping bag was something, well, a large laundry bag that you got into and tied around your neck.

As it happened, a sleeping bag was



Cedric Wright

the first piece of High Trip equipment that I acquired. I was surprised and not entirely pleased one evening a few weeks before the trip when my husband came home with an Army surplus mummy bag, which he gave me for my own. It was an ugly shade of mud-brown, stuffed with feathers, and both limp and lumpy. My husband also brought me a long narrow plastic air mattress. (He had an old, beloved and obsolete Hodgeman, a big tan rubber waffle that was as heavy as lead but better than a Beautyrest.)

In those days, outdoor footgear was a problem. Virtually no shoe manufacturer made boots for women. I was advised to get Boy Scout shoes, but they didn't fit me. For weeks I persevered until I finally located a pair of Bass ladies' boots in Spiro's Sport Shop on Market Street. They were five inches high, a smooth and genteel leather, and they had cuffs. The salesgirl, also city-bred, was pleased for me. "At least your feet will be stylish up there," she said.

There were a lot of other things I had to get for that trip. My husband and I—and most of the people on the High Trip—took along pine-tree chiffoniers to tie around a tree near our camp. These contrivances, something like outdoor shoebags, held our combs, brushes, mirrors, toothpaste, and other miscellanea. We also took canvas basins and buckets and khaki-colored towels. We had light underwear, heavy underwear (wool that itched), pajamas, sheets for our bags, numerous changes of socks and shirts, sweaters, jackets, extra jeans, gloves, hats with brims, day packs, bandannas, and raincoats. I had to get them all. We also took lots of rope, a medicine kit, a mattress-repair kit, a sewing kit, and a large groundcloth and tarp. (We took no tent because it never rained at night in the Sierra Nevada, my husband told me.) After a good deal of packing and repacking we ended up with exactly 30 pounds of dunnage apiece, the amount allowed each person on the High Trip. For some reason, it was a point of honor for every High Tripper to weigh in at precisely the limit, no more and no less.

We left for the 1948 High Trip on a sunny July evening and stopped in Palo Alto to pick up a friend and have dinner with his family. Our hostess, a veteran mountaineer, looked at me

and knew at once that I was a tenderfoot and a coward. "I hope you're prepared for the ants," she said pleasantly. "That's one thing about the Sierra. The ants are everywhere."

After dinner, we drove through the warm velvety valley night. Our windshield got plastered with flying insects. Some time around midnight, we found a schoolyard and rolled out our bags. The insects thrummed and fiddled around us. My bag was extraordinarily hot and I spent the night on top of it trying to balance on my air mattress. When I slept, I dreamed of ants.

The next day we made it to Zumwalt Meadows with only two stops for the engine to boil over. Although we left the car where the meadow was quiet and waist-deep in grass, the trailhead of that High Trip was bedlam. The air was full of sunshine, noise, and dust. People were milling about everywhere, except for a few weatherbeaten men in boots and Stetson hats who were lounging around looking like characters out of a Western movie. Strings of mules and several horses were tied to trees nearby. There were piles of rope, slings, pack boxes, crates of lettuce and eggs, more pack boxes, nests of enormous kettles, stoves, metal boxes of assorted sizes, guitar cases, fishing rods, rolls of canvas, and many other odds and ends, including two large shellacked wooden boxes, which were curiously shaped like truncated pyramids and had holes on top. Throughout, there was a sense of happy and total confusion.

That was deceptive. For although I did not know it, this was the staging area of a highly organized and thoroughly equipped traveling camp that would have put many an army to shame. Indeed, the old High Trips provided quite a few of the simpler comforts of home. We took along two privies (the wooden boxes I had seen) with a commissary member to set them up. (These sanitary facilities were called "burlaps" after the burlap curtains that were strung from trees to provide them with privacy.) We carried a large and fully utensiled kitchen, whose capacious wood-burning stoves required a specially trained mule to haul them lengthwise on her back. We also had a cook, a cook's assistant, and other kitchen-crew members. We took along huge tarps for rainy weather. We had a cobbler's



Cedric Wright

box to repair boots that might give out. We had enough food to dish out a quarter of a ton of it a day, and tin plates and silverware to eat it with. We had a first-aid tent with medical supplies, and we even had a doctor (on this trip, it was my husband). Fishing gear and musical instruments were carried for anybody who wanted to take them along. Added to all this, of course, were a few tons of dunnage for the guests as well as for the packers and commissary. It was a formidable array.

That was the 43rd High Trip, and that night 173 guests, a couple of dozen commissary members, and as many more packers gathered around the leaping flames of a big, bright campfire. Francis Farquhar, then the club's president, had driven down from Berkeley just to wish us Godspeed. Eivind Scoyen, superintendent of Kings Canyon Park, had come over for the same reason. Dave Brower was our leader. By the light of the fire we all set our watches with his, and then we listened to him tell where we were supposed to go the next day. I was bemused. It was all too much. Everyone seemed to know my husband. And while they were all nice to me, I thought the other High Trippers looked oddly at my stylish boots, my stiff jeans, and my new shirt.

The next morning, while it was still dark, there was a terrible screaming

and beating on pots and pans. I thought the camp had been invaded by bears and leapt from my sleeping bag to find a way to escape. But the noise stopped and nothing happened. It was cold. I stood there shivering in my pajamas and, in the ensuing moment of quiet, I thought I heard a large hissing sigh all around me. My husband said that it was everybody letting the air out of their air mattresses. The screaming and banging on pots was the get-up call.

We packed up our dunnage bags and weighed them in on a hanging scale slung between two trees under the watchful eyes of a weighmaster, one of the guests. Then we had a breakfast of stewed fruit, hot cereal, toast, fried Spam, and coffee strong enough to pave a road. I had envisioned that we would move out of camp all together, like an army advancing up the trail. But people left in twos and threes and my husband and I traveled by ourselves. It was just as well. The morning was one of pain and misery for me and I told him so—frequently. It started out well enough as we walked beside a stream through cool, gentle forests. But by the time we reached the switchbacks to Paradise Valley, the sun was up and it was getting hot. It grew hotter as we made our endless way up that steep rocky slope. My feet hurt dreadfully, and as I put one cuffed boot in front of the

other, I resigned myself to dying young.

But Paradise Valley proved to be incredibly lovely, with aspens twinkling their leaves, great cliffs soaring upward, and the pure bright waters of the Kings River racing beside us. I was for camping at the first grove of trees, but Dave Brower took us to the upper limit of the valley. (Dave always took us to the upper limit of places, I soon found out. Before long we got to measuring our travels in "Brower-miles," and the altitude we climbed in a day's hike in "Brower-feet.")

At Paradise Valley, I learned some of the niceties of the High Trip. There was a separate men's camp, a separate women's camp, and a married couples' camp, usually in between. You found your camp site, dropped your cup to mark it, and then waited for the mules to arrive with your dunnage bag, which you would now haul yourself. The "burlaps," one for each sex, were set up as far from camp as possible. This could mean a long walk or even a scramble in certain places. And during popular hours, there was an inevitable wait, and queues formed. Next to meals in camp, this was one of the best places to get acquainted with your fellow campers, albeit of the same sex.

In that first camp, we put down our groundcloth where we could see the high rocks outstretched above us like the wings of some great bird. Ed went off to help chop wood, and I lay down on my bag and started to cry. But I soon became aware that a tide of darkness was rising in the valley. Commissary called for dinner, and we had marvelously hot and salty soup. That night the skies swarmed with stars. I heard a rock avalanche roll down the slopes like thunder. More tired than I had ever been in my life, I closed my eyes and was immediately asleep. I had forgotten to worry about the ants.

That was only the beginning, of course. We stayed at Paradise Valley for a layover day while the mules went back for another load. I took my first teetering steps on talus, and inched my way across a wet log above a stream. I felt like a child learning to walk. We had steaks for dinner that second night, and we sang around the campfire until it burned down to embers and the shadows crowded around us. We sang a lot on that trip, songs that I'd grown up with—Oh, Susan-

nah, I've Been Workin' on the Railroad, Swing Low Sweet Chariot, Danny Boy, Greensleeves. They had never sounded so sweet.

After leaving Paradise Valley we went over a high, windy pass to Twin Lakes. That day I saw my first high-mountain meadow with a stream-like pure liquid glass curling through it. I felt the springy turf beneath my feet and had my heart stopped by the wild beauty of the shooting stars that stood in the wet places. We slept cold at Twin Lakes, and I remember the scum of ice on the water in my cup the next morning.

Twenty-six years later, I remember many other things about that High Trip. Even for those days, it was a strenuous trip: I expect we hiked close to 100 miles and climbed a total of nearly 20,000 feet before the two weeks were over. One day we climbed 4,000 feet straight up out of Simpson Meadows and then did another 2,000 feet of ups and downs before we finally made camp at Granite Pass. I remember that a private party camped next to us at Simpson Meadows had deck chairs and tables, and they had ice cream flown in and air-dropped for their children. Alongside them, we felt like virtuous Spartans. That was the only party of any size we encountered on that trip. Two young men doing survey work were the only other people we saw. We asked them to dinner and campfire, and they came, grateful for some company.

We camped two nights at Bench Lake and I will forever remember the reflections of Arrow Peak catching the first soft glow of morning light. I don't recall in which camps the mules wandered around us all through the night—it happened more than once—but the sound of their bells is still with me. So is the clank my Sierra Club cup made on the rocks as I first learned to scramble. I remember the cold, utterly delicious taste of pennyroyal and bourbon crushed together in snow. More painfully, I remember the ascent and descent of Cartridge Pass, a wicked ordeal for people and mules. Going down that impossibly steep pass, two ladies twice my age sped past me, as fleet and sure-footed as deer. I hated them as I picked my careful way among the huge unstable boulders that formed the trail. Later I came to count them as dear friends. One was Ollo Baldauf, whose rich haunting voice heightened the beauty

of the mountain stillness each time she sang for us.

I remember many other people on that trip. Cedric Wright was one of them, gentle genius, artist, and mountain spirit. He loved to travel ahead of the crowd and wait at the foot of a pass with hot tea, or the offer of a foot bath for a weary wayfarer. Cedric was a violinist as well as a photographer: he called the "burlap" a "Straddlevarius." Jim Harkins was the cook, and Charlotte Mauk his assistant, and between them brewed hundreds of gallons of coffee and they fried thousands of pieces of bacon and flipped twice as many pancakes. We never ate better.

The packers on that High Trip have a special place in my memory. Some were college boys working through their summer vacations, but others were old-timers like Bud Steele, who claimed he helped the Devil pack in the rocks for the Devil's Postpile. Bud nearly lost his life coming down Cartridge Pass and said he stayed alive to feed the mosquitos at Marian Lake. Tommy Jefferson was another full-time packer, a smooth-faced young Indian with the sweetest smile I'd ever seen. He sang for us at campfire and he had a voice like dark velvet.

There were a number of ladies of uncertain age on that trip, veteran High Trippers who traveled together. They might wear hats with enormous brims, rubber bathing shoes on the granite, or old-fashioned (unstylish) knickers, but they were true mountaineers. Before the trip was over, all of us had become acquainted, and some of us had made friendships that would last for lifetimes. We gathered together on the last afternoon for the traditional bandanna show, art exhibit, and what was called the social tea. We shared what was left of extra goodies people had brought along, and we began to share reminiscences, too, of the days behind us, which had ended far too soon.

The High Trip is no more, of course, and never will be, the world having become what it is. But it fulfilled its purpose for me. As I expect it did for many other people, it changed my life. When we made our way 6,000 feet down from Granite Pass to Zumwalt Meadows on the trip's last hot day in July, 1948, I had never felt more alive or free. I could skip over the talus and walk a log across a stream. I had drunk the waters of cool, clear mountain streams,

skinny-dipped in an icy mountain lake and sun-dried beside it. I had drownded in a mountain meadow breathing in the sweet smell of wild grasses. I had seen the Sierra's pale granite peaks stained apricot and gold and blue as the sun's afterglow swelled and faded. I had awakened to the song of mountain birds. The love of the wilderness had entered into me. I was, and forever would be, one of John Muir's disciples.

Peggy Wayburn, a long-time Sierra Club member, is co-author of the recent Sierra Club Book, Alaska, the Great Land.

TAHOE (Continued)

Local business interests are opposed to the re-establishment of the CTRPA and to the Ad Hoc Committee's recommendations. They are beginning to see the present structure of the TRPA as the lesser of two evils. According to Michael Foley, executive director of the CTRPA, "It is the intention of the staff and the majority of the Governing Board . . . to adopt stricter environmental standards where necessary . . . and to fill loopholes, clarify ambiguities and correct environmental deficiencies not remedied by existing plans and ordinances of the area, including those of the TRPA." Foley affirms that "The CTRPA goal is to provide reasonable and rational growth control in order to preserve and improve the California portion of the Lake Tahoe Basin for all California citizens, not just local interests."

The South Lake Tahoe Council for Logic describes itself as "a group of citizens dedicated to fight the CTRPA and to return the Basin to local control." It claims it is not opposed to environmental concerns, but only to those whom it describes as environmental "extremists." They oppose what they call government control of free enterprise. "There has to be an environmental and economic balance," president Ed McCarthy explains. McCarthy revealed the underlying theme of the Council for Logic when he stated, "We cannot accept the belief that we must give up representative government, constitutional protections, and property rights so that our environment will be protected." One of the group's volunteers, G. H. (Harvey) Hendrickson, who feels that current environmental drives are based on a "mounting hysteria," said, "We're trying to clean up 350

years of neglect in ten years," he said. "Why can't we clean it up in 25 or 30 years and spread that cost over a longer period of time?" This is also precisely the position of the Sierra Club's Lake Tahoe Task Force.

Next to the CTRPA, the local organization that has been subject to the greatest amount of criticism from local business interests is the League to Save Lake Tahoe. Jim Bruner, executive director of the League, believes that Lake Tahoe should be preserved at all costs. He says that sixty-eight percent of the lake is publicly owned, yet a small part of the public are governing its development. Bruner claims that the attitudes toward environmental problems differ widely between North and South Lake Tahoe residents. The north end of the lake is primarily given over to homeowners, while the south is dominated by the gambling industry and developers. Bruner said that TRPA gets so many urban planning grants that it is concentrating its attention on urban planning. The league has filed lawsuits against the TRPA, a North Lake Tahoe shopping-center development, and the South Shore hotel-casinos for, in its judgment, not complying with the bi-state compact.

The TRPA's operations have been impaired by confusion about compact objectives, lack of funds, inadequate staffing, uncooperative attitudes, poor relations between the staff and the Governing Body, competition between the staff and the Advisory Planning Council, failure to follow compact mandates, and various other maladies—real or imagined—such as local paranoia of federal takeover, bad press, and inability to bring an orderly balance between preservation and development. Yet despite such adversities, the agency survives and still has the potential of becoming a viable alternative to local planning.

But Supreme Court Justice William O. Douglas, in his autobiography, "Go East Young Man," cautions against regarding the establishment of an agency as a cure-all: "In the thirties and forties I had viewed the creation of an agency as the solution of a problem. I learned that agencies soon became spokesmen for the status quo, that few had the guts to carry through the reforms assigned to them."

Tom Graham is a free-lance environmental writer.

FOOD (Continued)

able resources and rates of consumption. In the short term, mankind must recognize its plight and begin to plan for the increasing shortages of food-stuffs and other raw materials that seems to be its unavoidable lot. But most importantly, it must recognize that the food shortage and other contemporary resource problems are but separate symptoms of a common malady—namely, exponential growth in a finite world. Population growth coupled with increasing per-capita consumption of resources conspire to inflict on people everywhere and on governments at all levels one crisis after another. Whether we have the understanding and will to respond is doubtful. If we do not, one must wonder, along with John Stuart Mill, to what condition "necessity" will compel us.

Charles Warren was first elected to the California State Assembly in 1962. He is chairman of the Committee on Energy and Diminishing Materials.

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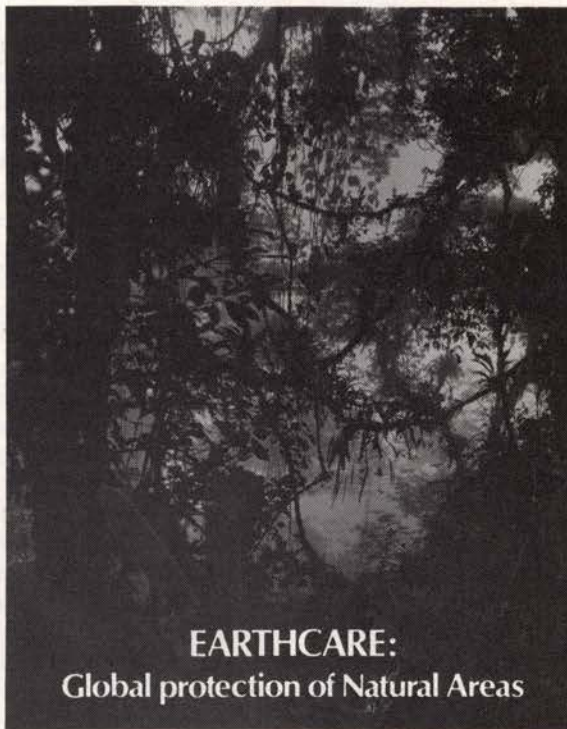
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