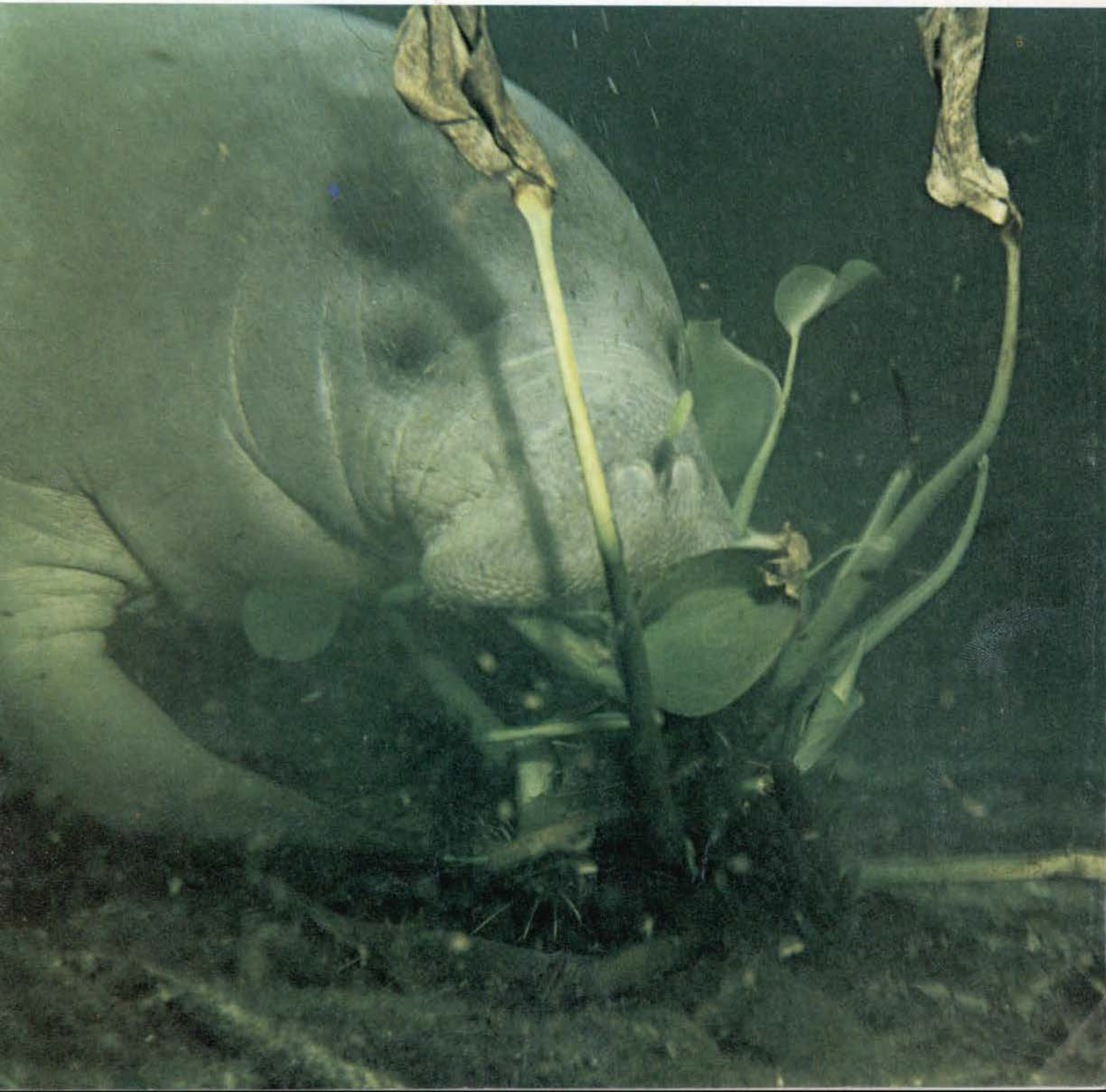
Sierra Club

BULLETIN / MARCH 1972

[redacted]



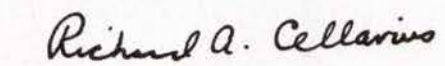
EDITORIAL

Environmentalists are frequently accused of using emotional arguments (or "hysterical tactics") in their efforts to prevent further destruction of our surroundings. "Why don't you present the scientific facts to substantiate your point?" our accusers ask. "Then we could decide the issue on rational, objective grounds." I find it especially disturbing and perplexing to hear this criticism from colleagues on university faculties—colleagues who are often themselves members of the Sierra Club (and by implication supporters of its policies) and who make little effort to provide the Club with their expertise.

These people fail to recognize that environmentalists are depending more and more on input from social and natural scientists in their policy decisions. The Sierra Club Board of Directors includes a nuclear engineer, two physicists, a microbiologist and a medical doctor among its members. The Club's Environmental Research Committee on Survival serves to assist the Board in identifying and analyzing the critical technical problems in environmental issues. A large number of experts are participating in the development of the Club's overall policy on electrical energy production, and we are now establishing a task force on economics and the environment, in order to get a thorough technical review of the overall problem of growth. (Contributions to the Club or to the Sierra Club Foundation to support these efforts are always welcomed and needed.)

This does not mean we have all the technical help we need. Development of policy is one thing; compilation and documentation of the specific facts needed to implement it is another. Sierra Club chapters and regional groups across the country need people who can research the appropriate facts and present them to legislative and administrative committees or in court in support of the Club's position. Any member who can contribute in this way should begin by attending the meetings of the chapter or group Conservation Committee regularly to become informed of the issues. You will rapidly be put to work. (Call your chapter or group chairman or conservation chairman to find out when and where meetings are held—or check the newsletter.)

One other aspect of this issue needs to be mentioned. The "emotional hysteria" label often more correctly belongs on our critics. Environmentalists have been on the defensive for too long against those who claim that it's all right to proceed with a project until it has been shown to be deleterious. The inadequacy of many recent environmental impact statements required under the National Environmental Policy Act of 1969 demonstrates that the planners themselves do not always obtain an adequate analysis before going ahead. We need a philosophical reversal: the *primary* "emotional" goal should be protection, preservation and restoration of the environment—instead of economic growth. The scientific demonstration required should be by the developer that the proposed action will not damage the environment and therefore can be permitted rather than by the environmentalist that it will damage the environment and thus must be stopped. In other words, rather than doing something unless it can be shown to be bad, we need to have a national and global philosophy that we won't do it unless it can be clearly shown that it will not damage the environment.



Richard A. Cellarius
Sierra Club Regional Vice President
Chairman, Environmental Research Committee

Sierra Club

BULLETIN / MARCH 1972
VOLUME 57 • NUMBER 3

"...TO EXPLORE, ENJOY AND PRESERVE THE NATION'S FORESTS, WATERS, WILDLIFE AND WILDERNESS..."

COVER: Manatee feeding. Photograph by James Powell Jr. For story, see page 20.

CONTENTS:

CREDITS: Cover, James Powell Jr. • 4, Daniel Gridley • 11, 12, 13, Brock Evans • 20, 21, James Powell Jr.

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

Published monthly, except in January when a special Outings issue is also published, by the Sierra Club, 1050 Mills Tower, San Francisco, California 94104. Annual dues are $15 (first year $20) of which $3 is for subscription to the *Bulletin*. (Non-members: one year $5; three years $12.00; single monthly copies, 50c.) Second-class postage paid at San Francisco, California.

All communications and contributions should be addressed to Sierra Club, 1050 Mills Tower, San Francisco, California 94104.

Announcements

SIERRA CLUB ANNUAL BANQUET

Members and friends are invited to attend the Sierra Club Annual Banquet to be held Saturday evening May 6, 1972, at the Empress of China Restaurant in San Francisco's Chinatown.

The banquet is the high point of the annual reorganization meeting of the Sierra Club Board of Directors that weekend. A no-host cocktail party beginning at 6:00 p.m. will precede the 7:30 dinner.

Tickets for this year's banquet will cost $7.50 per person. Reservations should be made with check or money order and addressed to Sierra Club Annual Banquet, 1050 Mills Tower, San Francisco 94104. A stamped self-addressed envelope must be included for return of tickets.

STUDENT DUES INCREASE

Student membership dues were increased to $8.00 per year at the February meeting of the Sierra Club Board of Directors. This new rate more accurately reflects the costs of this membership category. The student spouse rate remains at $5.00.

TALCHAKO LODGE

This summer will be the second season that Talchako Lodge in British Columbia will be available to Sierra Club members and their guests, since it was acquired by the Sierra Club Foundation as a gift in 1969. The lodge will be open from mid-June until Labor Day.

Talchako Lodge is located in the British Columbia Coast Range Mountains about half-way up the coast of British Columbia. It is situated in the Tweedsmuir Provincial Park, 40 miles east of the fishing port of Bella Coola, in the Bella Coola Valley amid mountains rising almost 8,000 feet straight up from the valley floor. Wildlife is abundant, and the area is ideal for hiking, climbing, backpacking and swimming.

The lodge and adjacent log cabins are rustic and informal. Guests are expected to provide their own bedding and meals. The trip to the lodge may be made by car, but public transportation by airplane and boat is also available. For more detailed information about the facilities, transportation, rates and reservations, write to The Sierra Club Foundation, 220 Bush Street, San Francisco, Ca. 94104.

More Announcements on page 19

WILDERNESS ADVENTURE

By John Hart

John Hart, an award-winning poet and translator, is currently writing on local and state environmental issues for the weekly Pacific Sun.

You come at last to the landmark or the sign that tells you you are entering a Wilderness—a designated, official, protected Wilderness. As always there is the old elation, the sense of coming home.

But against that elation, these days, another knowledge not so pleasant increasingly must come: that if the official Wilderness is a sanctuary, it is a small, crowded and uneasy sanctuary. You are in a fortress almost, in that official Wilderness. And outside the fortress, the war is not going well. The rest of our wild land is disappearing, day by day and hour by hour. Every season the roads advance, like armies moving across a map in a brilliant, overpowering campaign; crossing ridge after strategic ridge, opening up watershed after wild watershed, cutting range after range in two, splitting to encircle and linking again to destroy.

If it leaves you feeling helpless and angry, maybe that's one reason you joined the Sierra Club.

But what can even a Club member do beyond the familiar indispensible routine of writing letters and more letters?

Some Club members are finding one good answer. They are turning away from the traditional pleasure trip in the Boundary Waters or the High Sierra, and signing up instead on another kind of Sierra Club trip altogether: the hard-working, unpredictable, completely fascinating Wilderness Survey.

A Wilderness Survey is a research trip, a one to three week exploration. It sets out not to *use* a wilderness, but to *make* one. On a Survey, you keep well away from the sanctuaries, the designated preserves, the famous lakes

and peaks and trails. Instead you travel to some little-known and unprotected wild landscape, maybe far out in desert Nevada on the curious humid island of a mountain range, or in the middle-altitude forests that the planners left out of some official alpine Wilderness, or in some lonely place of marshes and salt tides.

Wherever you go, you go there not only to enjoy what you see, but also to learn about it, and to dig out the hard information the Club must have to make a cogent case for its protection.

A Survey trip will sometimes disappoint the person who hopes for entertainment, for an outing. But if you take the Study half as a job of work, it begins to fascinate you. How many jobs in the world can be as challenging as this, as important, as rewarding? What work could give more pleasure than the work of saving a piece of wilderness — your personal piece of wilderness — by travelling it, photographing it, and learning what is there?

And the Survey has its own very special rewards.

It gives you the feeling of exploration, of pioneering even — not, in 1972, the least of luxuries. You go to places where few have been, except to prospect, fish, or hunt. And when you start poking around those wild neglected ranges in Idaho or Nevada, where major peaks may still be without names, you will come on strange and beautiful things that only the local ranger and the local rancher can describe to you beforehand — if anyone can.

Then there is the pleasure of learning a land more thoroughly than the ordinary backpacker has any need to know it. (At the end of a trip, the study team may well have a better knowledge of the place it studied than anyone else on earth.)

Because wilderness is where you find it a survey is often a lesson in the beauty of the world. The mountaineer may have to discover the excitement of the marsh, of the big woods, of foothill country, of the desert floor.

And then, late in the Survey, after the spadework is done, there begins a hard and still more fascinating game. For it's then that you spread out the topo maps and the agency maps and begin to draw on them the boundaries of a Wilderness — the Wilderness *you* will propose, based on the notes you took, the routes you followed, the questions you asked.

Someday, with luck, hard work, and a responsive Congress, the land inside those boundaries you draw will be wild in law as well as in precarious fact. Meanwhile the proposal goes to the Sierra Club, like the record of a filed claim. It becomes a solid interest to watch over.

Now that the Forest Service is reviewing the *de facto* wilderness areas throughout its lands — the preliminary review deadline is June 30, 1972 — it is more important than ever that the Club know just what it wants to preserve, and why.

Of all the pleasures of the Survey trip, this is by all means the greatest: the knowledge that the steps of the journey you are making actually mean something, that they can make a difference, not only to you, but to those who will come after.

The Wilderness Surveys—last year there were nearly twenty-five — are run by the Wilderness Classification Study Committee, a unit of the national Club. Francis Walcott of San Francisco is chairman.

The Committee's work has so far been mostly in the West, and particularly in the Northern Rockies. But more work must be done on wilderness east of the Rockies, where the need for wild land is even greater and the supply far smaller.

Compared to an outing, a Wilderness Survey is a major operation. It begins at that moment, many months before the party comes to its first camp, when somebody points out a blank space on a map, a chunk of what just might be *de facto* wilderness, threatened, valuable, and shrinking year by year.

Next step after the suspicion is some very basic checking. How accurate is that map? Is there still a reasonable roadless piece to look at? (It need not be "pure" wilderness: Even an area too tame for Wilderness Act preservation may have qualities worth protecting in other ways.)

Then the Committee locates a leader, schedules a trip, and picks him a study team — four to eight names from a list of the people who have answered requests in the *Bulletin* or other Club publications.

Some of these team members may have special skills.

Club members wishing to participate in the unique Wilderness Survey trips should contact, as soon as possible, the chairman of the Wilderness Classification Study Committee,

Francis Walcott
Apartment 14,
3500 Fulton Street,
San Francisco, California 94118

for full information on this program.

There may be botanists, geologists, foresters, fine photographers, even amateur auto mechanics. And some will have fancy cameras, or ice axes, or powerful binoculars. While all these things may come in handy (especially the cameras), most team members have neither unusual information nor unusual hardware, and nothing extreme is required — only the basic wilderness gear and reasonably good physical condition.

What *is* required is an understanding: the trip must be thought of not only as a cheap vacation (which it is) but

Ed. Note: Underscoring the urgency and importance of the Wilderness Survey trips this year is the announcement that the U.S. Forest Service will designate "New Study Areas" by December 30, 1972.

The Forest Service is in the process of creating what is equivalent to a whole new Primitive Area system. In the 1930's the Service extended provisional protection to about 14 million acres to permit study of their potential as wilderness. Now the Service may be about to extend such provisional protection to another 10 million acres or more.

The possibility of this protection comes about because of an order that the Chief of the Forest Service issued on August 11, 1971 directing all regional offices of the national forests to inventory all roadless areas and to make recommendations by June 30, 1972 on areas that should later be studied intensively for possible wilderness designation. Under the guidelines, the Chief is expected to make decisions on the designation of so-called New Study Areas by December 30, 1972. New Study Areas will then be withdrawn from the allowable cut. Under the previous guidelines, the Service was only going to inventory areas it thought should be proposed as wilderness, which were thought to be few in number.

The August 11 order, thus, vastly expands the scope of the studies. Some 30 to 40 million acres may be inventoried. As much as 37 percent of the national forests in Montana have fallen into the roadless inventories, and the percentages are almost as high in Wyoming (34 percent), Colorado (32 percent), and Idaho (30 percent). In Oregon, though, small slivers of roadless terrain between road systems are being counted in the inventory.

The August 11 order also calls for multi-disciplinary studies to determine which of the inventoried areas merit further study and public meetings to disclose the results of the studies and to solicit public comment. Meetings in Colorado began on short notice on January 10 and are expected to continue in other states through May. Little advance information is being issued for most meetings, and some are being scheduled on the same days in some states.

Few conservationists even learned of the expanded scope of the studies until mid-November 1971. Since then, a strenuous effort has been made to persuade the Forest Service to extend the time for public comment. As the schedule now stands, the expanded studies will be undertaken and public input invited all without a single season of field study. Neither the Service nor the public will have a chance to spend even one summer in the field looking at the areas being considered and disqualified for further study.

While conservationists are pleased that full inventories are at last being conducted, they are fearful that they will not be adequate. They are particularly fearful that too many areas will be eliminated from further consideration by cursory office examinations. There is simply not enough time provided under this timetable for bona fide multi-disciplinary studies to be completed. Under the worst possible assumption, all areas that have already been placed in the allowable cuts for future logging or in grazing allotments may be automatically ruled out of contention.

Some critics suspect the Forest Service wants to quickly dispose, once and for all, of what it regards as never-ending pressures from conservationists for studies of new wilderness areas and for moratoria on development. With this hurried schedule, the Forest Service can quickly blitz its way through the subject and lay it to rest. It would then be able to tell conservationists that they got their studies and had their chance to be heard.

Conservationists, in turn, are demanding adequate time and due process. The Sierra Club, the Wilderness Society, and the Natural Resources Defense Council have asked for a 30 month extension of time in which to make final recommendations on the designation of New Study Areas. They want at least two summer field seasons to inspect the inventoried areas and to develop final proposals for areas to be studied. While the Service indicated at one point in January that it might consider extending the deadline, Deputy Chief Edward Schultz told the *Denver Post* in mid-February that there "is no chance" the request will be granted. All that might be considered is 90 days for the public to comment on the Chief's decision next winter. Possible legal challenges to this hamstringing of public involvement are being considered. Meanwhile, all conservationists are urged to turn-out at the forthcoming meetings around the country and to make the case for further wilderness studies. "Never have we the chance to do so much with so little time in which to do it," says Club executive director, Michael McCloskey. He urges you to write your forest supervisor for information, learn the facts, and bring everyone you can to plead for time to do justice to our legacy of future wilderness.

also as a job to be done. Each member will be asked to do a certain amount of reading and checking before the trip. Each will need to know what to watch for: what plants, what animals, what problems, what kinds of injury to the land. He may be asked to research a particular question (mining history of the area, for instance). After the trip, too, he will be asked to help: to contribute to the reports that will be written; to keep in touch with agency officials and watch what happens in the study area; even eventually to testify at hearings.

The biggest part of the job goes to a single volunteer, ordinarily the trip leader himself. This is the person who *has* to know what is going on. He must find out everything he can about the area, before he ever goes there, and the list of questions is long.

What is the place fundamentally *like?* What is its weather? Its geology? Its history? What are the resources on it? Minerals? Timber? Forage? Water? Who wants to take those resources out? What are they really worth? What changes do the different kinds of exploitation bring? What do the men in charge propose to do with it?

But most of all you answer the fundamental questions: How much of that blank space on the map is still truly blank—still wild? And how much more of it is at worst "de fracto" wilderness, battered but not destroyed, and easy to restore to what it was?

To get these answers, the Survey does exactly what no pleasure trip would ever do: it looks at the edge of wildness, and leaves the wild center, no matter how spectacular, pretty much alone.

Not that you don't need to know the center, too, to make your case for Wilderness. But the threats will not, most of the time, come there. In the typical mountain wilderness, you have to look to the edges, where the big trees are, and the jeep trails, and the more hospitable recreation sites, and the damsites that enchant the engineers. When a final bill is fought out in Congress, the edges will be hardest to defend.

Sometimes you can probe that edge of wildness on foot, and a few Survey trips are rugged backpacks.

But more often there is no choice but to spend a lot of time in cars or pickup trucks or even jeeps, travelling out one road after another to find out just how deep it goes, just how permanent it is, and just how much damage it has done. Sometimes even the managing agency can't tell you what you need to know. In desert wilderness especially, and above all on Bureau of Land Management land, great swathes of country may be damaged by major but illegal mining roads which show up on no map, however recent. There is nothing to do but ride those tracks out, as far as vehicles can take you. All this doesn't mean, of course, that you have no chance to hike. There's plenty to do that can only be done on foot.

But even on foot, the routine is unfamiliar in one important way: you are asked to observe most carefully the things you see, instead of simply looking at them.

Everybody carries a notebook, and writes down in it anything that seems important, along with a lot that doesn't. (The committee has a standard list of things to watch for.) It's amazing how much there is to record once you get started. Especially important are signs of mismanagement or damage: excessive gouging at a mine, motor bike tracks, obvious overgrazing, water sources befouled by cattle.

You may run into surprises. One trip found, well into a wilderness block, a sort of old-style pioneer encampment: a number of felled trees, a couple of shelters built of boughs cut green and, lying in the middle of it all, a Boy Scout Fieldbook.

It's difficult at first to know just what to record, what detail out of all those thousands is significant. The leader will do the long job of editing all the notes into one report, so in general it's safest to write it *all* down.

Perhaps the Survey is sounding like quite a bit of work to be doing for no pay. And in a way that's what it is. When you sit down with maps to work out that final Wilderness proposal, sorting among the forms of the land for the lines that will go where you want them to go and still be neat and logical, you'll earn a good deal more of that consultant's fee you aren't going to get.

On the other hand, it's a little like being an unpaid usher for a season at the Metropolitan Opera, or the guy at the mountain resort who has the job of skiing the new snow smooth. It doesn't make you rich, but there are compensations.

The one charge on these trips is for food. All your equipment is your own. There may be expenses in getting to the starting point of a trip, though these often can be shared in a car pool.

And when at last you get back from the trip, you're likely to find, not only that the trip was more than worth the cost, but that you have a new addiction. The Wilderness Survey can be habit-forming. It's one of those unreasonable pursuits, like rock-climbing, that can get you hooked and keep you hooked for a long time.

And there is a certain danger that afterwards, when you take your next vacation in the Minarets or the San Juans, that wonderful week on the trail will seem, at the end, just slightly flat. Not that the land will be any less marvellous than before. But you may find yourself sometimes almost dissatisfied with even the most splendid country where the splendour is known, and photographed, and catalogued, and guaranteed to be there, in all the proper places, when you come.

SAFETY TESTING?

By Roger Rapoport

Roger Rapoport has written for numerous magazines and is the co-author of Is the Library Burning? *This article is excerpted from his latest book,* The Great American Bomb Machine *published by E. P. Dutton.*

The gravity of a nuclear accident depends on where it happens. When three of our nuclear bombs fell near Palomares, Spain, a crew of 1,000 men in white suits and blue masks spent about two months cleaning up plutonium debris spilled by the weapons (a fourth weapon fell into the ocean). Dirt from 265 contaminated acres was dumped into 5,000 55-gallon barrels and shipped to South Carolina for burial at an A.E.C. dump.

But when a series of 21 "safety tests" dumps a far greater quantity of this dangerous plutonium across 160,000 contaminated acres in Nevada, the A.E.C. feels a cleanup is unnecessary. True, weathering of the plutonium may not push the dangerous element into urban areas, but who is going to find this dangerous substance if the A.E.C. and its sycophants simply refuse to conduct a comprehensive soil-testing program? Will the plutonium increase the cancer rate? Perhaps, but who is ever going to spend the millions on the necessary cancer studies if the A.E.C. isn't willing to finance them? When one Utah scientist proposed to give Nevada a checkup on his own, the A.E.C.-financed Public Health Service (now the Environmental Protection Agency) made it clear he was not welcome in their domain.

This hot plutonium has a radioactive half-life of 24,400 years and is scattered over 49 separate areas on or near the 1,350-square-mile reservation. Unlike the smog in urban air or the oil in the Santa Barbara channel, this eco-catastrophe is essentially permanent and irreversible. "Radiation safety supervision of activities in this area will be required perhaps permanently."

Surprisingly most of the hot plutonium 239 contaminating the Nevada test site comes from nonnuclear explosions. All nuclear weapons include a high-explosive component which serves as a trigger to detonate the atomic device. For safety's sake the atomic device remains unarmed until ready to be fired. But there is a remote possibility that detonation of the high explosive in a plane crash or similar mishap could accidentally trigger the nuclear component.

So before a new atomic-weapon design is put into production, it is run through a "safety experiment" at the Nevada test site. Scientists deliberately stage an accident that detonates the high-explosive component of the bomb. But usually the unarmed atomic device does not fire. It simply cracks apart in a nonnuclear explosion and scatters atomic-warhead debris — including toxic plutonium 239.

Ironically the plutonium particles released in these nonnuclear "safety experiments" are as much as 1,000 times hotter than they would be after a real atomic blast. In a nuclear explosion the plutonium fallout particles are coated with dust and other blast debris which reduces their radiation intensity a thousandfold. But in a nonnuclear explosion the plutonium escapes in a relatively pure and far more potent form. The A.E.C. isn't certain how much plutonium 239 is out there on the test site and says it would not tell if it knew. But it is a safe bet that the number of particles is somewhere in the trillions. The A.E.C. believes its stabilization activities keep most of the plutonium where it is and the small amount that does waft off is harmless.

But some of the agency's biomedical experts such as Arthur Tamplin and Donald Geesaman at the Livermore Laboratory are not so sure. Their concern parallels the fears voiced about the Rocky Flats plutonium. Inhalation of just 300 of these hot plutonium particles can double the risk of lung cancer. And their studies suggest that the plutonium exposure standards being used by the A.E.C. should be cut ten to 100 times to ensure public safety.

The spread of this plutonium contamination is most dangerous to the little towns near the Nevada proving grounds such as Beatty, Alamo and Tonopah. Migration of plutonium particles could eventually lead to trouble in Las Vegas, some 65 miles away. Population in the gambling spa has zoomed from 24,000 in 1950 to 153,000 today. Talk of diverting water from Lake Mead means the desert community can grow closer and closer to the contaminated test site. And lest we forget, Nevada is the nation's fastest-growing state. Population has jumped 68.9 percent in the past ten years.

Dr. Tamplin thinks that the "uncertainties posed by

the plutonium contamination suggest nothing should be developed within 50 miles of the place until a comprehensive epidemiological, soil-sampling, and ecological survey is conducted." There is also the long-range problem of plutonium particles migrating 300 miles west, over the next 100 years, to the Los Angeles area. This persuades Dr. Edward Martell, who discovered the Rocky Flats contamination, to suggest that "the best approach is to locate the hot spots, scrape up all the seriously contaminated soil and bury it." Martell feels that the situation is roughly analogous to that of Palomares: "We have to clean up now; otherwise this plutonium could pose a threat for thousands of years." . . . .

Up to 1955, the Nevada test site focused on tests that would measure weapons effect, check out a new design or confirm the reliability of a stockpile bomb. Then on November 1, 1955, the A.E.C. began the "safety experiments" that led to contamination of 250 square miles of the site. At first the tests were aimed at making certain fires or shipping accidents would not detonate the nuclear component.

In 1957 this investigation was taken a step further. What would be the consequences of a nonnuclear accident? If a nuclear bomber crashed in Spain, how far would the plutonium scatter? So on April 24, 1957, a nonnuclear explosion was staged as part of Operation Plumbbob. Scientists then went into ground zero area to (1) measure the amount of plutonium dispersed and (2) practice decontamination.

Subsequent studies proved that winds could pick up plutonium particles and spread contamination. So in 1963 "Project Rollercoaster" was organized on the Tonopah Test Range and the Nellis Bombing and Gunnery Range of the Nevada test site. American and British experts set up an elaborate monitoring network to measure plutonium dispersal from four nonnuclear events. Plans also called for exposing 300 dogs, sheep and burros to a plutonium cloud. Subsequent sacrifice would pinpoint the animals' radiation exposure.

Unfortunately accidents can happen, even during "safety experiments." Following detonation of the first Rollercoaster shot, on May 15, 1963, a wind shift swept the dangerous plutonium cloud over Scotty's Junction, Lathrop Wells, Lida Junction and Beatty, Nevada, as well as Death Valley Junction, California. Hardest hit were 22 men working at an asphalt batch plant 32 miles northwest of Beatty.

The U. S. Public Health Service, while pointing out that the exposure did not exceed federal limits (limits that are now being restudied by the Environmental Protection Agency) was seriously concerned. It recommended that, after future "safety experiment" accidents, "thought should be given to people farther downwind; they might be moved before maximum [plutonium] cloud levels arrive."

Since the limited test-ban treaty was signed on August 5, 1963, all safety experiments and nuclear-weapons tests have been conducted underground. In retrospect, scientists such as the A.E.C.'s Dr. Arthur Tamplin think "the tests should have been conducted underground to start with. The safety experiments could have also gone underground or been simulated in a laboratory."

But even the underground shots create hazards, by venting radiation through fissures and causing small earthquakes.

Sixteen of the 200 announced underground shots since the test ban have vented radiation which has blown off the test site. Twelve other tests have vented radiation detectable beyond the immediate vicinity of the firing point, but not off the test site. In addition forty other underground tests have vented some radioactivity in the immediate vicinity of the firing point. This means that sixty-eight of the 200 announced underground tests have vented. About 100,000 dollars worth of seismic damage claims have been paid for broken windows and cracked plaster to victims such as Caesar's Palace in Las Vegas. About the only person in Nevada to make a significant stand against the test site was Howard Hughes, who tried to prevent a big underground shot in the spring of 1968. Hughes appealed directly to Vice-President Humphrey for cancellation, but the shot went off as planned. It is hard to argue with Nevada's largest single employer, which provides jobs for 7,300 and a payroll over 100 million dollars. When Hughes finally left Nevada, in December of 1970, rumor had it that one of his reasons was fear of further A.E.C. tests.

Whether or not this is true, his timing was certainly good. On December 18, 1970, 20-kiloton shot Baneberry vented in one of the worst underground-test mishaps in A.E.C. history. The accident forced evacuation of 600 workers, 300 of whom were contaminated. Eighty cars were also held for decontamination and the owners were rented vehicles in the interim. A work camp in the forward area of the test site was badly contaminated. It was two months before it was safe for reoccupation and five months before the agency approved resumption of new underground tests under supposedly tighter safety standards. Radiation from the December 16 venting was detected in 12 Western states. The A.E.C. assured the public that all the contamination was well within established limits and said that milk samples were collected "not because there was a health hazard, but for purposes of documentation." Howard Hughes probably chuckled when he heard that one.

HIGH YIELD FORESTRY
A NEW ASSAULT ON OUR FORESTS

By Brock Evans
Sierra Club Northwest Representative

One bright Sunday morning several years ago in Seattle, we decided to go for a walk in the forest. The Snoqualmie National Forest is quite near, only thirty miles or so from the city, in the Cascade Mountains. We had heard about a place called Barclay Creek, "the only remaining unlogged virgin forest so close to the metropolitan area."

In a little less than an hour, we were there; and we stepped from our car immediately into the Northwest forest, an enchanted place of ferns and moss and great black trunks rising straight up without limbs for a hundred feet or more. The bright sun pierced through the canopy with golden fingers and everywhere the forest was suffused and enveloped with that strange green light found only deep in the Northwest wilderness. High up squirrels chattered from branch to branch and tiny, delightful streams of ice-clear water danced across the trail.

We danced too, for the sheer ecstasy and joy of being alive in such a place on such a day.

But our joy was not to last more than several hundred yards — for coming around a bend, we saw it: the sign, "Clearcut Boundary Marker, U.S. Forest Service." We were stunned, and stumbled on in disbelief under the ancient trees, from yellow marker to yellow marker. The entire trail, for a length of four miles, was to be clearcut, with a logging road to replace it. The great forests of Barclay Creek were to be only a memory within a year.

That was in 1966, but the shock of this experience and what it symbolized and that of similar experiences of thousands of others around the country wherever trees are being cut, has galvanized conservationists and stimulated an awareness of exactly what is going on in our National Forests. A great deal has happened since then and public pressure has succeeded in forcing the Forest Service to reexamine its own policies and emphases, perhaps so that future Barclay Creeks will not happen again.

I wish that was the end of it, but it is not. There are other winds blowing, and soon our National Forests, and even our National Parks and Wilderness Areas, may be faced with a crisis dwarfing anything we have seen yet. The problem, and the responsibility for the upcoming crisis if it occurs, lies with our private timber industry. It relates directly to what is really going on on the so-called "tree farms" of which we have heard so much.

There is every indication now that industry's practices (euphemistically called "high yield forestry" or "tree farms") are resulting in the most sustantial forms of damage to their own lands — by overcutting to the point that in a few more years it may very well be that most of their own timber will be gone. Then industry will force upon us a choice of their own making: will all those workers that are now employed be out of work, or to give them jobs, shall the public forests that still remain, uncut, be logged off?

These are not idle fears or thoughts. There are already growing indications that what we have feared is actually coming to pass. For example:

—On January 8, 1972, Oregon newspapers carried the story of the decision by the giant Weyerhaeuser company to abandon 35,000 acres of a so-called "tree farm" area near Portland, Oregon, in the Molalla River drainage. All the old growth timber in this 35,000 acre area was liquidated in twenty-four years, rather than being managed for sustained yield and 84 people, with a payroll of $850,000 annually, are likely to be laid off. In response to criticisms of "cut and get out" from normally sympathetic Oregon newspapers, Weyerhaeuser officials lamely explained that the decision was due to "economics," that is, they were forced to overcut their timber to pay for logging roads and also for the long haul to processing plants across the Columbia River in the state of Washington. However, Crown-Zellerbach, logging in the same area, sells 60% of its logs to local mills and seems to be able to keep on doing so without liquidating big trees.

—Towards the end of January, the normal rains were supplemented by an unusually heavy snowfall in northwest Oregon and southwest Washington. This is real logging country, and nearly all the choice timber land is owned by the giants of the industry, Weyerhaeuser, Crown-Zellerbach, Rayonier, Georgia-Pacific, and with an intermixture of state-owned lands on both sides of the Columbia.

The floods resulting from the combination from rain and snow, gave an inkling of what may be in store for

Oregon's Mollala River is but one of many littered with slash and debris (note cut log ends) as the result of irresponsible logging on their watersheds.

the years to come. When the snows melted, great torrents poured down from the denuded hillsides, stripped by past logging operations. The damage was estimated in the many millions of dollars, and the governors of both states declared these areas to be disaster areas, and called out for federal aid. Flooding has occurred here before — but what was unusual was the massive quantities of logs and debris that choked the creeks and the rivers, causing them to dam up and overflow their banks, and forcing them into new channels over unprotected lands. This debris came from the hundreds and thousands of acres which had been clearcut or from the streambanks torn out by the devastating floods caused by the stripping of the vegetative cover above.

This is not the first time this kind of damage has occurred, but it is becoming more and more frequent with every year as the stripping goes on up in the mountains. Last year, a small tree farmer brought suit against the Weyerhaeuser company for damages to his property from floods caused by Weyerhaeuser stripping operations in its so-called "St. Helens Tree Farm" near Mt. St. Helens. Last summer the Washington State Department of Fisheries fined the company for hydraulic violations when masses of debris, left over from a logging operation on the same tree farm, choked up Goat Creek in the same area. According to a Fisheries Department employee, "there were literally hundreds of similar violations all over the state, but we've just been forced to let most of them go by unchallenged."

Conservationists are pressing for full-scale investigations of the heretofore sacrosanct timber industry lands, to determine just exactly what *is* going on up there. If the results of so-called "high yield forestry" are going to mean ever more massive layoffs as the timber is cut out and ever more massive floods, resulting in millions of dollars of taxpayers' funds spent for "flood control projects," then we had better know about it right now. It is becoming apparent to northwest conservationists that what is going on has the most serious implications for all of our forests across the country, both public and private. If we hope to achieve a rational pattern of cutting our trees and managing our timber lands it had better start very soon.

Today, whether in the northwest or in the south, or in any other part of the country where the giant timber combines are operating, one can easily see the results of the new kinds of "industrial forestry" being practiced — if they will let you in. Enough evidence has filtered out to the public to indicate that once you get beyond the pretty wooden "tree farm" sign, or the fringe of trees left standing on the highway, that serious things are going on.

Instead of the term "high yield forestry," used by industry publicists, a better phrase to use might be "capital intensive forestry." Simply stated, a Weyerhaeuser spokesman put it very well when the decision to go all out was made in 1966: ". . . we were determined that we must manage the forests, rather than let the forests manage us." Now — at least as far as this giant company is concerned — everything has been gambled on the so-called "high yield concept"; if it fails, if it fails even by as little as twenty percent, then we are indeed in deep

Elk Creek, Washington, downstream from the St. Helens Tree Farm, after the floods of January, 1972.

trouble in the future. Weyerhaeuser, recognizing this, has carefully hedged its bets and is keeping an eye on the public forests, just in case something goes wrong.

What we have now essentially in all the giant industry "tree farms" is first a large-scale clearcutting of great tracts of virgin forest — literally thousands of acres in a single block. Once the great forests of giant old trees have been logged then an extensive series of "management measures" are to be taken on these "cleared" lands. Since the natural seed source for the trees was removed by clear-cutting in enormous blocks, handplanting or seeding by helicopter must be done.

The planting is done with specially bred and cultivated trees, grown in great nurseries down in the lowlands. Major efforts are being made to create genetically superior "super-trees," which grow faster than the native species.

Here then is the first and probably most serious problem: what if the trees do not grow back? The trees, however genetically superior in other ways, grown in the great lowland nurseries can not always be bred to withstand the specific rigors of a specific area denuded of its natural regeneration source.

But this is only the beginning of the problems. Once the trees are planted, and assuming that they grow back, the whole thrust of "capital intensive forestry" is to make them grow as fast as possible. This means there must be massive doses of fertilizer to speed up the growth. It means massive doses of herbicides and pesticides. Dr. William Lawrence, a Weyerhaeuser scientist, testified before the House Committee on Agriculture on March 16, 1971, on the urgent need for his company to continue to use the dangerous herbicide 2,4,5-T, banned on many federal lands, in its brush elimination activities. And it means, for example, hiring hunters to slaughter black bears which Weyerhaeuser claims are eating the bark around young trees on its lands.

The basic problem with a forest is its growing period. Even by forcing growth, and reducing the normal rotation period (the time from planting until the tree is cut), there is still at least a 50-year period in the Northwest where the industrial foresters are going to have to deal with the hazards of intensive monoculture. When monoculture is attempted on a large scale, increasing doses of chemicals and other measures are needed to correct the inherent natural imbalance found in any large area where only a single species of plants is found. The vulnerabilities of the "high yield" program are most apparent here. Since the stand will not be mixed or varied and since the growing trees will very likely not be completely adapted naturally to their particular micro-climate, the natural defenses are down — and the danger increases. For at least fifty years, the "tree farmers" will have to fight off bugs, animals, fires, windstorms, changes in climate, and a host of other problems. At any point in time during the entire 50-year cycle, a disaster can occur; the law of averages makes it certain that it will occur, and in too many places.

But this is not the end of it. Excessive cutting of trees will continue to cause floods of the type which are devastating large portions of the fertile lowlands below the "tree farms." Who is going to pay for this? The answer is, of course, the public — in the form of "flood control" projects. We can expect to see increasing pressure

throughout the Northwest, and anywhere else in the country, in areas below the cutting now done on tree farms, for construction, at taxpayers' expense, of more "flood control" works. How much simpler it would be if the cause of the flooding had been corrected in the very beginning.

Another consequence is the destruction of fisheries. The enormous damage to the once-splendid anadromous fishery runs of some of the great rivers draining into Puget Sound from the mountains on either side has been documented. For just one of these rivers, the Skokomish, for example, a Sierra Club report recently released showed losses of nearly 100% to the once-great salmon runs, due to enormously increased scouring and sediment loads being washed downstream from logging operations above. The value of the losses is estimated at about $8 million per year.

This is not the end of it for there are many unknowns. What will be the result of massive applications of fertilizers and herbicides on water supplies, particularly those of the many cities which depend on clean water in mountain watersheds? How much will it cost cities and municipalities to spend vast sums to purify their waters, when formerly they were clean? What also will be the impact on aesthetic values everywhere, due to the blight of increasingly large clearcuts? Right now, one can look due east to the mountains from Seattle, and see the immense clearcuts of the Weyerhaeuser "tree farm" growing larger and larger like a brown-and-white pall across the foothills every year.

What will be the impact on jobs? How many jobs will there be ultimately, in an industry which, in the State of Washington alone, has already lost thousands of sawmill jobs in the last 20 years?

So far, the answers to many of these questions are as yet unknown. Trees are simply not a crop like corn, to be harvested each year; there are too many other variables over a long period of time.

Apparently even the industry is hedging its bets. They are hedging their bets by diversifying their holdings; for example, Georgia-Pacific is deeply in the gypsum business, and Boise Cascade in land speculation. They are hedging their bets by looking elsewhere in the country, particularly the South.

Finally, they are hedging their bets by keeping their eyes cocked on the great stands of uncut timber still remaining in our public, our national, forests, the places where the Barclay Creeks still remain, now used for other purposes too. One Weyerhaeuser official recently admitted that they didn't know whether high yield would really work, but if it didn't, there were always the National Forests to be logged off. This is the problem we face for the future.

We may very well be faced with a situation in the next decade, when the private lands are almost totally cut out, that the only place left to look will be either the National Forests or the parks and Wilderness Areas themselves. This last is not such a far-fetched proposition. A special memo, dated December 12, 1968, from the National Forest Products Association, set forth a program to make sure that timber "would continue to be available" for industry needs. One of the major points was "Counteracting Withdrawals from Public Lands for Timber Production." A key part of this proposal advo-

continued on page 19

A typical scene on the banks of the Mollala River. Note the massive landslide, center.

News Notes

EXECUTIVE ORDERS TAKE STRONG CONSERVATIONIST STANCE

President Nixon's recently issued Executive Orders on predator control and off-road vehicles are being heralded by conservationists for their strong stance. The predator control order halts the use of chemical toxicants for the purpose of killing predatory birds or animals on federal lands, and the use of such toxicants which cause any secondary poisoning effects for the purpose of killing mammals, birds or reptiles. It also restricts such use in any program financed or subsidized by federal money. This would include numerous state and agricultural industry programs. Emergency use may be authorized only if the head of the appropriate agency consults with the Secretaries of Agriculture, Interior, and Health, Education and Welfare, and the Administrator of the Environmental Protection Agency, and determines that such use is essential for the protection of human life, the preservation of an endangered species, or the prevention of damage to natural resources.

SULFUR POLLUTION TAX

The Nixon Administration has at last introduced its version of a sulfur tax proposal. This vastly increases the likelihood of getting Congressional hearings on the entire issue of a sulfur tax, including the much stronger Proxmire-Aspin bill (S. 3057 in the Senate, H.R. 10890 in the House), which embodies the sulfur tax proposal endorsed by the Sierra Club.

Instead of a national tax based on emissions, the Nixon proposal is tied very closely to the Clean Air Act, exempting polluters in regions meeting the secondary standards. Polluters in regions meeting primary but not secondary standards will pay 10 cents per pound of sulfur; those in regions violating both primary and secondary standards will pay 15 cents per pound of sulfur. The tax will not be instituted until 1976, when by law, the primary standards must be met.

The Coalition to Tax Pollution, which includes the Sierra Club, expressed dismay at the weaknesses of the Administration proposal, citing the following points:

1. This proposal will promote degradation of the many areas of the country which presently have air of better quality than the secondary standards. Rather than an emission tax, which would promote reduction in emissions everywhere, this proposal encourages redistribution rather than reduction of pollution.
2. The proposed tax levels, even the 15-cent rate, are not high enough to cover abatement in some situations.
3. 1976 is too long to wait to apply an incentive to abate.
4. Regional control is inadeqaute.

The Proxmire-Aspin bill suffers from none of the weaknesses of the Administration bill: a national, uniform tax of 20 cents per pound of sulfur emitted will provide a strong and continuing incentive for sulfur polluters in every region to abate.

Citizens can help in the campaign to get hearings on the sulfur tax issue by writing to their Congressmen and Senators, asking them to urge the House Ways and Means Committee and the Senate Finance Committee to schedule hearings.

TRANS-ALASKA PIPELINE

Representative Les Aspin has released a new draft of Interior Department stipulations for construction of the proposed trans-Alaska pipeline, which he described as "incredible" and "weaker" than original proposals. Aspin cited revisions which eliminate the discretionary authority of the Interior Department to suspend construction because of non-compliance by the pipeline builders with building regulations. The regulations are to be used as guidelines for construction if Secretary Rogers Morton grants a permit for the pipeline.

SEATTLE REJECTS FREEWAYS

In what may have been a national first, Seattle voters recently rejected by a landslide margin proposals for two freeways within the city. One vote concerned a proposal to de-authorize an old bond issue for the R. H. Thompson Expressway, already killed at the political level by strong citizen action.

The other, perhaps more significant, was the rejection of a new bonding measure for the controversial Bay Freeway. Despite the fact that the freeway was supported by nearly all elements of the business, government, and construction union communities, with heavy stress on the job issue, the voters said very convincingly that they simply do not want any more freeways.

This was an especially significant vote because of Seattle's extreme economic depression, with an unemployment rate approaching 15%. "The Seattle voters proved they do not want to damage their city for the sake of some short-term economic gain," said Sierra Club Northwest representative Brock Evans, after the election. "This vote showed very convincingly that not only can small and underfinanced environmental groups successfully stand up to all the money and power of the highway lobby, but that when faced with a clear choice the voters prefer environmental considerations first in even hard-hit areas."

McCLOSKEY BLASTS SHEEPMEN

Red-faced and angry, members of the National Wool Growers Association listened to Michael McCloskey, executive director of the Sierra Club, criticize their methods of predator control and advise them to engage in self-reform before an outraged public sweeps away their whole highly subsidized industry. Speaking at their annual convention in Phoenix, McCloskey said the sheepmen are subsidized six times:

First, through federal price supports, they receive two and a half times the market value for their product; second, the public loses the tax values from duties that go into price supports; third, the public must pay excessive prices through duties for imported wool; fourth, the sheepmen are charged grazing fees for use of public lands that still are not priced at fair market value; fifth, the public suffers a loss in the value of its public land through the erosion caused by over-grazing; and finally, privately-owned sheep are competing with the public's wildlife through the sheep owners' predator control programs.

McCloskey warned Association members that changes should be anticipated with the upcoming release of the Cain report to the Department of Interior and the Council on Environmental Quality. A study of predator control, the report is expected to be even more critical than the 1964 Leopold Report, which concluded, "The program of animal control . . . has become an end in itself and no longer is a balanced component of an overall scheme of wildlife husbandry and management."

McCloskey also noted efforts in Congress and state legislatures to change predator control practices, and cited a Sierra Club suit to suspend the federal program until an environmental impact statement is filed and steps are taken to insulate fifteen species from the program's effects.

News Notes

TIDELANDS SUBJECT TO PUBLIC TRUST

The California Supreme Court has handed down a decision holding that state tidelands — the area between mean high and mean low tide on shorelines and estuaries — are subject to a public trust, whether privately or publicly owned. In a case in which the Sierra Club filed an amicus curiae brief, the court said that the public trust in tidelands is in part for "the preservation of those lands in their natural state, so that they may serve as ecological units for scientific study, as open space, and as environments which provide food and habitat for birds and marine life, and which favorably affect the scenery and climate of the area."

The case, *Marks vs. Whitney*, involved a boundary line dispute in Marin County's Tomales Bay, in which the plaintiff asserted complete ownership of the tidelands and the right to fill and develop them, and the defendant opposed him on the grounds that this would cut off his rights as a member of the public in these tidelands and the navigable waters covering them. The court's decision provides a basis for prevention of fill or development of most California tidelands, whether publicly or privately owned, and whether or not previously reclaimed.

NEW MINING LAW VICTORY

In what may be a landmark case concerning U.S. mining laws, the Forest Service, with the Sierra Club as intervenor, won a court ruling February 11 that access to and over unpatented mining claims on national forest land is subject to Forest Service permits regulating the type and location of access. The ruling grew out of a trespass case filed by the Service in Colorado against the Denarius Mining Co.

In 1966, the company bulldozed a two and a half mile road over alpine tundra in Clear Creek County for access to a mining claim known as the Mary Ettie. Although 1.3 miles of the road passed through the Arapaho National Forest, Denarius failed to secure the permit required by Forest Service regulations for construction and maintenance of access roads on national forest land. Nor was adequate provision for drainage or protection against erosion made.

In addition to its access decision, the court ruled that construction of the road caused damage to plants, wildlife, soils and water, and it instructed the jury to determine the reasonable cost of returning the land to its previous condition. The jury awarded damages of $3,500.

OFFSHORE LEASE SALE CANCELLED

The Interior Department has called off its proposed oil and gas sale off the Louisiana coast in the Gulf of Mexico after environmental groups, including the Sierra Club, had blocked the sale in court. This marked the first time a lease sale has been stopped. The Interior Department had attempted to lift the injunction that was imposed by the U.S. District Court in Washington, D.C. by updating the environmental impact statement, discussing in detail alternatives to the sale. But District Judge Charles Richey did not have enough time to rule on the adequacy of the statement before the 30 day time period for the sale expired. There has been no decision from the Administration whether to schedule a new sale for later in the year.

DECLARATION ON THE HUMAN ENVIRONMENT

A 27-member intergovernmental working group at the United Nations in New York has completed consideration of a draft Declaration on the Human Environment. Composed of a six paragraph Preamble and 23 basic principles, the draft will be submitted for further consideration at the final session in March of the Preparatory Committee for the U.N. Conference on the Human Environment, to be held in Stockholm in June.

The Preamble stresses that man has the responsibility and the capacity to affect and control the environment in which he lives. It calls on international, national and private organizations, individuals and business enterprises to devote their will and attention to shaping a world environment that will benefit all mankind.

The Preamble and many of the principles stress that a better environment goes hand in hand with economic development, especially in the underdeveloped areas of the world. The pollution of poverty, for example, is as dangerous as pollution from automobile exhausts. Other principles touch on population policies, additional financial aid to cover the cost of incorporating environmental safeguards in development plans, and exchange of scientific and technological information.

CENTURY FREEWAY SUIT FILED

The Sierra Club, the Environmental Defense Fund, the NAACP and others have filed a major lawsuit seeking an injunction to halt further acquisition of property for the Century Freeway in Los Angeles. Filed in Federal District Court in Los Angeles against officials of the Department of Transportation, the Federal Highway Administration, the California Highway Commission and the State Department of Public Works, the suit alleges that the defendants have failed to comply with the National Environmental Policy Act, the Environmental Quality Act and the Federal Relocation Act.

"The real villain in this case is the Highway Trust Fund," said Larry Moss, Sierra Club Southern California representative. "The state is frightened that if it doesn't spend the money on the freeway, it will lose the funds." The 17-mile freeway has been the center of a controversy for several years. Its route would run from Los Angeles International Airport to Norwalk, passing through eight communities, including Watts. It would cost between $400 and $500 million, and would displace some 21,000 people.

NEW YORK LOBBY GROUP RE-ACTIVATED

A recent convention of more than 250 New York conservationists resulted in the resuscitation of the state's three-year-old Environmental Planning Lobby, which has undertaken an ambitious plan for the introduction of legislation in the coming session in Albany. Until now, the group had lobbied only part time, and had been unable to unite the diverse elements of its membership, which range from the Sierra Club to Planned Parenthood.

"We'll have a powerful wallop with such a broad statewide council as this," said David Sive, a well-known environmental lawyer and chairman of the Lobby's first annual convention. Sive emphasized that environmentalists must borrow the techniques of other lobbies, such as those for civil service or teachers, in bringing the mass pressure that results in passage of legislation.

Henry L. Diamond, the state's Commissioner of Environmental Conservation, likewise urged Lobby members to pressure him so he in turn can exert more pressure on the legislature.

Sierra Club Board of Directors
February 4-5-6

The Sierra Club's Board of Directors' quarterly meeting was held on February 5-6 in San Francisco. The following resolutions were adopted by the Board:

California Legislative Committee. The Board of Directors refers the matter of a single regional conservation committee for California to Council for study, and authorizes the formation of a California Legislative Committee under the guidance of the chairmen of the existing California Regional Conservation Committees.

California Clean Environment Initiative. The question of the Clean Environment Act is referred to the new California Legislative Committee, and the Legislative Committee is directed to report to the Board or its Executive Committee at the earliest possible opportunity.

Coalition Against Poisoning of Wildlife. The President is authorized to join and support the Coalition Against Poisoning of Wildlife after consulting with the appropriate Sierra Club authorities.

Location of Winter Olympic Games. The Sierra Club opposes the staging of Winter Olympic Games in any area of the United States which would require major new development of facilities that have an adverse effect on the environment.

Desert Pupfish National Wildlife Refuge. The Sierra Club supports the establishment of a Desert Pupfish National Wildlife Refuge as proposed by the Desert Fishes Council in the Ash Meadows area of Nye County, Nevada and Inyo County, California, to protect the habitat of rare pupfish species.

Billboards Along Highways. The Sierra Club opposes billboard development along highways and supports measures to restrict these billboards. Furthermore, the Sierra Club opposes variances, including the proposal pending in Congress to allow billboards which carry environmental messages on Federal-aid-highways.

Antarctic Seal Operations. The Sierra Club finds no justification for the opening of the Antarctic Treaty area to commercial exploitation of seals, and urges the State Department to negotiate a treaty that will effectively close the Antarctic Treaty area, the area south of 60°, including the high seas, to any exploitation of wildlife.

Indiana Dunes. The Sierra Club supports legislation to expand the Indiana Dunes National Lakeshore by approximately 7,000 acres, in order to protect the presently natural and vulnerable dunes, forests and wetlands, to provide continuity to the Lakeshore and to create buffers between the Lakeshore and present and future industrial development.

Big South Fork (Cumberland River). The Sierra Club supports the establishment of a unit of the National Park System along the Big South Fork of the Cumberland River in Kentucky and Tennessee. This unit should adequately protect the significant tributary gorges and sensitive upland areas, as well as the main gorge itself, and should be of a size to provide a satisfactory land oriented experience for the visitor, as well as a river oriented experience. No water resource extraction activities should be permitted.

Upper Mississippi National Recreation Area. The Sierra Club supports the concept of an Upper Mississippi National Recreation Area and recommends speedy enactment of suitable legislation. Any such legislation must provide that the superb and unique scenery of the Upper Mississippi receive at least as high priority as the development of public recreation or development of resources, must restrict the Secretary of the Army's veto power to matters directly related to navigation or Corps of Engineers' lands, and must provide for sufficient acquisition of private lands as to give the Recreation Area a significant land base.

Grand Teton National Park Jetport. The Sierra Club reaffirms its policy against commercial airports in national parks and monuments. The Sierra Club opposes the expansion of the Grand Teton Airport.

National Interest Lands of Alaska. The Sierra Club strongly urges the Secretary of the Interior to withdraw under the terms of Section 17(d) of the Alaska Native Claims Act of 1971 no less than 80 million acres in Alaska by March 17, 1972, from state and private selection. The Club urges that he include those lands that have the highest potential as future National Parks, Wildlife Refuges, and Wild and Scenic Rivers so that he can thereafter formulate park, refuge and scenic reserve proposals to permanently protect those areas and transmit them to Congress. Furthermore, the

continued on page 18

Representatives' Reports

Southern California

Several years have passed since the massive oil leak in the Santa Barbara Channel sensitized a broad spectrum of the American public to the environmental issue. And more years have passed since the National Park Service stated: "The northern group of the Channel Islands of California presents one of the finest opportunities in America to preserve a combination of island, seashore, and related marine values in a reservation suitable for park use." Yet an acceptable resolution of both issues still seems to be far in the future.

Oil companies have a substantial investment in federal oil leases in the Santa Barbara Channel and have continued to push for their development rights. The citizens of Santa Barbara County and environmentalists across the country have used every means at hand in an attempt to force the oil interests out of the Channel. But the present national administration seems unable to summon the resolve necessary for a meaningful resolution of the problem. Numerous bills which would deal with the problem in one way or another have been introduced in Congress but there has been no real movement on these bills. Conservationists favor S. 1459 introduced by Senator Muskie but election year politics mitigate against any serious consideration of Muskie's bill at this time.

Anacapa, Santa Barbara, Santa Cruz, Santa Rosa, and San Miguel are the five Channel Islands selected by the National Park Service for the Channel Islands National Park. Anacapa and Santa Barbara, two small islands, presently comprise the Channel Islands National Monument; San Miguel is under the stewardship of the U.S. Navy; and Santa Cruz and Santa Rosa are in private ownership. The islands are magnificent and should be part of our National Park System with appropriate designated wilderness areas and scientific and natural preserves. Their marine life is extraordinary and should be given highest priority for protection. Senator Tunney introduced a bill, S. 689, co-authored by Senator Cranston, which would establish a Channel Islands National Park consisting of the five islands.

A logical first step toward a significant Channel Islands Park would be the addition of 14,000-acre San Miguel to the Channel Islands National Monument. This would be quite easy to do yet no action has been taken by the Government and a disturbing rumor persists that the U.S. Navy is considering the lease of San Miguel for oil exploration and development.

It is quite clear that now is the time to hold hearings on the Channel Islands situation. The natural values of the Islands won't last forever unless they are given permanent protection under Federal ownership, and the oil interests may eventually win out in the Channel unless legislation is passed that will rescind those leases. Write to Senator Jackson, Chairman of the Senate Committee on Interior and Insular Affairs, and ask that he hold hearings on S. 689 and S. 1459. And ask President Nixon to support the establishment of the Channel Islands National Park.

Larry Moss

The East

Nothing offends like a dam. Except perhaps ten dams. And that is what may be in store for 50,000 square miles of the James Bay watershed in subarctic Quebec.

Under the auspices of the James Bay Development Corporation, created hastily this fall by the Quebec Assembly with the enthusiastic support of Premier Robert Bourassa, the Crown Corporation of Quebec-Hydro plans to harness the waters of the whole eastern sweep of Quebec from the forty-ninth to fifty-fifth parallels.

The object is to generate eight to ten million kilowatts of electricity, stimulate new industry and create 100,000 new jobs. With an eight percent unemployment rate and 200,000 out of work, no one questions the need for jobs. But conservationists and nationalists are beginning to ask if Premier Bourassa's grand scheme does not hold more promise than purpose.

The Quebec-Hydro program calls for power development on more than a half dozen major rivers. Phase one involves diverting the Nottaway and Broadback rivers into the Rupert and constructing as many as a dozen generating stations. The three rivers combined drain an area of 50,000 square miles, a quarter of which eventually would be flooded. The second phase encompasses the Eastmain, Lagrande, Caniapiscau and possibly the Great Whale rivers, further north.

When completed the project would be the largest in the western hemisphere, twice the size of Churchill Falls. The many critics who are less impressed by size and more concerned about the impact on the environment compare it to the disastrous Peace River Project in British Columbia.

To date neither the federal nor provincial government has the foggiest notion of what effect these massive diversions of water will have. It has been speculated, though not confirmed by reputable scientists, that the project, by substantially altering the natural flow of waters, could

affect both the salinity of James and Hudson bays as well as the climate of the entire region. Its effects on the area's inhabitants as well as on the wildlife and flora is also a mystery. And there may be international problems as well if Quebec-Hydro is successful in negotiating long term contracts with U.S. utilities.

Conservationists, including the Sierra Club of Ontario, ask only that sufficient studies be conducted and reviewed before barreling ahead — a not unreasonable request.

Peter Borelli

The Southwest

Unfortunately the furor of last spring over the construction of large coal-fired power plants has largely died down. However, the interest of the utilities in this area has not diminished and without renewed opposition to these plants we can expect many more of them to mar the beauty of the Southwest.

Public opposition combined with economic and resource limitations may have stopped any further consideration of additional power plants in Arizona and New Mexico for the time being. However, in western Colorado several utilities are continuing to investigate the possibility of a large plant at a still undetermined site. Planning is proceeding unabated for the huge Kaiparowits power plant proposed for the north side of Lake Powell.

Several other proposed plants in Utah are farther down the line, but they still must be considered real possibilities. The proposed Escalante plant lies adjacent to the proposed Escalante wilderness. The Fremont plant may be located along the road leading to the western entrance to Capitol Reef National Park, while a proposed plant at Tropic would be easily visible from many of the overlooks in Bryce Canyon National Park.

Little except further documentation of the problem is expected as a result of the Southwest Energy Study underway at the Department of Interior. Department officials have repeatedly stated that construction of these power plants must proceed in order to meet the projected energy needs; thus it would be naive to expect any significant recommendations from that group. Diminished public interest can be credited with producing the recent report that "not much" should be expected as a result of the extensive hearings into the problem held by the Senate Interior Committee last May. Chairman Henry M. Jackson and other members of the Committee need to be reminded that trivial recommendations that gloss over the problem will not be acceptable to the public. Sierra Club members should make a renewed effort to direct letters to Senate Interior Committee members urging them to take meaningful and prompt action that will protect the superb scenic and other resources of this region.

John McComb

continued from page 16

Sierra Club requests the Secretary to withdraw the remaining lands not selected by the Natives and State from private entry selection pending their eventual classification for appropriate public use. The Sierra Club further urges withdrawal of additional areas for appropriate and necessary wildlife refuges for migratory birds, endangered animal species and unique areas, as well as areas needing multiple use management in the national interest.

The Sierra Club's advocacy of reservation of lands over and above that directed by the Congress as national interest areas should in no way be construed as infringing on the rights of the Alaska natives to select lands as provided in the Alaska Native Land Claims Bill, and further, that we support the Alaska natives in their desire to maintain and protect their traditional hunting and fishing subsistence rights.

Off-Road Vehicles. The Sierra Club adopts as off-road vehicle policy: (1) the operation of ORVs should be presumed to be detrimental to all areas and should accordingly be prohibited on all public lands unless proven otherwise by competent, impartial investigators. (2) ORVs should only be permitted off roads in areas or on trails expressly designated and constructed for their use. Objective criteria should be used to identify areas to be designated for ORVs where environmental damage can be held to an acceptable level. Areas designated for ORV use should be studied periodically in order to detect unacceptable environmental damage. Where this occurs, the area should be closed to ORVs. (3) Before deciding whether or not an area or trail should be designated for off-road vehicles or before deciding whether or not to adopt regulations governing their use, a public hearing involving all interested participants and an environmental impact statement must be required. (4) Developments for the use of ORVs should be excluded from designated and *de facto* wilderness, scenic areas, areas of fragile, rare, vanishing or relict vegetational types, areas of archaeological interest, areas of fragile natural features and scientific interest, trails built for use by foot or horse traffic, areas where erosion and other resource damage will occur with their use, areas where noise would adversely affect other users or natural areas, and wildlife sanctuaries. (5) Local regulations that exceed state and federal standards for control of off-road vehicles shall be encouraged. (6) Educational programs must be initiated to instruct operators as to safety and environmental impact; also as to areas designated by law for use. Operators must be tested and licensed on their ability to operate the vehicles.

continued from page 13

cated "timber use in withdrawn areas." The memo read, in part, "salvage and improvement cuttings *within parks and other reserved areas* could be made without impairment of scenic and recreational values. Advocacy of such cutting to satisfy housing needs would serve to dramatize the wood shortage and would put the preservationists on the defensive." (italics added)

This is the crisis we are going to be faced with if present industry practices continue on their own lands; it dramatizes in the most urgent way why we must have immediate regulation of what the private industry is doing to itself — and thus to us.

After it is all said and done, the question is will the "high yield forests" and the "tree farms" work?

We have to say that we don't really know the answer, but the doubts are real and genuine. In the Molalla, we are already seeing what can happen and what most likely will if present practices continue.

And it has been tried before, in Saxony, Germany. It did not work. There clearcutting and the subsequent regeneration by planting trees became the standard practice in the 19th and early 20th centuries, despite warnings from German foresters of the dangers of monoculture. In time the trees became increasingly subject to damage from wind, frost, fungus and insects and there was a marked deterioration of the soil. It has been estimated that the reduced growth rate due to the poor soil caused a loss of 3.5 billion cubic feet of timber in a 100 year period in the Saxony state forests.

In Germany, when it failed, they returned to a more conservative system of forest practices, and have been able to recoup most of the losses. But the scale there was much different; our giant timber combines here are practicing on areas far larger than the State of Saxony itself, and are advocating that it be practiced on an even greater scale, on ninety plus million acres of our National Forests, including perhaps ultimately even the Wilderness Areas and Parks themselves.

If we hope to save the places we love, the Barclay Creeks and the National Parks, the Wilderness Areas, and even the ability of our forest lands to reproduce at all, we must have control of what private industry is doing to itself — and to us.

Announcements

ENERGY HEARING GUIDELINES AVAILABLE

In 1971, the Lloyds Harbor Study Group of Long Island, New York, strongly challenged AEC procedures on utility plant and safety guidelines. The group opposed construction of a Shoreham, L. I. nuclear electric generating plant, and produced 35 witnesses for the opposition at the AEC's licensing hearing.

Excerpts from LHSG's proposed findings of fact and conclusions of law presented at the hearing have been compiled by the Sierra Club's Atlantic Chapter.

Copies of "Shoreham, L. I. Proposed Findings of Fact" are available for $16.25 (which includes mailing and handling costs) from the Sierra Club, 1050 Mills Tower, San Francisco, California 94104, or the Sierra Club, Atlantic Chapter, 250 W. 57th Street, New York, N. Y. 10019.

ENVIRONMENTAL LAW REPORTER

Lawyers should be aware of the *Environmental Law Reporter*, a monthly looseleaf published by the Environmental Law Institute of Washington, D.C. As briefly noted in the December, 1971 *Bulletin*, it has already proven itself as the primary research tool for environmental lawyers by providing them with the texts of key court decisions, agency rulings, and the like, and — what is more important — with arguments to use in their cases.

The *Environmental Law Reporter* prints the texts of statutes, regulations, court and agency decisions, etc., in three tabular divisions — Litigation, Administrative Proceedings, and Statutory and Administrative Materials. The three remaining tabs — Summary and Comments, Articles and Notes, and Bibliography & Digest-Facsimile Service — comment upon crucial recent and not-so-recent developments in environmental law.

Aside from the "bread-and-butter" sections, Summary and Comments and the Digest-Facsimile Service are of the most use to attorneys. Summary and Comments is a cross between an informative "newsletter" discussion and a form of close legal analysis that has stimulated new arguments in the courts. The Digest-Facsimile Service includes digests of environmental cases, both those recently filed and those already decided, giving plaintiffs' and defendants' arguments. Key moving papers — complaints, briefs, memoranda, etc. — are available for the cost of copying.

Special mention must be made of ELR's coverage of the National Environmental Policy Act. ELR has published all legal and administrative materials involving NEPA, including court cases, administrative determinations, Executive Orders and CEQ guidelines. In addition, ELR publishes all the procedural compliance guidelines through which government agencies are implementing NEPA.

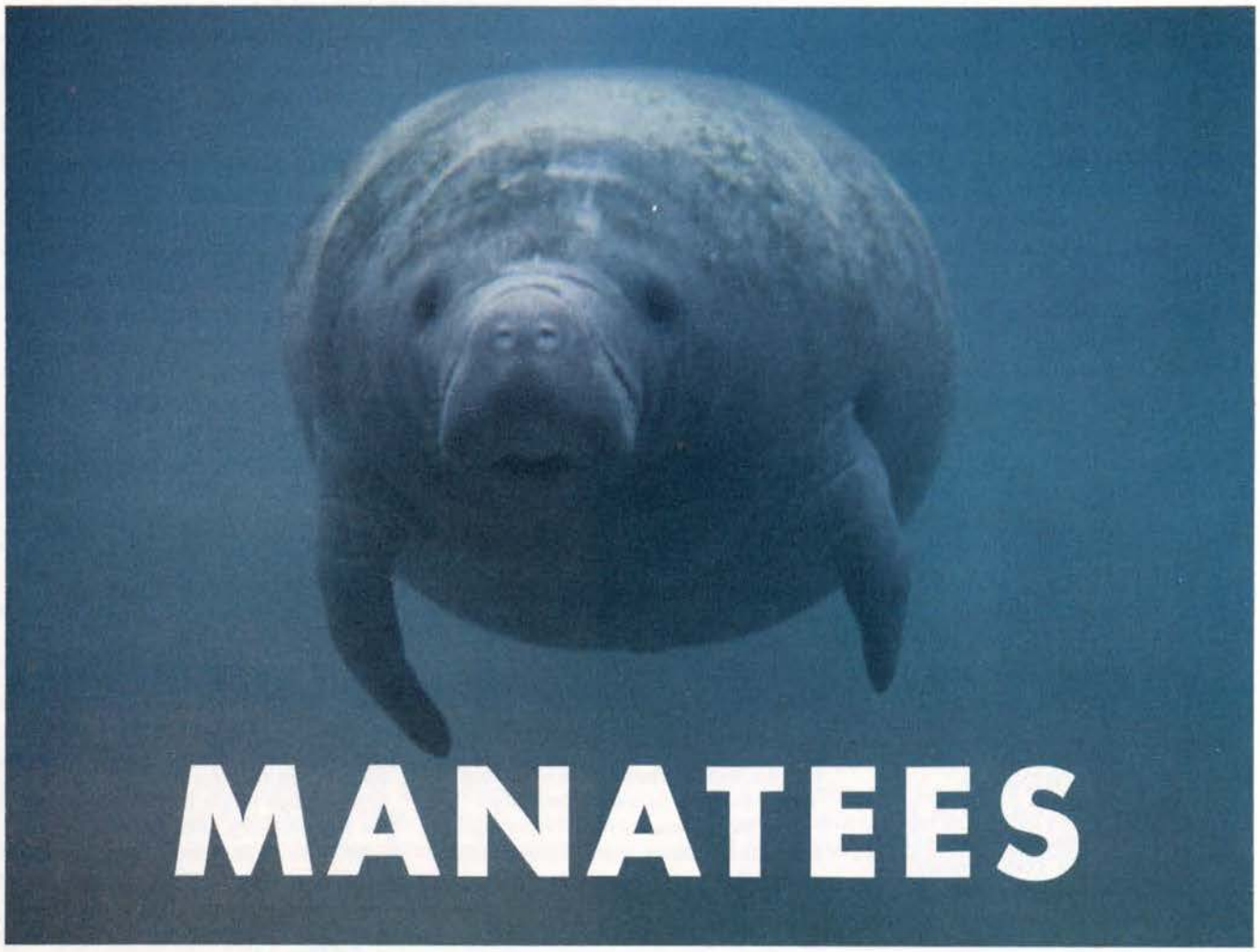
In 1971, subscribers received about 1,600 pages of materials, including 650 pages of court decisions, 180 pages in Summary and Comments, and 250 pages in the Digest-Facsimile Section. Subscripers during 1972 receive *all* 1971 material, plus the 12 issues of 1972.

SCUBA DIVE COURSE IN THE CARIBBEAN

A learn-to-dive vacation in the Caribbean is being offered this summer by the Sierra Club's new underwater exploration program. Grand Cayman, an hour's flight from Miami, is the site of three trips planned for July and August. The trips are open to all Club members including those with no previous diving experience as a basic scuba course will be offered as part of the trip package.

The trip staff will include a marine biologist who will give informal slide talks on the ecology of the reef and lead small groups on underwater "field trips." Tips on underwater photography will be available to those interested.

Cost of the trip and scuba course, all expenses except transportation, is $570. Details can be had by writing Sierra Club Outing Department, 1050 Mills Tower, San Francisco.



MANATEES

By Daniel S. Hartman

Dr. Hartman has spent a year and a half studying the ecology and behaviour of manatees and is currently preparing for further study of its status and distribution preliminary to the establishment of a refuge.

In the summer of 1741 the Danish explorer Vitus Bering, then in the employ of the Russian government, discovered Alaska. On his return to Siberia with the momentous news, a storm cast his brigantine on the rocks of a small island off the coast of the Kamchatka Peninsula. Bering and several of his sailors died of exposure in the course of the winter, but the remainder of the crew managed to survive. In the spring they rebuilt the ship and sailed to Russia, bringing word not only of their captain's achievement and death but of monstrous "sea cows" that they had found grazing on kelp around the shores of the fatal islands. Indeed, the crewmen had survived largely on the meat of these 25-foot leviathans.

Russian fur sealing expeditions to Alaska were soon commonplace. In transit, most of the sealers made it a point to visit the Commander Islands, site of Bering's shipwreck and the only known habitat of the giant sea cows. The animals were thoughtlessly slaughtered and their flesh stored on board the ships for the long trip ahead. Within a mere 27 years of man's first encounter with them, the last great northern sea cows were harpooned and clubbed to death.

The sea cows belonged to an obscure group of aquatic mammals known as the Sirenia — descendants, it is believed, of the same ancestor from which the elephants evolved. Living members of the group include three species of manatees and their marine relative, the dugong. All are rare or endangered. Dugongs already appear to have been exterminated in most of the Indo-Pacific region. In the United States the sirenians are represented by a single species, the American manatee.

Although less spectacular in size than their extinct cousins from the Bering Sea, adult manatees are nonetheless impressive. They average ten to twelve feet in length and weigh just over half a ton. Equally at home in fresh or salt water, manatees are denizens of rivers, estuaries, and shallow coastal bays — wherever there is an abundance of vascular aquatic vegetation. Their strictly herbivorous diet imbues their meat with a succulence and taste that is unrivaled among marine mammals. This attribute has almost been the undoing of the species for they have been hunted for their steaks. As a result in this country, as in most others, the stocks have been severely depleted. At the end of the last century the American manatee was on the threshold of extinction in the U.S. Formerly ranging along the coast from the Carolinas to Texas, the animal was hunted in all but the most sequestered backwaters. Manatees were soon reduced to a few relict populations scattered around the Florida peninsula. Since then, there has been little significant change in their status and distribution.

Within the U.S. the manatee is protected by both state and federal law. There is a $500 fine for killing or molesting a sirenian. Although seldom enforced, this law has discouraged poaching to some extent. Ironically, poaching is no longer the most serious threat faced by manatees, and merely having granted them protection will not necessarily ensure their survival.

Today, the existence of manatees in Florida is jeopardized by new forces — by-products of the state's development. Most ominous of these emerging dangers are power craft which overtake the animals unawares at the surface. Propeller wounds are probably the chief source of mortality among manatees. Not to be overlooked, though, is the destruction of the manatees' food resources following water contamination. Industrial effluents, notably in upper Tampa Bay, seem to have been responsible for the virtual elimination of the submerged vegetation on which the animals normally feed. In the St. Johns River a combination of two factors, dredging to facilitate passage of oil barges and spraying of herbicides to control water hyacinth, have in places caused drastic alterations in the composition and abundance of submersed aquatic plants. In the absence of their preferred foods, manatees in the St. Johns watershed have adopted water hyacinth as a substitute staple. The animals have been ingesting hyacinth coated with 2,4-D, gradually accumulating residues of the chemical in their tissues.

Obviously, to assure manatees adequate protection in Florida, new legislation must be enacted, legislation that is directed toward pollution abatement throughout the state and toward the reduction of boat speeds or the prohibition of boating in areas of manatee concentration.

Although the status of the American manatee continues to deteriorate outside the United States, the species appears to be holding its own in Florida and are on the increase, at least on the central west coast of Florida. Their recovery in the area coincides with a recent eruption of introduced aquatic "weeds."

The principal site of my research was the source of the Crystal River in Citrus County. Here limpid spring-fed waters provide ideal conditions for underwater observations. Each winter, especially during cold spells, manatees congregate at the head of the river seeking warmth in the springs (which remain a constant 74°F year-round).

My daily study routine depended on the appearance and location of manatees in the river's headwaters. Whenever conditions permitted, I would snorkel with the animals. The rest of my time was spent patrolling for them in a runabout or observing them from vantages on land. These procedures were also used for night observations.

Although most manatees are exceptionally wary, a few enjoy caresses, actively soliciting them.

The most interesting findings of the study were related to the manatee's social behavior. Essentially solitary animals, the only cohesive association between manatees, besides the cow/calf family unit, is found in an estrus herd composed of a cow in heat accompanied by courting bulls. An estrus herd remains together for a period that can range from less than a week to more than a month. During this time the bulls' courtship is relentless, but the cow appears to be receptive only at brief intervals.

Manatees apparently lack a breeding season. Barring infant mortality, cows probably breed every two and a half to three years. It would appear that gestation lasts roughly thirteen months. A cow suckles her calf from its birth to the dissolution of the parent-offspring bond, a period of one to two years. One cow at Crystal River provided evidence of both twinning and foster parenthood among manatees.

Manatees have exceptional acoustic sensitivity; sound is doubtless the major directional determinant in social interactions. The animals emit high-pitched squeals, chirp-squeaks, and screams in contexts of fear, aggravation, protest, internal conflict, male sexual arousal, and play. Manatees may also increase sound emission to maintain contact under conditions of impaired vision. Unlike the phonations of whales and dolphins, however, manatee vocalizations appear 1) to be non-navigational, 2) to lack ultrasonic signals, pulsed emissions or directional sound fields, and 3) to be more impulsive than intercommunicative.

Manatees also make extensive use of their eyes; in clear water their preferred method of environmental exploration is visual. The prevalence of mouthing in social encounters suggests that manatees possess a chemical sense or "smell-taste" by which they can recognize odor gradients in the water.

Most manatees at Crystal River are extremely wary and will not allow close approach by the snorkelers and SCUBA divers who visit the springs. A handful of animals, however, have not only become inured to the presence of divers but actively solicit caresses from them.

The entire coast of Citrus County is an admirable location for a National Manatee Refuge. To my knowledge, the Crystal River headwaters are one of only two sites in the world where sirenians can be viewed with relative ease in their natural environment. (The second site, also in Florida, is at Blue Springs Park on the upper St. Johns River near Orange City.) With appropriate safeguards and under the continuous surveillance of refuge personnel, manatees at Crystal River could be guaranteed permanent protection and perhaps even serve as a reservoir from which surplus animals could be drawn to colonize erstwhile haunts.

For those whose interest in marine mammals is primarily economic, it may come as something of a disappointment to learn that manatees have as yet to prove themselves of substantive commercial value. Attempts to use them as agents of aquatic weed control have been fraught with difficulties associated with the capture, transport and maintenance of the animals. In a sub-tropical region such as Florida, captive or semi-captive animals must be assured refuge from the cold during the winter. In one weed control experiment near Fort Lauderdale, seven out of eight manatees succumbed during a period of unusual cold.

Hopes to raise and utilize manatees as a potential food source are, at this stage in our knowledge of their biology, highly unrealistic. Their reproductive rate is, if anything, even lower than was previously assumed. Sirenians, furthermore, have persistently failed to breed under conditions of confinement.

With a total population that may number no more than 1,000, the future of the manatee in the United States is hanging in delicate balance. When the numbers of any species are so low, minor disturbances to the habitat can have disastrous repercussions on the population as a whole. It appears, however, to be within our powers to reduce the vulnerability of manatees in Florida, to create circumstances favorable for an increase in the size of local populations and possibly, in so doing, to set an international precedent.

Manatees are grotesque, gentle, unobtrusive creatures with no defense but flight and no serious enemy but man. By today's standards, which equate utility and worth, they are anachronisms, useless animals, forgotten mermaids. By conventional definition, they offer no promise of pleasure or profit. Should we not protect them for that very reason? Should we not preserve them simply because they are part of nature's balance and mystery?

WASHINGTON REPORT

That chrome and steel gas-buggy, of which you probably have at least one, is fast becoming part of a major threat to national security. Long the number one culprit in environmental degradation, the family car — through vast energy consumption in their collective millions — is receiving thoughtful concern from long-range military and diplomatic planners.

Their rationale is based on the fact that skyrocketing petroleum consumption makes more difficult the maintenance of an independent foreign policy and/or an independent military posture.

Last year, U.S. petroleum consumption was 15.5 million barrels per day, of which about 12 million barrels came from wells within our borders. Of the 3.5 million barrels per day imported, only about 600,000 barrels came from the eastern hemisphere.

But by 1980, a different picture emerges because consumption is expected to reach 24 million barrels per day, with domestic production remaining at the 1971 level of about 12 million barrels. Of the 12 million barrels expected to be imported, about 9 million will come from the Arab countries of the Middle East and North Africa, the experts predict. New found Alaska and Canadian oil is not expected to trim the overseas demand.

Thus, much of our oil will be coming from insecure and frequently hostile areas. Our dependence on Arab oil could have profound effects on foreign policy decisions. One can easily imagine situations where this dependence might motivate military adventures by the U.S. in the eastern hemisphere to keep vital supply routes open. Or other conditions, under which Arab leaders could exert great influence on the shape of U.S. policies.

One aspect of this surfaced at recent hearings of the Senate Armed Services Committee when Admiral Elmo R. Zumwalt, Chief of Naval Operations, testified on the Navy's proposed fiscal 1973 budget of $25.2 billion. Admiral Zumwalt, who is not given to small talk about defense matters, forecast an emerging role for the Navy in protection of oil tankers.

"The quantities imported by sea will be vast — on the order of 12 million barrels a day," he stated. "This will require from several hundred to over 1,000 tankers, each of 70,000 tons, fully committed to deliveries of oil to the U.S. The potential for coercion of the U.S., with or without allies, inherent in this situation is ominous."

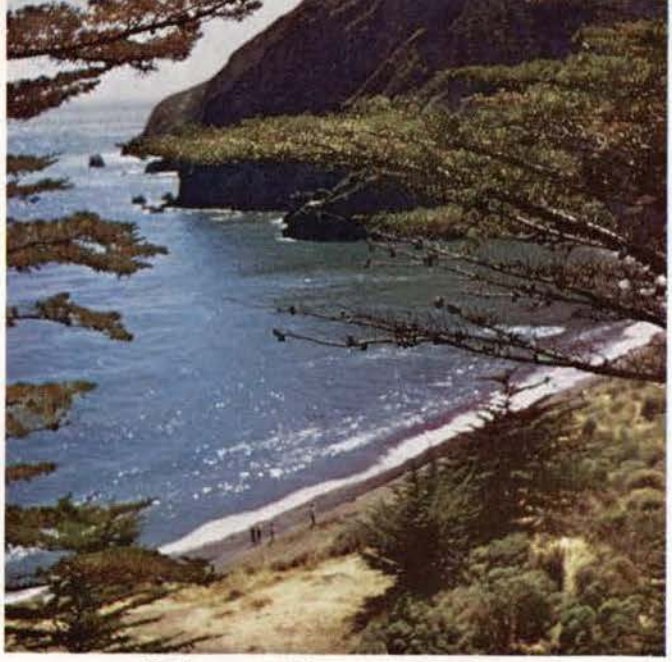
The admiral used this "ominous" situation as his major argument for modernization of the Navy on a massive scale during peacetime. Zumwalt is seeking approval of a fleet of new patrol frigates and small aircraft carriers for sea lane protection.

Faced with the implications which Zumwalt has underscored, it is apparent that efforts must be expedited to reduce the rate of growth of consumption, to develop alternative energy sources, and to engineer a national transportation system which more efficiently moves people and goods. The growing dependence on Middle East oil makes all the more urgent a move from transportation of one man per car to mass transit.

Yet funds for mass transit have been minscule in recent years, compared to the billions poured into highway construction which only leads to more auto use and more pressure on petroleum supplies. Cars and highways are bringing on acute national problems far beyond those of urban congestion and air pollution.

The time has come to divert a large share of the gasoline tax to transportation purposes other than highway construction. An escape must be found from the automobile's domination of national life.

W. Lloyd Tupling



For 8 cents, you could give this to your kids.

You're looking at Fort Baker in Marin County.

And there are more than 22,000 acres like it that could be yours for the asking.

It's part of a plan that's so big, so beautiful that you may be inclined to dismiss it as impossible. For heaven's sake, don't. Because if enough people want it, it can be ours.

The plan is for a Golden Gate National Recreation Area. (You can see its scope in the photo below.) This is no pipe dream of local conservationists. It's part of a nationwide plan being considered by the Department of the Interior to prevent the Bay Area and other urban regions from becoming wall-to-wall houses.

This stark possibility can't be staved off by local governments, if the federal government decides to sell these lands. (Imagine Marin County buying Point Reyes or Merced running Yosemite.) Creating a National Recreation Area, maintained by the federal government, is the only solution. It will open up vast new stretches of hills and coastline. And preserve the land for all the people, for all time.

Support for the plan is as broad as you'd expect. Senators Cranston and Tunney, Congressmen Maillard and Burton are working hard for it in Congress. Business, labor and professional leaders are backing it. People like William Roth, Phillip Berry, John Busterud, Dr. Arthur Coleman, Herman Gallegos, John Jacobs, Yori Wada, Dr. Philip Lee, Fred Merrill. Also a citizens committee has been formed with Dr. Edgar Wayburn as chairman, and Amy Meyer, co-chairman.

So the plan is off to a good start. But, as with Point Reyes, it's not going to happen until you get behind it. Right now. By spending 8 cents on a stamp to send us your coupon. By getting friends to write. By urging your company, union or organization to support it publicly.

With so much at stake, is that too much to ask?

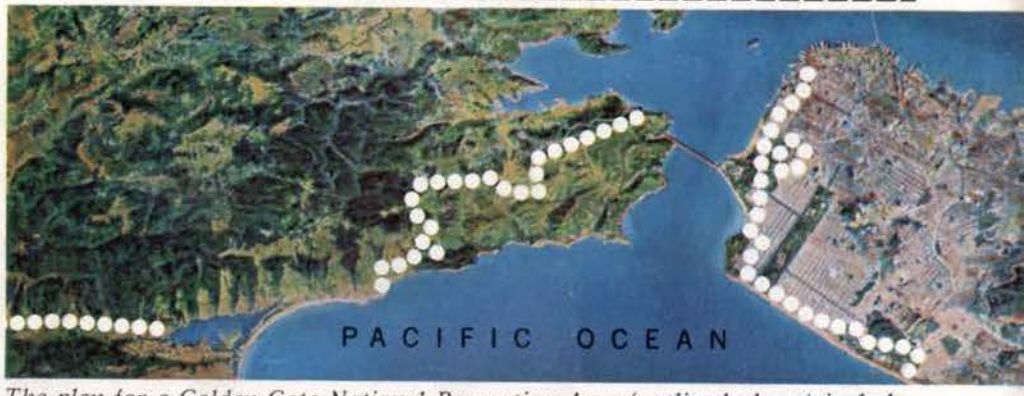
People for a Golden Gate National Recreation Area
3627 Clement Street, San Francisco 94121

- ☐ Yes, I support the plan for a Golden Gate National Recreation Area. Pass on my vote to Washington.
- ☐ Send me more information. I'll write my Congressman, House of Representatives, Washington, D.C. 20515.
- ☐ Put me on your mailing list.

Name_____

Address_____

City/State/Zip_____



The plan for a Golden Gate National Recreation Area (outlined above) includes those parts of seven federally owned forts no longer needed for military purposes: Funston, Miley, Presidio, Mason, Baker, Barry and Cronkhite. Plus parcels of state, city and private land that would connect and enlarge the fort lands to establish an open recreation area between San Mateo County and Point Reyes.

PREPARED BY RICHARDSON SEIGLE ROLFS & McCOY, INC., SAN FRANCISCO. PHOTOS: MARTIN FRIEDMAN, PACIFIC RESOURCES.