Sierra Club
BULLETIN / FEBRUARY 1972

EDITORIAL

"You environmentalists care more about the fate of the black bear than that of the black man." "You get more excited about a dying tree than a child dying in the ghetto." These are charges being heard more and more from spokesmen for minority groups. They are hurled at environmentalists at conferences where we gather to explore relationships. Are they fair? How should we respond?

Some environmentalists are tempted to reverse the charges. "You care more about the plight of minorities than the plight of mankind." "You care more about civil rights than survival."

We should stop hurling such charges at each other. It is tragic to see two crucial reform movements jealously vying for predominance. There are too few committed to social reform for us to be able to endure the tragedy of such misunderstanding.

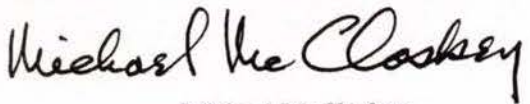
Both movements should share a commitment to the wholeness of life and should revere it. We should care what happens to all life forms, human and non-human, and work together to secure and maintain sound life support systems. We have to care about all parts of the human race, and understand that other forms of life have claims upon our conscience too. A communion of purpose should join us which will cause us to shrink from thinking in terms of trade-offs between life forms and dropping one concern for another.

It is important that we understand the difference between the claims of conscience upon each of us as individuals and the raison d'etre for specialized organizations. As whole persons, each of us should be concerned with many causes, pleas, and reforms. Yet the only efficient way to pursue these goals is through specialized organizations which have limited agendas. No organization can attempt to undertake all reforms. None should be indicted for having a limited agenda, and much less for being successful in attracting adherents. We should respect the value of divisions of labor, and draw comfort from the fact that many groups are pursuing so much that needs to be done. We need both environmental groups and civil rights groups, and many more too.

We need to stop competing to achieve ascendancy on the nation's list of social priorities. There is no *a priori* way to assert that civil rights or poverty is more important than the environment, nor visa versa. They are both important and deserve high priority. We and other life forms need to survive, and human dignity needs to be established and advanced. It makes no sense to sacrifice either.

And finally, we need to stop trying to co-opt and manipulate each other. Environmentalists should stop trying to get minorities to be chiefly concerned with environmental programs. Despite the fact that the ghetto resident may be the chief victim of pollution, those suffering from so many ills there have to define their own priorities. And minorities should stop resenting the fact that so many Americans are now concerned with the environment. These Americans cannot be browbeaten into dropping their environmental concerns, no matter how urgent the case is for curing poverty.

We should work to respect the validity of separate agendas, and the vitality of a diverse movement for social reform. Respect will not bring us into total agreement, and points of conflict may occasionally emerge. But we need to see each other in the context of a larger purpose, to minimize our conflicts, and find opportunities to work together on projects where our programs overlap. As we do so, we may find that we need each other far more than we now suspect.



Michael McCloskey
Executive Director

Sierra Club

BULLETIN / FEBRUARY 1972
VOLUME 57 • NUMBER 2

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

COVER: Emperor Goose on Nest, Magak, Alaska. Photograph by Jerry Hout. For story, see page 4.

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

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*Reg. U.S. Pat. Off.

SIERRA CLUB ELECTION

Each year the annual national election of the Club is on the second Saturday of April as prescribed by the by-laws. On April 8, 1972, five directorships and a proposed by-law change will be at issue. A ballot, information brochure, and return envelope (not postage-paid) will be mailed about March 1 to each eligible member; to those with addresses in the 48 contiguous states by first class mail, to those with addresses elsewhere in the world by airmail. With the exception of junior members (under 15), all those listed in the Club records as members in good standing as of January 31 will be eligible to vote.

The eleven candidates for Directors, nominated by the Nominating Committee are, in the order of appearance on the ballot: Kent Gill, George W. Pring, August Frugé, John Ricker, Nancy Mathews, Anne Van Tyne, Maynard Munger, Jr., Edwin Royce, William Futrell, E. Paul Swatek, Raymond J. Sherwin. Frugé, Futrell, Munger and Sherwin are incumbents. Members should vote for not more than five candidates.

On the other side of the ballot card will be one proposal for amending the by-laws.

The informational brochure will contain a statement from each candidate presenting pertinent background and his or her views as to the direction the Club should take, together with a picture. The brochure will also have the details of the by-law proposal, its intended effect, pro and con arguments, and the position of the Board of Directors and the Council on it.

If you do not receive a ballot by mid-March or mismark it, write, to CHAIRMAN, JUDGES OF ELECTION, Sierra Club, *Department E,* 1050 Mills Tower, San Francisco, CA 94104. If addressed any other way it will get delayed attention. If you mismark your ballot and wish a new one, please mark the ballot void and return it with a request for a new one. Do the same if you receive a multilated ballot. After appropriate checking, an attempt will be made to send a replacement ballot in time for it to be returned by the date of the election. Ballots are to be mailed back to *Post Office Box 7853,* San Francisco, CA 94120. They will not be opened until the time for counting.

The prepunched holes at the bottom of the ballot card will indicate to the computer that the ballot comes from a member eligible to vote. However, the unique, random number bears no relation to a particular member or membership number, thus assuring secrecy of the ballot.

Most of the nation's last major wilderness and many of the breeding grounds where over a third of the North American waterfowl nest are included in the 134 million acres in Alaska that may be saved for the public or opened to private exploitation, depending on the action of the Secretary of Interior. The Sheenjek River (above), a tributary of the Yukon, and the nesting ground near Kashunuk (right) are illustrative of the areas in question.

Never could so much be done by one man with one stroke of the pen as under the Alaska Native Claims Act. Secretary of the Interior Rogers C. B. Morton has the chance to set protective forces in motion in Alaska on up to 134 million acres. He needs to do this to keep it from being picked apart in a land rush that would otherwise ensue.

Alaska provides crucial nesting ground for more than 12 million North American waterfowl. Much of this essential habitat is not yet protected in wildlife refuges. It must be as it is vulnerable to exploitation, and would be ruined by oil pollution. Alaska's scenery is unsurpassed; spectacular areas like the Gates of Arctic, the Wrangells, and the south slope of Mt. McKinley and its north plain need protection. Never have there been so many areas in one place deserving permanent protection as refuges and parks.

Secretary Morton can preserve this country's options in Alaska if he acts by March 17, 1972. He needs to withdraw the 134 million acres by then to permit the selection of up to 80 million acres of the most valuable and vulnerable lands for full protection and to keep all the remaining BLM lands from disposal to private interest until they can be classified later for appropriate public uses.

Please urge Secretary Morton to seize these momentous opportunities—the fruit of the long battle by conservationists to assure that the settlement of Alaska Native Claims was also fair to the nation. Write him at once (Dept. of Interior, 18th and C Sts., N.W., Washington, D. C. 20240) to urge that he do this by March 17. This is your chance to do more than you ever again can to save Alaska's lands.

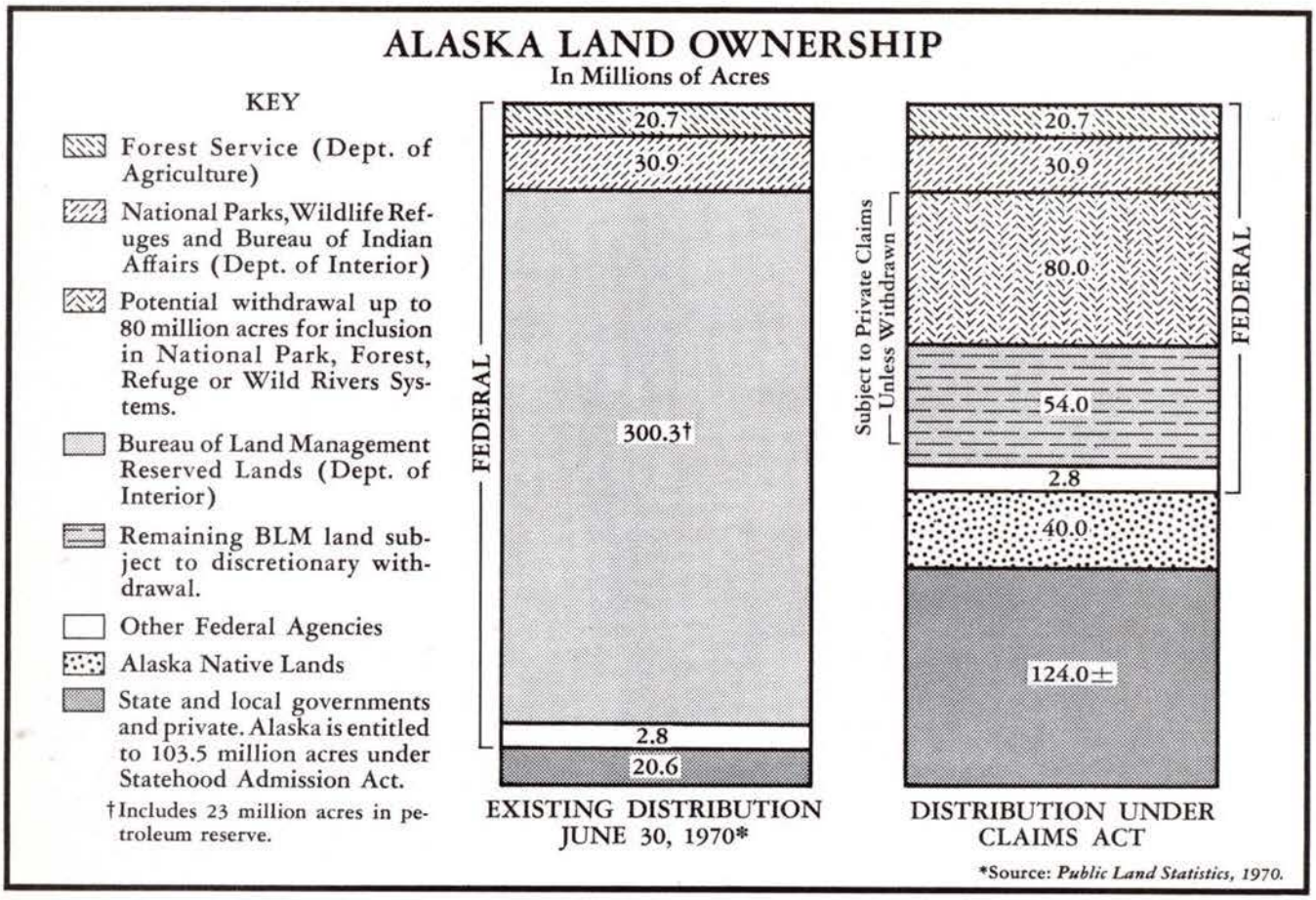
SHOWDOWN IN ALASKA

by Jack Hession

Sierra Club Alaska Representative

On January 21 and 24, Alaska Governor William Egan filed applications for 77 million acres of federal land in Alaska. His action was the first major move in the continuing contest for control of the public lands in Alaska since the Alaska Native Claims Settlement Act was signed by the President on December 18. This "complex omnibus settlement," as the House-Senate conferees called it, granted 40 million acres and $962,500,000 to the Alaska native peoples. It also directed the Secretary of the Interior to withdraw up to 80 million acres which Congress may designate as National Parks, Forests, Wildlife Refuges, or Wild and Scenic Rivers. The Secretary is also granted new authority to classify and reclassify the remaining public lands in Alaska. Another key provision allows the Secretaries of the Interior, Defense, and Agriculture the power to exchange lands under their jurisdiction for lands of the Natives, private individuals or the State of Alaska. The Secretary of the Interior also has the authority, which he has already exercised, to withdraw a pipeline corridor from Prudhoe Bay to Valdez, thus retaining it in public ownership. A joint State-Federal Land Use Planning Commission was established, but its powers are limited to recommendations only.

As expected, several of the Governor's applications include land that should be under the protection of the National Park, Wildlife Refuge, or Wild and Scenic River systems. Millions of acres in the central Brooks Range, Wrangell Mountains, Alaska Range, and other key areas have been applied for by the Governor. Much of this acreage should be withdrawn by Secretary Morton under his 80 million acre withdrawal authority and the matter referred back to Congress for final resolution.



Under the provisions of Section 17, the "national interest amendment," the Secretary must withdraw "up to, but not to exceed" 80 million acres of unreserved or previously classified BLM lands which are suitable for inclusion within the park or other systems. He has nine months (until mid-September, 1972) to finish making all of these withdrawals, but at the end of 90 days, March 17, the land freeze will end and the Secretary will then be competing with private claimants for the same land. All areas that should be included within the national interest withdrawals must be withdrawn from private entry by March 17 or we risk seeing them appropriated under the public land laws.

New Classification Authority

Congress, in the Classification and Multiple Use Act of 1964, gave the Interior Department authority to begin classifying the unreserved public lands. In Alaska the Copper River and Iliamna Classifications were made before the Act expired in 1970. Conservationists were not satisfied with the Bureau of Land Management's existing and proposed classifications because of the overemphasis on multiple use to the detriment of wilderness designations. However, the Act did provide a measure of protection for the public lands and any protection was desirable until the public land laws were revamped.

Recognizing that such classification authority was desirable, Congress provided for new classification authority in the Claims Act. In the report accompanying the Claims Act, the House-Senate conferees state that "It [the new classification authority] is . . . a very broad and important delegation of discretion and authority, and the Conference Committee anticipates that the Secretary will use this authority to insure that the purposes of this Act and the land claims settlement are achieved, that the larger public interest in the public lands of Alaska is protected, and that the immediate and unrestricted operation of all the public land laws 90 days after the date of enactment—absent affirmative action by the Secretary under his existing authority—does not result in a land rush, in massive filings under the Mineral Leasing Act, and in competing and conflicting entries and mineral locations."

Assuming a full 80 million acres in national interest area withdrawals, withdrawals for classification purposes could cover an estimated 54 million acres (see graph). Conversely, if the Secretary fails to make any withdrawals for national interest or classification purposes, about 134 million acres (80 plus 54) could be opened to a land rush. Secretary Morton is under intense pressure

from the oil industry, the State, and other developmental interests not to make any withdrawals. Non-competitive oil and gas lease applications covering millions of acres of unreserved land will automatically be issued if the freeze goes off without further Secretarial withdrawals. The State, which receives 90 percent of the federal royalties from oil and gas leasing, and which has applied for most of the balance of its 104 million acre allotment under the Statehood Act, has a vested interest in throwing the remaining unreserved public lands open to unrestricted oil and gas development. In many areas in Alaska such development is in direct conflict with proposed new wildlife refuges, particularly in the numerous sedimentary basins along the coast where a substantial portion of the North American waterfowl breed.

State-Federal Confrontation

In their haste to pass a Claims bill before the end of the last session, the House-Senate conferees reported out a bill that is ambiguous on the key question of selection priority—state or federal—with respect to the national interest areas. The Egan administration is now arguing that by getting the jump on Secretary Morton it has segregated 77 million acres, removing these acres from unreserved public lands status. Therefore, runs the State's argument, the Secretary cannot withdraw these lands since they are no longer unreserved, and unreserved lands are the only kind the Secretary may withdraw under the Claims Act. But the State's position seems contrary to the intent of Congress as expressed in the legislative history and the Act and it certainly is contrary to the intent of the national conservation groups that, backed by strong membership response, supported the national interest amendment in the face of strong opposition from the Nixon Administration, the oil lobby and the State of Alaska. The point of the Udall-Saylor amendment in the House and the Bible amendment in the Senate was to insure that the national interest was *not* pre-empted by the State. A court test of the wording of Section 17(2) may be expected.

Meanwhile, Secretary Morton has three options: he can make his national interest withdrawals without regard to what the Governor has staked out; he can withdraw only some of the national interest areas the Governor wants; or he can avoid conflict with the Governor's selections and withdraw other areas which he may deem of "national" significance. It is imperative that the Secretary ignore the Governor's selection and withdraw the Wrangell Mountains, Alaska Range, central Brooks Range, Seward Peninsula, Porcupine River and Charley River drainage systems and several other areas of unquestioned national and even international significance, otherwise the opportunity for new national parks, rivers, and refuges in these areas will be lost forever. The Governor has selected, to take just three crucial examples, the entire proposed Wrangell Mountains National Park, the entire proposed north and south additions to Mt. McKinley National Park, and millions of acres of what has been proposed as the Gates of the Arctic National Park in the central Brooks Range.

State ownership of these lands would mean multiple use management and—under the Egan administration—a disposal policy designed to preclude the establishment of *state* wilderness parks or refuges through the creation of large blocks of privately held land. Disposal and leas-

Native Selection Procedures

Under the Alaska Native Claims Settlement Act first priority in the land selection is given to the Alaska natives. Surrounding each of 200 native villages a block of twenty-five townships, 576,000 acres, is withdrawn from appropriation under public land laws for a period of four years. During the first three years the native village corporations will select areas from within these withdrawals ranging in size from three to seven townships, 69,120 to 161,280 acres, depending on the size of the village. Approximately 22 million acres will go in this manner to the villages. During the fourth year, twelve Native Regional Corporations, established by the bill, will select an additional 18 million acres from the twenty-five township blocks on an alternating township basis with the state.

Forty-six of the villages are within or close to the borders of National Wildlife Refuges. Land selected by these village corporations is limited to a maximum of 69,120 acres within each refuge. Subsurface rights equal to the amount of acreage chosen by the villages may be selected from nearby unreserved public lands by the regional corporations. Of the 20 million acres in wildlife refuges in Alaska an estimated one to two million acres could be patented to native villages under the Act.

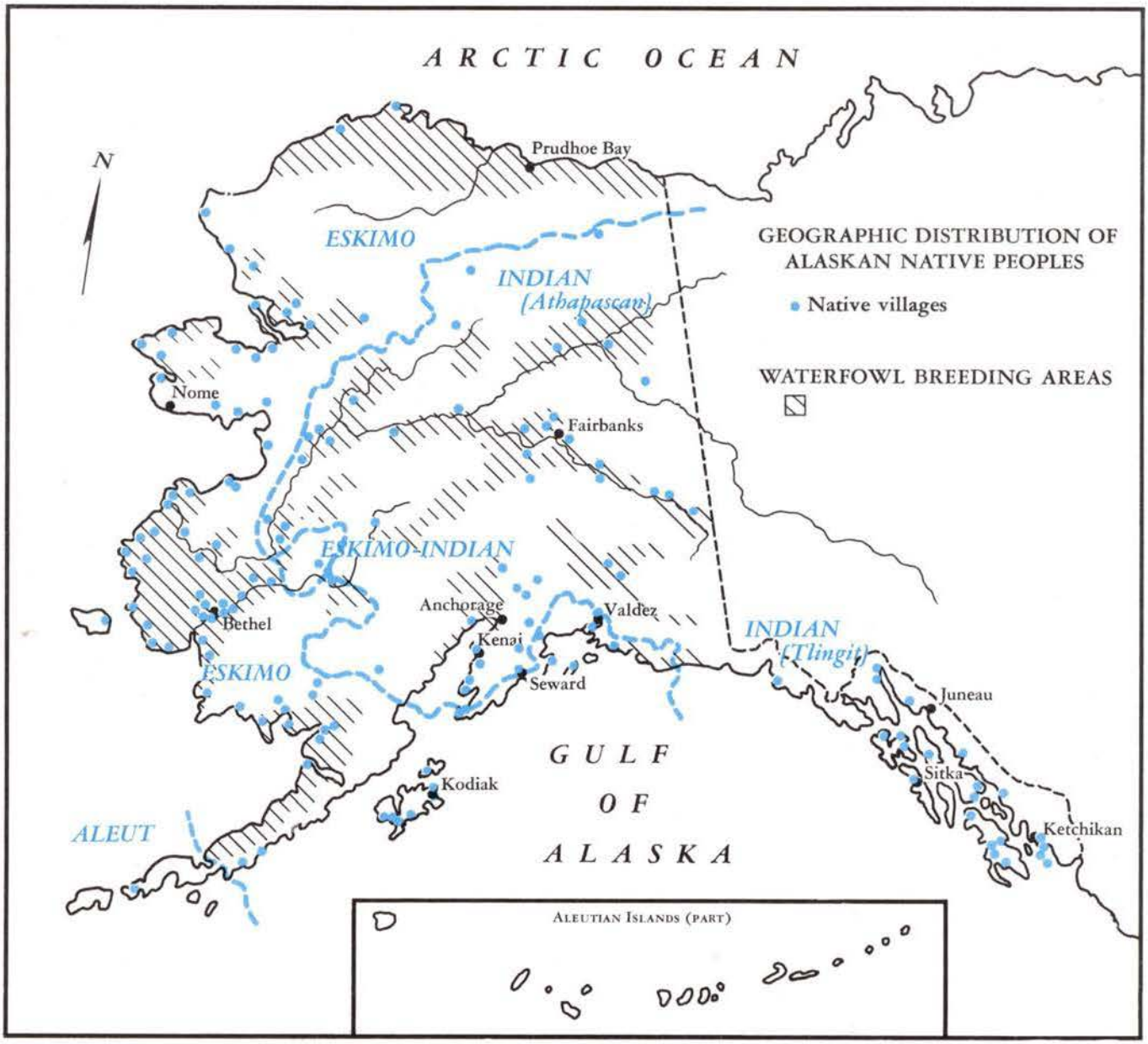
Other important provisions governing refuge lands provide that:

Acreage patented to native villages shall be replaced from other unreserved public lands;

The federal government has the first chance to buy village land selected from refuges if it is offered for sale;

Lands patented to native villages shall "remain subject to the laws and regulations governing use and devopment of such Refuge lands;" and

Authority is granted to the Secretary of the Interior to exchange further public lands for refuge lands patented to native villages if the natives concur.



ing are primary objectives of Egan administration land use policy—or lack of it.

The Egan administration's confrontation tactics follow from its stands in Congress of strong opposition to the continuation of the land freeze, comprehensive land use planning, and the national interest amendments. In opposing these provisions, it reveals itself as a captive of the oil industry, the hard-rock mineral prospectors, and other developmental interests. Had it represented all the citizens of Alaska, it would have supported continuation of the freeze and comprehensive planning, both of which would have enabled it to make careful land selections. Instead it has chosen the role of spoiler by using part of its allotment under the Statehood Act in an attempt to pre-empt the national interest in the national lands of Alaska. And it is now adding to the intense pressure on Secretary Morton to make few or insignificant withdrawals for classification purposes, despite the fact that interim protection of these lands is in the best interest of the State. For if the national interest prevails in key areas, the State will have in lieu, selection rights on other public lands.

But the national interest will not have a chance to prevail unless Secretary Morton acts soon and acts vigorously. Disposition of the public lands in Alaska has reached the crisis stage. Only massive conservationist pressure now will prevent the prospectors and developers of the Egan Administration from realizing their ultimate and long-cherished goal: the destruction of this nation's last superb wilderness.

New Strategies for Open Space

By Philip R. Pryde

One of the most critical and elusive needs of modern American cities is additional acreage in parks and open space. Experts disagree on just how much might be "enough," and even on what criteria should be used to establish standards. Finding answers to these problems may be hampered by subjective uncertainties but almost everyone agrees that the average American city needs far more than it has.

Why is it so hard to acquire and dedicate additional land for parks and open space, when everyone agrees it is so desirable? In many cases, there is a lack of recognition of the full role that parks and open space play in creating a quality urban environment. Their role in providing recreation and visual amenities might be appreciated, but less understood are their roles in photosynthesis, noise abatement, neighborhood enhancement, pollution abatement, flood control, erosion control, stimulating property values, ameliorating temperatures, isolating dangerous environments, providing psychological benefits, offering an educational potential, and in agricultural production, wildlife preservation, and many other intangible values. While politicians think of parks and open space as nice things to have around, they generally view them as expensive luxuries rather than as necessities, and even warn of the danger of becoming "park poor."

Far more often, however, the excuse is "we would like to acquire more park and open space land, but we just don't have the money." And indeed the cost of acquiring such land often borders on the prohibitive. Parks and open space are most needed in the already built-up portions of major cities where land prices are apt to be the highest. Urban land is usually too expensive to obtain in fee simple. Nor do scenic or development easements hold much promise, for acquiring the right (not) to develop from an eager owner typically costs almost as much as purchasing the land outright. Voters sometimes pass open space and park bond issues, but these purchase little land at the inflated prices which urban and suburban land commands today.

A tool now being used in some states is the concept of "agricultural preserves"—agricultural land that receives a substantial tax reduction in return for guarantees that it will be left in agricultural use for a predetermined length of time. This system has three potentially serious drawbacks. Developers can put land into agriculture that they weren't intending to develop immediately, reap a tax bonanza on it for a number of years, and then develop it later when its market price has risen to still more lucrative levels. Secondly, if large areas of a county go into agricultural preserves, the taxes on the remaining property owners, or on other sources of tax revenues, go up. Third, as these preserves are established at random, their location is not necessarily where open space is most needed, on valuable suburban land. Nevertheless, as local governments work to solve these problems, this method of open space preservation may gain in popularity.

Other innovations and new procedures for park land acquisition have gained currency in the last few years. One is Public Law 91-485. This act, passed by the Congress in 1970, provides that surplus federal lands may be acquired by local governments for park purposes, often without cost. This will be of tremendous benefit to cities that have facilities such as obsolete military bases within them, but will not provide much relief for the majority of large American cities.

Another promising enactment in California is a fairly recent state law (1965) which permits cities to require developers to donate a portion of their subdivision for neighborhood parks, or pay a fee, to be used for park acquisition, in lieu of giving land. They can be required to donate land up to the standard for neighborhood parks in the general plan. A debatable point in this legislation, however, is whether developers should be allowed to substitute private open space (as in cluster developments, etc.) for publicly accessible park land. Setting a maximum fraction of the donation requirement that could be fulfilled by private open space (25 percent, for example) might represent a reasonable compromise.

California has also provided a simplified method for cities to acquire outlying open space, a method which might be emulated in other states. Many cities are permanently stuck with impossibly small 19th century boundaries, are overbuilt, and have no method of acquiring open space. The California legislature passed a law in the

1971 session which would allow cities to annex up to 400 noncontiguous acres for park or open space use. Such action might also be useful to a city which might want to acquire land at low cost for future park development in an outlying rural area which could become residential in the future.

Despite these and other new approaches, the general picture still is not encouraging. The long-sought goal of "green cities" remains largely a dream. Although in almost any major American city you could find examples of successful parkland acquisition or open space preservation, the overall conclusion would be that the existing traditional methods of open space preservation are inadequate to meet the needs of young, growing cities or of older, deteriorating cities. Basically, the problem is that those who do not understand the needs for urban parks and open space, and those who insist on reaping a sizeable profit for turning over their land for parks, have all the trump cards. A whole new approach to park and open space acquisition is needed, one that will give these vital amenities high priorities and that will place a few high cards in the hands of the public. The following are some possible ways in which this might be approached.

First, tax assessments should be made on the actual market value of a piece of land. In theory this is what happens, but in practice it's not. The assessed value of a parcel of land for tax purposes is often only a fraction of what it could be sold for on the market—and of what a city would have to pay for it if it tried to buy it for open space. For example, Tecolote Canyon is a key piece of open space in San Diego, a city where property is supposedly assessed at 25 percent of its market value for tax purposes. The acreage in Tecolote Canyon was assessed at about $275,000, which supposes a fair market price of about $1,100,000. But what was the price quoted to the city if it wanted to purchase the canyon for open space? From $5,000,000 to $7,000,000. Is it any wonder taxpayers are unenthusiastic about bond issues for open space? If the developer wants $7,000,000 for his property, he should be paying taxes on it.

A new approach has been proposed which obviates this situation. Each year every owner of undeveloped land declares the value of his land (within certain necessary guidelines). That amount then becomes the value he pays taxes on, and it is also the automatic selling price if he wishes to dispose of it during the year or if the city wishes to acquire it for public purposes. Such a procedure would work best on undeveloped land, but ways might be devised to extend it to developed land as well. Although the proposal might have potential difficulties, it certainly merits further examination.

Second, a new method for determining "just compensation" in eminent domain proceedings is needed. The Fifth Amendment to the Constitution says that government cannot acquire a person's land, even for the best of reasons, without just compensation. But what constitutes "just compensation"? This has usually been interpreted as meaning the city must buy it at the going market price. But is this the only way that "just compensation" can be achieved? Certainly with a little imagination alternate methods could be developed.

Speaking as a social scientist aware of the legal difficulties involved in adopting such an alternative, I suggest the use of an "equal rate of return" system. In this method the price received for condemned land would be equal to the original purchase price compounded by the average bank interest rate in effect each year the property was held, plus the depreciated value of any improvements made on the land. If the land was acquired by other than direct purchase, the original value could be approximated by the going price on similar land at the time it was acquired, or, in the case of long-held property, for some arbitrary base year. This system would guarantee the owner of the land a compensation that was economically just, since it would equal what he could have realized by selling his land in the base year and banking the proceeds. It would even guarantee him a certain profit, and it would usually guarantee the city acquisition at a lower price.

The concept of profit, however, raises a second and perhaps more controversial question. Why should developers feel there is an implicit, almost "guaranteed" right to be protected from down-zoning losses on real estate holdings? It is commonly assumed, even by open space advocates such as William Whyte (*The Last Landscape*), that landowners cannot undergo devaluation of their property (or lose development rights) due to down-zoning to open space categories such as agriculture, without obtaining compensation. Therefore, even though local governments have a legal right to make zoning decisions which may greatly lower the value of a developer's property, they very often decline to do so out of a fear that the developer will claim "inverse condemnation," demand compensation, and round up his lawyers.

But why should cities be intimidated out of down-zonings that are clearly in the public interest? Why should real estate speculators feel that they ought to be immune from losses caused by down-zonings of their property? There is no guarantee that government decisions won't reduce the value of other kinds of investments. When I invest in a common stock nobody guarantees me a profit; governmental decisions may cause me to "lose my shirt." If the government cancels a contract with my company, or institutes anti-trust proceedings against my conglomerate holding, my stocks go down, and I accept that as part of the investment game. Why should it be any different with land? I buy land, and if

I'm lucky the city zones it (or keeps it zoned) for development; if I'm not lucky, they zone (or rezone) it for open space. What's good for one type of investment should be good for another, yet a double standard does exist at present. The courts should make it clearer that local governments can down-zone to agriculture, flood plain, recreation, and open space zones so long as the owner is left with some productive possibility for his land. It should be made clear that they can down-zone to agricultural uses, for example, even if it means that the developer, who has no visions of anything except a sub-division, must re-sell the down-zoned land at a loss. Is it not curious (and inconsistent) that it is "right" to up-zone land and hand a developer a windfall profit, but not to down-zone to the point where you might possibly *deny* him a profit?

An alternate method for handling this problem of down-zoning has much merit: the up-zoning tax. The up-zoning tax is simply a tax on the increased value a developer's land realizes when it is rezoned for more intensive use. This tax revenue could go into a dedicated fund either to buy or maintain park land or to compensate developers when their land is down-zoned. This, in effect, still guarantees a speculator a right to a profit on land transactions, but it lowers the amount of that profit somewhat. The down-zoning of all land to present use would probably be required to make this system work.

The practicability of these proposals could be bolstered by accepting the following premise as necessary in the context of crowded and deteriorating modern American cities: in any area development rights should be considered as privileges granted by the public's representatives, not as incontestable rights inherent in the ownership of land. Since *Euclid vs. Ambler* in 1926, cities have had legal zoning powers which enable them to grant or deny certain rights regarding the development of privately owned land, e.g., I can't put a pig farm on my residential property just because I own it and happen to like pigs. Why should any governmental body which is legally empowered to make zoning decisions not have the *sole* authority to grant any and all development rights? Land in a zoned area should not have *any* inherent development rights attached to it that have not been specifically granted by the governing body. Such a concept, of course, might require a constitutional amendment, but much stronger breaks from previous tradition have already been incorporated into the constitution. Such an act would greatly simplify open space preservation, and would preclude developers from demanding compensation for "lost value" on their land when it is down-zoned, or when permission to up-zone or to develop is denied. The up-zoning tax would still be applicable under this concept.

By declaring that development rights are granted and taxable rights, not inherent ones, open space areas in a city could be laid out on the basis of public health and aesthetic considerations with little cost and delay. Such an understanding of development rights would also eliminate legal accusations that cities are acting discriminately when they don't rezone similar parcels of land equally. All land would in effect be zoned open space until specific permission to develop was granted, and the value added tax would prevent windfall profits in up-zoning decisions. Nor could it be argued that such a basic open space zoning for all land would take away all development rights, for certain economic activities compatible with open space, such as agriculture and golf courses, would still be permissible.

An equally unorthodox suggestion has been put forth to solve the whole problem—that cities should own all the undeveloped land within their legal boundaries. They could then do with it as they pleased. In this proposal it is assumed that the fantastic cost of acquiring the land would be recompensed by the income derived from leasing the land back to its present owners or selling development rights. One fears, however, that the temptation to put the land to its "highest and best use," which in the conventional wisdom means "develop it intensively to get the tax income," would prove as irresistible to city-landholders as it now does to individual developers. Unfortunately, very few city councilmen have read the Livingston and Blayney report on Palo Alto, California, which suggests it might cost the city more to develop a large, newly annexed area than to keep it in open space. Nevertheless, a few planners find the city-owner idea very attractive to contemplate.

These represent a few of the new approaches that have recently been put forward to deal more effectively with the urban park and open space problem. Some are undoubtedly more practical than others. Some have been tried, some have not. All of them are based on the supposition that parks and open space are items of very high priority in urban areas and that securing them is at least as important as securing new tract housing, new skyscrapers, or new freeways. Not everyone would agree with these suppositions. And certainly not everyone will agree with the measures outlined above for simplifying public parkland and open space acquisition. But public attitudes on matters such as these can and do change. What was "politically impractical" a few years ago suddenly becomes very practical as soon as the public demonstrates it wants it badly enough. And the courts' interpretation of "the public interest" can and does change correspondingly. "Environmental Bills of Rights," which give citizens constitutional rights to clean air and water and a healthy environment, are no longer considered radical and are in effect in some states at the present.

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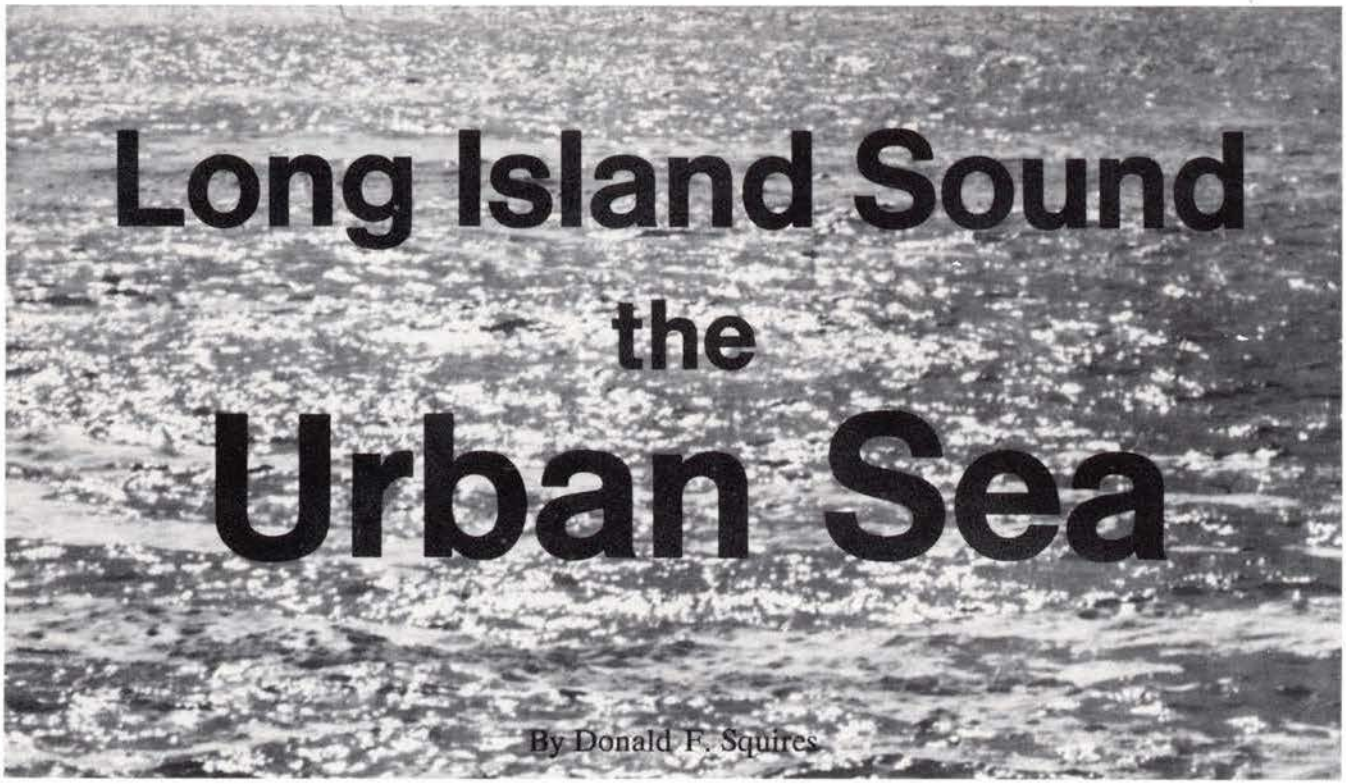


Long Island Sound the Urban Sea

By Donald F. Squires

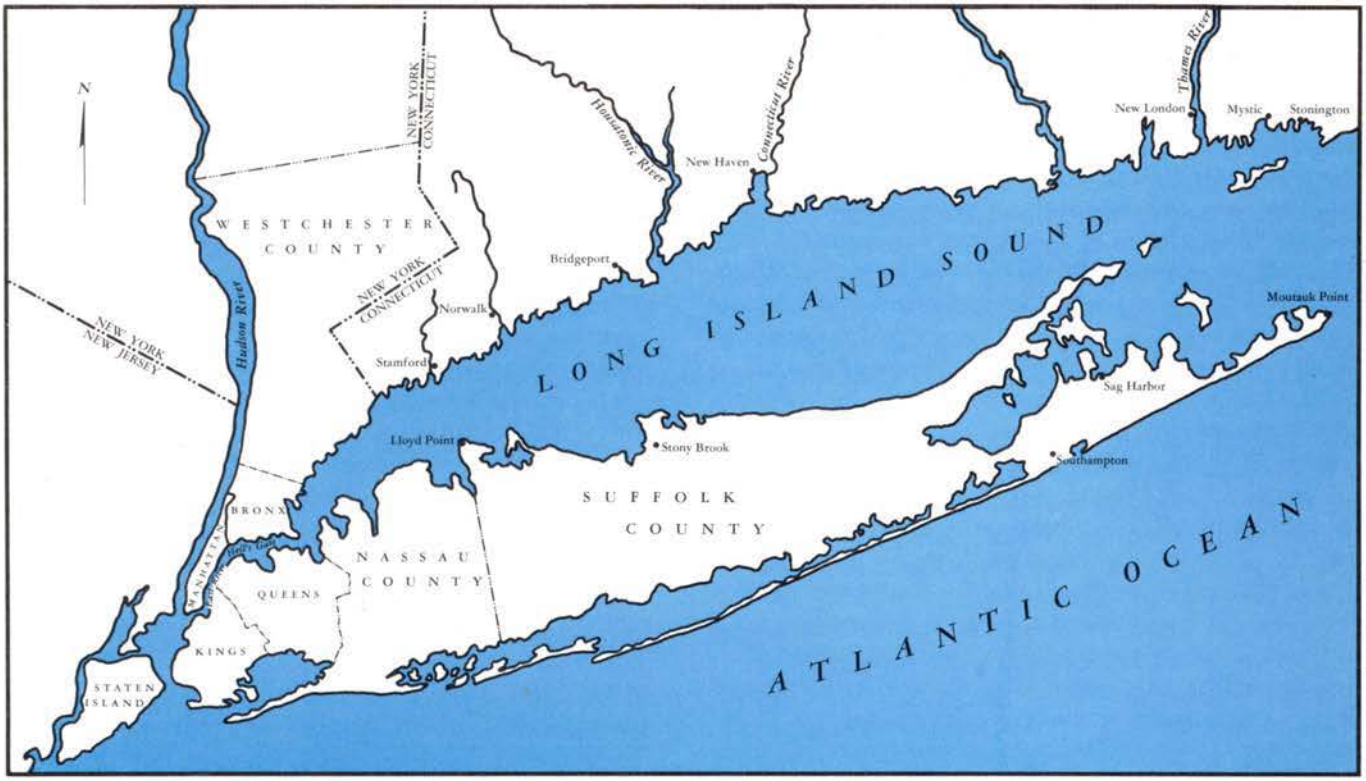
Some 10,000 years ago the great wall of ice which covered most of northern North America stalled in its advance, retreated and advanced again. Two great ridges of sand and gravel, over 100 miles in length and up to 30 miles in width, were piled up on the Continental Shelf ten to fifteen miles off the Connecticut shore forming, when the ice withdrew, Long Island. As the ice continued its retreat a fresh water lake was formed in the embayment between the glacial ice on the Connecticut shore and Long Island. This soon was replaced by sea water, forming what is now Long Island Sound.

Because of this geological history, Long Island Sound is not a typical estuary with a great river at one end, the sea at the other. The Sound is an enclosed arm of the Atlantic Ocean, with several important rivers such as the East Housatonic, Connecticut and Thames Rivers, draining into it. But this is not what makes Long Island Sound of interest today, but rather the fact that this body of water has become an urban sea.

Today the Sound is a playground for some 12 million people. On its shores the citizens of New York and Connecticut bathe (where possible), boat, race, fish, bird watch, dig for clams (where possible), and earn a living through shell fishing and fin fishing. Today the Sound is also used as a dumping ground for 1.8 million tons of dredge tailings, materials from metropolitan excavations, and for waste products of certain industries. Additionally, sixty municipal sewage treatment plants discharge over 170 million gallons of waste water per day into the Sound, and it receives the waste heat of power plants generating more than 3,000 megawatts.

What makes this urban sea interesting is that from the Metropolitan complex of Queens and Westchester Counties on the western boundaries of the Sound, the scene changes slowly and steadily to the east as urbanization gives way to suburbia and finally to the agricultural areas of eastern Long Island and eastern Connecticut. (Suffolk County, Long Island, is the leading agricultural county in New York State.) Here, at the eastern end of the Sound, the cluttered, industrialized shoreline and the hustle and bustle of harbor, airports and bridges has given way to the open coasts which still have vestiges of their earlier maritime history. Mystic Seaport, Connecticut, with its whaling museum and square riggers, is matched by the quaint village of Sag Harbor, Long Island and its whaling museum and traditions. Old oyster industries, once a multi-million dollar venture in Long Island Sound, still hang on, but only a few companies are still fighting the increased costs of labor, starfish, and pollution. The famous Stonington fishing fleet still operates and the Stonington dragger, though no longer built, is still a familiar sight in this area.

Long Island Sound presents the full spectrum of man's impact on the sea from the urban sea at the western end to the open, relatively unpolluted waters at the eastern end. The eastern end of the Sound is relatively open and has good exchange of water between the Atlantic Ocean and Block Island Sound. At the western end, access to



the sea is greatly constricted through the East River, a tortuous channel which, before the boulder fields of Hell's Gate were cleared, was considered one of the most difficult passages for sailing ships. The exchange of waters between the New York Harbor and western Long Island Sound is still a subject of debate among hydrologists, but apparently there is a great input to the Sound of nutrient laden waters derived in large part from the sewage treatment plants of Manhattan, Queens and Westchester Counties.

What has happened to Long Island Sound over the years? Nothing dramatic. Just a slow, general, wasting through misuse coupled with a general indifference because the problems were not observable by the public. In the past few years the situation has changed; public awareness of the importance of the Sound has reached high levels and the public concern expressed by civic and conservation groups has not been unheeded. Spurred on by the activities of these groups, Senator Abraham Ribicoff of Connecticut and Congressman Lester Wolff of Long Island sponsored legislation in the Congress to establish a Long Island Sound Commission to study, recommend and manage this body of water. In response to the congressional action, President Richard Nixon, by executive order, increased the responsibility of the New England River Basins Commission to include the waters of Long Island Sound and called for a three-year study to formulate a 20-year plan for its management. As with so many of these actions, the legislative and executive intent has not been backed with funds, and presently the Long Island Sound study is making haste slowly.

The most pressing problem of Long Island Sound, to isolate the one single factor to which to attribute its present decay, is the concentration of sewage outfalls in the western end. The impact of sewage and the resulting biological stimulation from the nutrient materials placed in the waters has caused responsible reporters to project the imminent death of Long Island Sound — the difficulty is to define "death". The immediate observable impact of sewage outfalls is the build-up of what has been termed a "nutrient-wall" at about a third of the length of the Sound from its western extremity. From the "normal" levels of nitrates and phosphates, the essential chemical building blocks for life, which exist in much of the eastern Sound, there are sharply increasing values from roughly the point of Lloyds Neck westward. In the westernmost portion of the Sound, the concentrations of nitrogen and phosphorus are among the highest in marine waters anywhere in the world.

Each year the tiny plants of the sea, the phytoplankton, the base of the entire food chain of the sea, respond to the lengthening day and the slight warming of the water temperatures by increasing in numbers. This rapid growth of the phytoplankton is termed a bloom, and the growth intensity of the bloom is governed to a large extent by the nutrient materials in the waters. In short, when the phytoplankton bloom begins, the single-celled plants divide, grow and divide again, increasing in numbers un-

til all the nutrients which support their growth are exhausted. The numbers of these plants then fall off sharply to a base level where the "crop" remains at a relatively stationary level until the waters build up a new supply of nutrients. In Long Island Sound these blooms generally occur in February and August. As man has increased the nutrient levels of the Sound through introduction of sewage, the intensity of the blooms has increased with time until they have reached the critical point at which the wildly developing populations of phytoplankton have gone beyond the point of being beneficial to the environment and have become, at their peaks, detrimental.

The problem of extreme phytoplankton blooms, the result of a process called eutrophication, has many dimensions. Upon death of the phytoplankton individuals, many species of which have very short life spans, the organic material of the cells sinks and is oxidized by the dissolved oxygen contained in the waters. Organic material added to the Sound through sewage also utilizes oxygen in the waters, further reducing amount of oxygen available to organisms living at or near the bottom. Depletion of oxygen in the western portion of the Sound has reached levels which are now critical for many months of the year — and new sewage plants being developed by communities on both the Connecticut and Long Island Shores call for additional outfalls. Despite the fact that the sewage will be "highly" treated, the treatment is not sufficient to remove the nutrients from the waters and the situation can be expected to worsen.

Long Island Sound once boasted a commercial fishery of consequence, but today there are very few commercial fishing activities left. Pollution is only one factor in this reduction, for with the increase in human population the Sound has become an important recreational fishery area. Although current fisheries data are sketchy, there are many indications that the problem of the Long Island Sound fisheries may result from the competition between the sports fisherman and the commercial fisherman for the same species of fishes, with the sportsman taking the largest portion of the catch. Though the commercial fisheries are highly regulated and much scientific effort has been put into the development of management programs for commercially important species, salt water recreational fishing is largely unregulated and management techniques have not yet been developed comparable to those of the fresh water fisheries. Even though the sports fishermen may be taking the largest portion of the catch, the laws are still oriented towards protecting the sports fishermen rather than the basic fishery itself.

Fishes taken in Long Island Sound are beginning to show distressingly high levels of mercury. Larger specimens of bluefish and striped bass, both highly prized by the sports fisherman, have shown mercury contents as high as 1.2 parts per million. Should these values continue to rise an important recreational asset may be lost. Here, however, the problem is less well defined and may not be assessable against the waters of the Sound. Most of the species of fish taken in the Sound are migratory, ranging from Cape Cod to the Chesapeake Bay. Much research must be devoted to determining where these species acquire the mercury before we will be able to control the problem.

Shell fisheries, once an important industry for Long Island Sound, are hard pressed on many fronts. Oyster spat produced in Connecticut were formerly taken out to beds in Long Island Sound to grow to market size. High quality marketable oysters were produced in large quantities until the mid-1950's when the industry was decimated by an influx of predatory starfish. The cause of the invasion is still unknown and the starfish remain. Their presence alone, but with the situation worsened by pollution, has resulted in the almost complete collapse of the Long Island Sound oyster industry. At the present time efforts are being made to revive the production of oysters through mariculture including the use of heated waste waters from power plants for stimulating more rapid growth of the oyster. These efforts, however, are still very small in scale. Pollution has affected recreational shell fishing in Long Island Sound. At the present time over 75,000 acres of bottom lands have been closed to shellfishing because of contamination by coliform bacteria from human sewage.

The New York Bight region has received a great deal of national publicity because of the dumping of sewage sludge in the coastal ocean. While newspaper reports often include the word "garbage" in describing these dumping practices, in fact no garbage is dumped at sea in the New York region. But Long Island Sound is the unhappy recipient of 1.8 million tons of debris dumped yearly in its nineteen designated dumping grounds. The materials dumped here consist primarily of dredge spoils from harbor management programs. These spoils present a very real hazard to the future of Long Island Sound. Studies conducted at the Marine Sciences Research Center demonstrate that most dredging operation sites are industrialized harbors which receive both treated and untreated sewage and industrial wastes. As a result a thick accumulation of fine grained, highly carbonaceous material has built up on the harbor bottoms. It is this material which is most frequently dredged and carried off to the dumping grounds. The restirring of these fine grained sediments exposes the organic material contained in them to the waters of Long Island Sound, creating yet another drain upon the oxygen of its waters through release of contained nutrients. It may also release various toxic or deleterious chemicals derived from industrial wastes into the waters of the Sound.

Dredging operations are manifold in the waters of

Long Island Sound. They range in scope from the maintenance of major channels for commercial shipping to the opening of shallow embayments for recreational boating and the construction of marinas. Over 185,000 pleasure craft are registered in areas surrounding Long Island Sound. Nowhere has this been more important than on the eastern end of Long Island where the number of natural harbors decreases rapidly to the east and the pressures from population growth in the last decade have created long waiting lists for marina space. To meet these demands, local authorities dredged wetlands at increasing rates. Recently the trend has slowed as pressure from conservation groups and the environmental community has led, in certain areas, to the placing of very high priority upon public acquisition of wetlands and their preservation as open space and vital segments of the marine ecosystem. However, the action came sufficiently late so that between 1954 and 1964 over 29 percent of the wetlands of Long Island were lost.

Oil is a perpetual problem. Long Island Sound has not been looked upon as a favorable site for the production of oil, and the nearest producing areas are sufficiently distant to not directly endanger its waters. However, the Sound does provide a sheltered corridor for the transport of oil by barges and small tankers. Both sides of the Sound are dotted by tank farms and oil transhipment facilities. In 1970 and 1971 major spills of over 300,000 and 600,000 gallons occurred. The impact of large volumes of oil in marine waters is a part of the dreary litany too well known to environmentalists. However, potentially more serious, and more difficult to assess, is the cumulative effect of the small spills occurring at transhipment points over long peirods of time. Though the volumes of each spill may be undramatic, the biological effects may in time be as important as the larger, more conspicuous events which catch the public eye.

The catalogue of woes of Long Island's waters has been scarcely touched. Unwritten here are the effects of pesticides, PCB's, agricultural run-off, changes in freshwater run-off through increasing utilization of groundwaters on Long Island, the effects of highway expansion upon recreational areas, and the process of urbanization. To end on such an unhappy note is to do Long Island Sound's clamoring public a great disservice. There is a great deal of positive action and, to a large extent, it has been generated by pressures from the public who now clearly see the deteriorating water quality.

Both Connecticut and New York State, through their environmental agencies, are beginning to take tougher positions in the enforcement of existing regulations. Many will reckon that these actions are too little, too late, but the direction is correct. Connecticut has passed a Wetlands Act which provides for greater State control of wetlands areas. Suffolk County, Long Island, is proposing legislation requiring zoning review by the County rather than solely by local municipalities. A Regional Planning Board established by Nassau and Suffolk Counties has made pioneering efforts in attempting to integrate the quality of the marine environment into regional planning. The Board established an advisory group, the Regional Marine Resources Council, which has engaged in a program of research which will lead to a comprehensive management program for the marine region of the two counties. Citizens' groups have emerged as an active and potent force in guiding public opinion and governmental action. Groups such as the Nature Conservancy, the Audubon Society, and more recently the Sierra Club, are continuing long standing efforts to conserve the natural resources of the Sound. Other, newer environmental groups have joined forces, such as the Long Island Environmental Council and the Junior League in New York and Connecticut. The governments of New York and Connecticut have begun discussions leading to the development of a compact providing for better controls for Long Island Sound.

What of the future? It is not wise to attempt to predict the course of events about which so little is known. Surveys of Long Island Sound conducted in the mid-fifties by the Bingham Oceanographic Institute of Yale University, and in the past two years by the Marine Sciences Research Center, State University of New York, provide only two points on a graph of water quality. Projection beyond these points becomes an exercise in anticipation of the wisdom of the people. The accumulation of pollutants in Long Island Sound has probably not reached its maximum and the levels of metals, insecticides and nutrients will continue to increase for as much as ten years.

Will the recuperative forces of Long Island Sound be pushed to the point beyond which environmental quality precipitously declines? The prospects for the urban sea are linked to the future of the cities. If we save the cities, restoring the quality of their environment and life experiences, we can do the same for the urban sea which provides so much life enhancement for the populace living on its shores.

Dr. Squires is director of the Marine Sciences Research Center and professor of Biological Sciences and of Earth and Space Sciences at the State University of New York, Stony Brook. A Research Associate at the American Museum of Natural History and the Smithsonian Institution he is also an Associate for Natural History Information Resources at the Smithsonian. Dr. Squires is the author of numerous biological, geological, and oceanographic articles.

Electric Power: An Environmental Dilemma

Energy is a multi-dimensional problem. And electric energy is its fastest-growing dimension. With growth rates currently doubling every ten years, and with electric supplies already strained in a few places at peak periods, it is clear that either the demand must be curbed or more power must be produced.

Environmentalists, scientists, economists and utility representatives recently examined the problem of electric energy consumption and production at a three-day Policy Conference on Electric Power at Johnson, Vermont. They tended to view the problem not so much in terms of a lack of supply of electric power, but rather in excessive rates of growth and demand. From that premise, they reached two broad conclusions: first, that the economics of electric power consumption control its demand; and second, that radical changes in lifestyle probably are not necessary to reduce the demand.

Pricing is one of the most sensitive controls: if the price of electricity rises, the demand will decrease more than proportionately among residential consumers. The importance of this premise is underlined by the fact that residential consumption of electric energy accounts for 34.4 percent of the total amount produced, and by 1990, the residential sector alone will devour more electricity than all the other sectors combined use today. Just in the past ten years, an astonishing jump in residential electric consumption was recorded: from 1962 to 1969, it increased by just over 50 percent.

Pricing strategies to control demand by the residential consumer are not a simple matter, however, for they must avoid placing the burden on the poor. Because only middle- and upper-income groups can afford a multitude of appliances, they consume most of the power. Price increases applied to them should decrease demand. A policy of social equity, however, might suggest a price decrease for lower income groups. However, this should not increase demand much since they will still lack the income to buy expensive appliances. And even if 21 million poor people were provided with a guaranteed annual income, Eric Hirst of the Oak Ridge National Laboratory argued that only a 4 percent increase in electric power consumption would result, assuming they would demand an average of 7,000 kilowatt hours per year.

Four pricing strategies were debated at the conference by economists: first, internalizing social costs; second, increasing the price of electric power at peak periods; third, marginal unit pricing; and fourth, changing the rate structure.

Marc J. Roberts, an assistant professor of economics at Harvard, favored internalizing social costs. Electricity "has really been sold 'too cheaply' — exactly because companies have not had to face the costs of using environmental resources," Roberts stated. "As a result, people have had a tendency to buy 'too much' electricity. The theory says that if the price system is to do its work in allocating resources, the prices of electricity and all other goods whose production causes environmental deterioration should rise." Roberts maintained, however, that this theory does not work in reality, because the price system is badly adjusted. Many goods are sold at prices that do not reflect the costs of producing them at the margin. He suggested that the overall cost increase for the production of cleaner power would be between 5 and 25 percent. The cost of sulphur oxide control for power plants would cause a less than 10 percent increase in electricity rates, and the use of cooling towers would result in a 5 to 10 percent increase in current costs. In turn, the price of goods produced with electricity should rise very little, probably less than 1 percent in most cases, since electricity is not that important a cost of production. "For most industries worried about pollution control," Roberts observed, "the direct expenses of cleaning up their own wastes will be of much more concern to management than having to pay for cleanup in the power sector through higher rates." He concluded that environmental protection in all forms, directly and indirectly, will cost the consumer three to five hundred dollars a year, including about $100 for automobile emission controls per car per year. Industrial and water pollution control costs could be absorbed in a 1 to 3 percent general price increase.

A second pricing strategy would make the rates for peak consumption of electric power high enough to place the costs of that power on those who consume it. Professor Richard A. Tybout, an economics professor from Ohio State University, advocated charging a higher price for power consumed during peak hours. The current system on which rates are based charges a rate which is uniform throughout the day. Tybout demonstrated that residential consumers take proportionately

more of their power at peak times than do other consumers, and urged that they be billed more accordingly. Industrial consumers have mixed incentives; they can spread their consumption through the day, increasing their load factor, for example, in order to reduce demand charges. "To the extent that peak load demand is intensified by rate structures," Tybout said, "the utility has the incentive to expand in the long run. It is the peak demand that sets the need for plant capacity." He concluded that the current average-cost pricing approach has the effect of imposing peak costs on nonpeak users, thus some nonpeak usage is subsidizing peak use and therefore peak use is larger than it would otherwise be.

Tybout also discussed a third rate strategy, marginal unit pricing. A refinement of peak pricing, this theory sets different rates for winter and summer, and various rates for different times within those seasons. Marginal cost pricing is used by Electricite de France, the national power enterprise supplying about two-thirds of the electric power in that country. In winter, it establishes different rates for three periods: peak hours — four peak hours a day every day except Sunday, from November through February; full-use hours — the period from 6 a.m. to 10 p.m. every day except Sunday and outside of the peak hours; and slack hours — the period from 10 p.m. to 6 a.m. during the week and the whole day on Sunday. A completely different system is utilized during the summers. Many experts oppose the complexity of this strategy, maintaining that it would be difficult to apply to the various customer classes.

The final pricing strategy involves changing biases in the current rate structure. Under the current diminishing block rate system, the largest consumers of electric energy, industrial firms, are charged the lowest rates. Some conservationists suggested increasing block rates in the industrial sector in order to curtail electric power consumption as a means of reducing pollution output and other environmental damages from power production. Others recommended reducing the slant in the rate curve, particularly in the context of rate increases. Vic Reinemer, a member of Senator Lee Metcalf's staff, instead advocated equalizing the rates for all customers, which would increase the price for industry but cheapen it for residential consumers. However, this could dislocate industrial use patterns and increase residential demand. Some conservationists suggested completely reversing the rate structure, a practice which could well put some large industrial consumers, such as the aluminum industry, out of business.

The actual amount of electricity required to clean up the environment was discussed by Professor of Engineering Timothy J. Healy, who based his studies on the new Bay Area Rapid Transist System (BART) in Northern California and on sewage treatment costs. He questioned industry spokesmen who have indicated that vast quantities of electric energy would be needed to clean up the environment. "We would suggest," Healy said, "that the quantities are 'vast' if they represent a significant amount of the national electric energy growth rate, which is about 7 percent a year. Let us define significant as perhaps 0.5 percent per year. That is, if environmental needs alone lead to a 0.5 percent growth in use per year, then we would say that environmental needs were responsible for a significant amount of the growth. Otherwise we would insist that other causes are responsible for growth."

Healy's studies showed that when BART begins operations there will be a one-time electric energy growth of about 2 percent per Bay Area resident, based on an "electric energy budget" of 7,300 kilowatt hours per year for each American. As this is only a one-time increase and should not be compared to a growth rate per year, "it would appear reasonable to average the growth over the life of the system," Healy said. "Such an approach would reduce the yearly growth rate to a *maximum* of perhaps 0.1 percent," well below the "significance" figure of 0.5 percent. His studies of sewage treatment at the advanced secondary level showed an increase of about 0.2 percent of the electric energy required by each American citizen, however, averaged over the life of the sewage plant the increase is reduced to less than 0.01 percent per year. "We conclude finally that while it *may* be true that we will require vast amounts of electric energy to save our environment, there is some evidence that such demands are not so great," Healy stated. "We should not use our environmental needs to justify our huge rate of growth until or unless we obtain much more evidence to support such need."

Recycling could lead to an actual reduction in the net amount of electric energy consumption according to one expert. Eric Hirst examined the recycling process versus the production of goods from raw materials and concluded: "If we, as a nation, produced half our steel and aluminum from recycled scrap, eliminated 50 percent of our packaging materials, replaced half of our automobile travel with mass transit, and used half the energy in power plant thermal discharges, our annual energy budget would be reduced by 12,000 trillion BTU (British thermal unit, the quantity of heat required to raise the temperature of one pound of water one degree Fahrenheit), a 17 percent reduction."

The second broad conclusion reached at the Conference was that radical changes in lifestyle are probably not necessary to reduce electric energy demands. As the residential sector is the most significant consumer of electricity it is therefore the best target for curbing demand. Studies by Professor Alfred Levinson of the University of California, Berkeley, have shown that it can be done relatively painlessly. He pointed out that in 1970,

electrical energy use by small appliances constituted nearly 10 percent of all residential demand or more than 3 percent of total demand. The AEC uses 5 percent of all electrical energy. The aluminum industry, the single largest consumer of power, uses 7 percent and the steel industry uses 5 percent. Small appliance use of electricity does become significant when compared with major consumers of power, "therefore," said Levinson, "it becomes clear that our attention must be directed not only toward the major cause of this increase but toward all household uses of electricity."

Space home-heating and air conditioners have accounted for the greatest increase in residential electric power demand in recent years. Levinson noted that "the use of electric power, with the exception of heat pumps, is a most inefficient method of heating a home. Electric space heating (heat pumps excepted) uses twice as much source fuel as would be needed if the fuel were burned directly for space heating." Air conditioners are also inefficient users of electricity. By 1990, it is expected that are conditioners will use 16.3 percent of electricity in the home. Levinson pointed out, however, that "better insulation alone could cut power consumption by air conditioning by as much as 50 percent."

While it is possible that the demand for many appliances may soon reach a saturation level and will eventually dwindle, it is also important that buildings be designed and constructed so as not to necessitate their use. Architect Ezra Ehrenkranz stated that we should not fight nature in design and construction, for electric consumption can be decreased by proper use of natural lighting and use of materials for construction that regulate heat naturally. He also recommended that the consumer use "life costs" (the purchase cost plus lifetime operating costs) as his guide in buying appliances rather than "first costs" (the purchase price alone). He felt that the current practice of using very cheap energy to operate shoddy goods increases the social cost rather than absorbing it into the purchase cost. In addition to wearing out quickly, cheap goods consume an excessive amount of electricity.

A prime target for reduction of electric power consumption is the residential consumer. Prof. Levinson contended that one important way to reduce demand is to virtually halt the construction of electrically heated housing. The place to begin is with the federal government. He claimed that in the past few years, the Department of Housing and Urban Development has been subsidizing the construction of electrically heated low income housing, and has been acquiescing in the conversion of some of their public housing to electric heat from other fuels. "Aside from the waste of energy that electric heat entails," Levinson said, "it also increases the utility costs of the low income tenants, who can ill afford it." He recommended legislation that would prevent HUD from constructing, operating, or subsidizing any kind of housing that contains electric space heating, water heating, or electric kitchens and urged that funds be made available to convert all existing public housing with electric heating or water heating to other fuels.

Levinson urged federal funding for research to develop economical methods of residential solar space heating and economical heat pumps as well as the immediate construction of coal gasification plants, since one of the effects of eliminating space and water heating will be to increase the consumption of natural gas.

No action was taken on any of the recommendations made as the purpose of the conference was to serve as a forum where the complex economic, political and social inter-relationships of electrical energy production and demand and the needs of the environment could be discussed. This conference and studies by several club committees are expected to supply guidelines upon which the Sierra Club can develop a sound policy on electrical energy.

Sets of the available Conference papers may be obtained by interested groups from Public Resources Inc., 192 College St., Burlington, Vermont 05401 at $25.00 per set. N.D.

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It comes down to values and priorities. Are we today starting to place a higher and perhaps not so intangible value on public parks and open space? To be sure, these green oases by themselves won't save our cities, but they go a long way towards making urban dwellers *want* to save their cities, and towards making them want to continue to live in them, which is a necessary first step in saving them. These suggestions do not advocate the arbitrary taking of anyone's land, nor can it be argued that cities will acquire or down-zone to open space everything in sight—they still need a tax base, after all. But if our cities are to remain livable, they will need parks and open space and in most cases in much greater quantity than at present. Surely the public health rights of hundreds of thousands of city dwellers are at least equal to the speculative money-making rights of individual or, increasingly, corporate landowners. Those who would dismiss these suggestions as unacceptable bear the responsibility to put forth their own solutions to the open space needs of the cities in which they often make their money but rarely care to live. The plight of the American city today is too serious not to examine the status quo with a more questioning eye.

Dr. Pryde is an associate professor of geography at San Diego State College and conservation chairman of the Sierra Club San Diego Chapter.

News Notes

TIMBER ESTIMATES REVISED—DOWNWARD

The Forest Service has recently released a report indicating that the area in a sample of six western national forests suitable for growing tree crops is 22 percent less than had been previously estimated. While the Forest Service inventories of the six forests had shown a total of 4.1 million acres of available commercial timber, the study showed the actual total is only 3.2 million acres. These findings substantiate the Sierra Club's contention that the transfer of 18 million acres from non-commercial to commercial status since 1950 was a mere rationalization designed to justify excessive allowable cuts.

The 22 percent reduction consists of lands that should not be included because of low productivity, land instability, and because it exists in small isolated patches. Gordon Robinson, Sierra Club forestry consultant said, "It is most gratifying to find that the Forest Service is correcting its mistakes, but there are many more factors involved in allowable cut determinations which have been exaggerated and must be studied and corrected." These include the selection of rotations, the unit of measures employed for making timber sales and forest inventories, and formulae used in allowable cut determinations.

WATER RESOURCES COUNCIL RELEASES STANDARDS

The Water Resources Council has issued proposed standards for planning water and land resources, which set new criteria for analyzing the merits of future dams, barge canals, and other federal water development projects. Noting that past decisions have been based primarily on monetary considerations, the Council asserts its new principles and standards for water and land resource planning gives a multi-objective approach, and full consideration to national economic development. However, some conservationists feel the new approach merely offers additional ways to justify new projects.

Scheduled for implementation in late spring, the standards are the result of a two-year study and review of decision-making practices undertaken by a special Council Task Force. They will require development of alternative plans for each project, and establish a regional development account system which conservationists feel contains serious economic flaws in that it gives agencies an opportunity to foster unwarranted projects by counting their benefits twice, once at the national level and again at the regional level.

The council recommends raising the interest rate for project repayment to 7 percent, a raise from the present rate of 5.625 percent. The Sierra Club, however, favors adoption of a 10 percent discount rate, the "opportunity cost of money," where the taxpayer will get as much out of federal projects as he would if the money had been left in the private sector to be invested. Further, the Club supports application of this high discount rate to all uncompleted water resource projects, regardless of when authorized.

Conservationists have until March 31st to express their views to the Director of the Water Resources Council, 2120 L Street, N.W., Washington, D.C.

GULF COAST OIL LEASES

The U. S. Court of Appeals for the District of Columbia has upheld a District Court's preliminary injunction preventing Secretary of Interior Rogers C. B. Morton and other Interior officials from conducting a lease sale of oil and gas tracts on the Outer Continental Shelf off eastern Louisiana. As a result of a suit brought by the Sierra Club, the Natural Resources Defense Council and Friends of the Earth, the court ruled that Interior failed to prepare an environmental impact statement that discusses alternatives to the lease sale, although required to do so by the National Environmental Policy Act of 1969. Alternatives requested by conservationists in their suit included a change in oil import quotas and flattening the energy demand curve.

The lease sale of more than 300,000 acres is the first in a series of accelerated off-shore leasings announced by Morton last June in response to President Nixon's message on the nation's energy needs. Interior estimated that the leases may produce 75,000 to 150,000 barrels of oil per day and 250 to 500 million cubic feet of natural gas per day by the sixth year after leasing.

When the government appealed the District Court's decision, it asked that a $750,000 bond be posted by the environmental groups to insure against losses of revenue. The judge, however, set a $100 bond, ruling that a high amount would prevent public groups from raising these types of issue in the courts.

NEW FEDERAL EMISSION STANDARDS

Environmental Protection Agency Administrator William Ruckelshaus has announced emission standards for five types of new plants: fossil fuel electric generation plants, large incinerators, and plants making Portland cement, nitric acid and sulfuric acid. The standards, first set under the 1970 Clean Air Act, apply to plants which have begun operation after August 17, 1971.

Similar regulations will be applied to some thirty-five other industries during the next few years, under implementation plans being developed by the states. New steam plants, both for electric generation and industrial steam, will be required to emit dust and smoke particulates at a level equal to about 2.5 percent of most existing plants. Sulfur emissions must be cut to about 11 percent of present levels, and nitrogen oxides about 35 percent.

NON-NAVIGABLE WATERWAYS PROTECTED

A federal district judge in Washington, D. C. has declared all waste discharges into non-navigable waterways illegal, and has barred the federal government from legalizing them with discharge permits. Judge Aubrey E. Robinson, Jr. further ruled that the government may not issue discharge permits even for navigable waters, unless it first prepares an environmental impact study on each permit. Some 20,000 applications have already been filed by industries, many of which are already dumping wastes, treated and untreated, into waterways.

CASCADE DAM OPPOSED

With a stinging attack on the power promotion policies of Seattle City Light, the city's electric utility, the Washington State Department of Ecology has gone on record as opposing SCL's controversial proposal to raise Ross Dam in the North Cascade. In a letter to Federal Power Commission Chairman John Nassikas, State Ecology Director John Biggs asserted that the High Ross Dam would have a "substantial detrimental environmental impact on the lands and waters which are a part of the Ross Lake area," including flooding out some superb groves of huge ancient red cedar trees. Biggs further attacked SCL's energy generation program, and warned that the state may also oppose

News Notes

the equally controversial proposed nuclear power plant to be located on scenic Kiket Island in Puget Sound.

Biggs stated that SCL's environmental studies on the impact of High Ross were "self-serving," and charged that the utility "has no planned environmental program, but instead continues to pursue a program of opportunistically selecting and proposing for development new sources of power, with the pursuit of energy being the first objective and environmental concern decidedly a second one."

GULF INTERCOASTAL WATERWAY

The Chief of the Army Corps of Engineers has announced the termination of further planning on the authorized 42-mile extension of the Gulf Intercoastal Waterway from Carrabelle to St. Marks, Florida. The Corps announced the decision was based on environmental reasons. The project would require extensive dredging through Alligator Harbor, St. James Island, Ochlockonee Bay and Apalachee Bay involving important fin-fish and shellfish habitat. The action was taken after conservationists, state and federal agencies responded to a draft environmental impact statement on the project and found serious adverse effects would occur.

FOUR CORNERS SUIT UPHELD

In a significant victory in the Four Corners power plants controversy, a U. S. District Court judge in New Mexico last week denied the power companies' motion to dismiss a nuisance suit filed by the State of New Mexico and the Sierra Club against the Arizona Public Service Company, sole owner of the Farmington plant. The five power companies which operate the Four Corners plants had advanced six legal grounds in support of their combined motions to dismiss.

Filed last July, the suit seeks injunctive relief to abate the public nuisances caused by the operation of the Farmington plant, which produces more soot and fly ash than all sources in Los Angeles and New York City combined. "We are very pleased with the court's decision," stated Anthony Ruckel, the Sierra Club's attorney in the case, "and we are pleased that the court has taken the time to so cogently consider many of the preliminary legal questions of the case. We now look forward to pre-trial discovery and a presentation of evidence which we believe will show the grave dangers to the public of the Four Corners power plant as presently operated."

LAKE ERIE POLLUTION CURB

In a step towards limiting the pollution of Lake Erie by the City of Cleveland, the Court of Common Pleas for Cuyahoga County, Ohio, has adopted a Sierra Club request that an injunction to prevent the City of Cleveland from issuing building permits until secondary sewage treatment facilities are installed be extended to the suburbs. The court ordered that the ban apply to the suburbs unless a regional sewage treatment authority was established by January 20.

In December of 1970, the State Pollution Board obtained a preliminary injunction preventing the city from issuing building permits, with the intention of forcing it to install secondary sewage treatment facilities. When the injunction came up for review last month, the Sierra Club contended that no significant improvement in the city's sewage system had occurred in the last year, partly because of the suburban communities' refusal to aid in the improvement.

A great portion of the waste products received by Cleveland's sewage treatment plants comes from the suburbs, although the city has no control or authority over the sewer connections that are authorized by the various suburbs. The Club contended, therefore, that the Pollution Board's order enjoining Cleveland from allowing new sewer connections must be extended to the suburbs, in order to attain effective sewage treatment.

NEPA AND URBAN RENEWAL

Six major national and local environmental organizations, including San Francisco Tomorrow, the Sierra Club and the Environmental Defense Fund, have filed suit in Federal District Court in San Francisco against George Romney, Secretary of Housing and Urban Development (HUD), challenging his failure to apply the National Environmental Policy Act of 1969 to three Bay Area urban renewal projects. The projects involved in the suit are the City Center Project in Oakland, the Yerba Buena Project in San Francisco and the West Berkeley Industrial Park Redevelopment Project.

The environmental law that the plaintiffs rely on requires that federal officials prepare a "detailed statement" evaluating the environmental impact of their activities and determine what action can be taken to avoid or minimize adverse environmental effects. Although NEPA became law on January 1, 1970, HUD has refused to comply with it in connection with the three projects named in the suit, claiming the law does not apply to projects "initiated" prior to January 1, 1970.

James Moorman, Executive Director of the Sierra Club Legal Defense Fund, characterized HUD's interpretation of the law as "legally untenable," and said that "by its own terms, the law clearly applies to projects uncompleted on January 1, 1970, regardless of when initiated, and recent court decisions have agreed." He also noted that the case has great national significance since it is the first to seek application of the law to urban renewal projects. Earlier suits have involved highways, dam projects and other construction activities.

FLORIDA FLOOD CONTROL

The Sierra Club and Friends of the Earth have submitted detailed comments on the Corps of Engineers' proposed expansion of the Central and South Florida Flood Control Project, and have criticized the Corps for failing to meet the requirements of the National Environmental Policy Act in its draft environmental impact statement. The Corps' plans are expansions of an on-going comprehensive program encompassing an 18-county area bounded by Orlando to the north and Miami and the Everglades National Park to the south.

Proposed additions and alterations to the Flood Control Project include construction of a number of canals and related structures on the Kissimmee and upper St. Johns Rivers designed to drain both of those flood plains; four "valley" and three "upland" reservoirs and related canals on the upper St. Johns; back-pumping facilities to raise the level of Lake Okeechobee from 15.5 to 21.5 feet; and back-pumping into the water conservation areas and further impoundment of these areas. In addition, the Corps proposes construction of a number of drainage canals in the Lower East Coast region, and most significantly, reclamation of approximately 360,300 acres for intensive development.

In their thirty pages of comments, the Sierra Club and FOE thoroughly criticize the Corps' draft statement because of inadequate appraisal of the following factors in each of the major project areas: the raw impact of the proposed program; adverse environmental effects; alternatives to the program; the relationship between short-term and long-term uses; and irretrievable and irreversible commitment of resources should the program be implemented.

Representatives' Reports

The Midwest

The attention being paid by environmentalists to the Clean Water Bill as it winds its way through the Congressional labyrinth is obscuring an equally important development in the field of water pollution control: the Corps of Engineers has found its place in this sun and is ready to roll.

The Corps is making a series of studies on the waste water problems of five large metropolitan areas: the San Francisco Bay/Delta region; Chicago; Detroit; Cleveland/Akron; and the Merrimack River Basin in New England.

There certainly is nothing wrong with regional waste water studies; for too long fragmentation among local governments has slowed progress in this field. And there may not be anything wrong with the Corps installing itself into a central position in the water pollution field: Corps critics such as Congressman Henry Reuss have been urging it to do this very thing for years. But with all of these things reaching fruition at once, it is time to take a hard look at what we may be heading toward.

It takes no oracular powers to envision how the Corps plans on exercising its new responsibilities in water pollution control. First, it must be clearly understood that the Corps does not consider these new duties repentently as a change in mandate, but rather as an increase to its already huge sphere of operations, a merit promotion given the Corps by a grateful public in recognition of its long demonstrated competence. Consider the following statement by Dr. John Sheaffer, science advisor to the Secretary of the Army: "The Corps' success in flood control management since 1936 proves its capability to undertake planning projects beyond the scope of any other agency."

At a conference last December in Columbus, Ohio, devoted principally to consideration of the Cleveland/Akron waste water study, the Chief of Engineers, General F. J. Clarke, stressed that Corps involvement in water pollution abatement would be a long step in the direction of "rational total water resource management," a planning goal toward which the Corps has strived for years. Unarguable in theory, in practice this simply means that the Corps will have one more excuse to play with water, one more benefit to plug into the equation.

It seems likely that the Corps with a mandate in water pollution control will continue its exclusively technical orientation in the same way it always has. It will be larger, will be backed by more statutory authority and justifications, will manipulate and respond to political pork barrel demands in the same way, will continue to be doctrinaire, and will pose more threat to more free-flowing rivers than ever before.

It is safe to say that this is not what Congressman Reuss and others have had in mind when they have suggested that the Corps do work in this field. The fundamental point is that the Corps must be thoroughly overhauled in its outlook and procedures, and the political influences that surround water resource projects must be changed, before any increased responsibility is given to the Corps in the field of water pollution. To rely on this new mandate in itself to cause such a revolution is risky at best, and may sabotage water pollution control efforts and the country's too few remaining unharmed bodies of water.

Jonathan Ela

The Northwest

The controversy over timber cutting and forest practices continues in the Northwest in the form of a renewed timber industry counterattack against environmental measures and a stepping up of its traditional assaults on the wilderness idea anywhere it raises its head.

Recently in Oregon a new labor-industry front group, known as the Western Environmental Trade Association, pledged in its first press release to combat the "wave of environmental McCarthyism now sweeping over Oregon." Its $60-70,000 initial war chest is heavily supported by timber interests, and it is expected to combat the growing sentiment in that state for protection of more wilderness areas, as well as to fight efforts of the Oregon Environmental Council to secure better laws in the state legislature.

Ed Whelan, one of WETA's directors, recently stated that Oregon industry is threatened by "an awesome adversary," in the form of "the self-annointed, irresponsible, irrational, fanatical environmentalist who is destroying free enterprise."

The counterattack has taken a somewhat different form in the Flathead Valley of Western Montana. Here in the Flathead National Forest, long the subject of environmentalist criticism because of destructive logging practices, the Forest Service announced there will be a large reduction in the annual cut for environmental rea-

sons and so that remaining roadless areas in the forest can be reviewed. The cut in the nearby Lolo Forest was also reduced. Led by the Kalispell and Missoula Chambers of Commerce, the industry reaction has been fierce. Forecasting dire projections of the many jobs to be lost (despite the fact that even more jobs will ultimately be lost if the forests continue to be overcut), they have bombarded the Congress with communications, and have established several front groups to do battle with conservationists and the Forest Service. One of these groups, known as WOOD (Women Opposed to Official Depression), is traveling about the state in an effort to head off the trend towards more balanced management of Montana's national forests.

Meanwhile, evidence continues to mount that all is not well with the forests in the Northwest, and the industry has been concealing poor practices on its so called "tree farms." The Oregon press recently carried a story on the abandonment of the 35,000 acre Molalla Tree Farm owned by Weyerhaeuser near Portland. Weyerhaeuser officials explained that timber in the 35,000 acres had been virtually exhausted. According to the company, the tract was liquidated in 24 years of heavy logging, rather than being managed for sustained yield, because of "poor economics." That's fine for the company, but what about the 84 people now out of work because of it? (The same thing will happen in Montana for example, if we don't get better practices now.) And what happened to all those slick ads about the wonderful forestry and "sustained yield" in tree farms? Once again this is supposed to be the "model forestry company," "in business to stay," but we are seeing again and again what a mockery these phrases really are.

Brock Evans

The South

"Environment is Good Politics," the title of a recent *New York Times* editorial, is setting one theme in this election year. Florida, with the first major primary, has been inundated with presidential candidates out to prove they are good conservationists. With this concentrated attention on environmental problems, Florida can be the beneficiary.

Recently President Nixon joined a large group of Democratic Senators who have strongly endorsed the proposed acquisition of 547,000 acres north of Everglades National Park known as the Big Cypress Swamp. An area that supplies half of the surface water that flows into the national park, its protection is essential to insure the quality and quantity of water that flows south through the Everglades.

The Sierra Club, along with other conservation organizations, has been engaged in a long fight to get this area protected. The history of the problems dates back to the creation of Everglades National Park, when Congress failed to authorize acquisition of enough of the Everglades region to insure its protection. Since that time it has been one battle after another in South Florida.

For example:

—In the name of "flood control" the Corps of Engineers has channelized and diked huge areas south of Lake Okeechobee, diverting critically needed water directly into the ocean.

—Large sections have been drained and placed into agricultural production. This has caused not only a great reduction in the total acreage capable of holding water, but has added to the degradation of the water quality in the area.

—The Everglades jetport, planned for construction in Big Cypress, would have initiated a land boom that would have built a wall of concrete between the Park and its source of water. Due to the degree of public interest, this project was halted in time.

—Much of the Big Cypress is now owned by land development corporations, who dream of new subdivisions.

—Oil has recently been discovered in Big Cypress and the petroleum industry has been pressing hard to exploit this new reserve.

The combination of an election year and the critical conditions that exist in South Florida has brought attention to the Everglades. The many presidential candidates have picked up the banner "Save the Everglades" and support grows for the acquisition of Big Cypress. Late last fall field hearings were held in Miami on the bill introduced by Senators Chiles and Jackson (S. 2465) which would create the Big Cypress National Recreation Area; this bill has been strongly supported by conservationists. The Administration has now proposed a slightly different plan, calling for the area to be classified as a Fresh Water Preserve. As of this writing, the Administration proposal has not been introduced.

The acquisition of Big Cypress would be an excellent first step toward alleviating the growing environmental crisis in South Florida. The State will also begin to move this month, when the legislature begins consideration of proposed legislation that would deal with comprehensive land and water use planning and with reorganization of the various environmental oriented agencies into a single Department of Environmental Affairs; both are supported by the Governor and conservationists.

All of these measures are desperately needed in Florida, if the Everglades are to be retained for future generations. There is also plenty of credit to pass around to everyone who saves the Everglades. These measures should not be allowed to die due to political competition. The environment is good politics, but only when there is action, not just words.

Randy Jones

WASHINGTON REPORT

Who would have thought that the Paul Bunyan crowd would themselves escalate clear-cutting of timber on Federal forest land as an environmental issue of national significance?

Always a controversial forest management practice, clear-cutting has been the target of conservationists for many years. But it took timber industry pressure on the Nixon Administration in recent weeks to thrust it full bloom into the political arena. Numerous newspaper articles which followed the shelving of a proposed presidential order restraining clear-cutting attest to this fact.

The scenario began late last spring when the Council on Environmental Quality, concerned about the criticism of clear-cutting approved by the Forest Service, launched a study of the practice, which requires the cutting of all trees on a tract selected for commercial timber production. Aside from the esthetic impact of denuding large sections of forest land, the study showed indications of soil erosion, stream pollution, wildlife habitat destruction and other adverse effects.

As a result, a proposed executive order was prepared for President Nixon's signature. The first section of the draft stated that as a matter of policy "the Federal Government shall provide leadership in the development and application of environmentally sound forest management practices." (Why should anyone oppose that?) But, it went on to other sections, including one entitled, "Limitations on the use of clear-cutting." One of these limitations was that "there will be no clear-cutting in areas of outstanding scenic beauty . . ." As later developments revealed, this was the limitation which evoked the most violent response from timber industry opponents.

On January 11, a story appeared in the New York Times with the headline "President plans to limit clear-cutting in national forests; timber men are disturbed".

Disturbed. Indeed, they were frantic. Sources in the Department of Agriculture had alerted the National Forest Products Association around January 1 that the Council on Environmental Quality was pressing for early presidential action. A nationwide industry counterattack was immediately launched. The January 7 management report of the American Plywood Association declared "Threat of clear-cut curb demands urgent action!" and said the Association "joins with all other industry associations in urging every company in the industry to communicate at once with Secretary of Agriculture Earl L. Butz and Interior Secretary Rogers C. B. Morton, as well as with congressmen, documenting the drastic economic effects should an executive order be issued restricting clear-cutting of timber."

An industry spokesman denounced the regulation aimed at protection of scenic areas as the "dangerous one . . . an open invitation to litigation, protests and related activities which would handcuff the Forest Service."

On January 10, at the behest of officials of the National Forest Products Association, the newly-named Agriculture Secretary Earl Butz convened a meeting in his office which included John Whitaker, the President's special assistant; Harrison Loesch, Assistant Secretary of Interior; Chairman Russel Train of CEQ, Ed Cliff, Chief of the Forest Service, and his deputy, John McGuire. On January 12, a CEQ official announced that Train, Butz and Morton had jointly decided against pushing the presidential order. Ordinarily the existence or scuttling of an executive order draws scant attention in the national capitol. But this time the atmosphere was different. Headlines declared: "Butz leads fight against Nixon order," "See surrender to timber industry," "Limit on cutting timber dropped," "Nixon's aides switch after opposition by industry."

This press attention was enough to set off political fireworks from various directions. In Powell, Wyoming, Sen. Gale McGee, author of legislation for a two-year moratorium on clear-cutting, charged that "large timber interests continue to call the shots for the Nixon Administration on national forest management policies.

"The Administration's first really solid attempt to face up to the complexity of the clear-cutting issue has been thwarted by industry pressure," said McGee.

Sen. Fred R. Harris of Oklahoma was less charitable. "We ought to know more about this seemingly incestuous relationship between the timber lobby and the government," Harris declared. "We ought to know why Secretary Butz consulted the timber interests and no one else. We ought to know the financial advantage to the industry of the decision not to restrict clear-cutting."

The demise of the Nixon clear-cutting order is only one of the number of recent developments spotlighting the need for full congressional review of national timber management practices. Experts at the Forest Service Forest and Range Management Station have prepared a report indicating that the amount of forest land suitable and available for timber production in western national forests may have been over-estimated by "as much as 22 percent." At the same time, timber-harvesting on Bureau of Land Management areas in western Oregon is headed for a cumulative overcut of about 20 percent.

Obviously, if the amount of commercial timberland has been over-estimated and the allowable cut accelerates at the same time, Congress needs to take a hard look at Federal management practice.

W. Lloyd Tupling

Ironwood roots, Ke'e Beach from the Sierra Club Exhibit Format book *Kauai and the Park Country of Hawaii,* available now in paperback as well as hardcover.

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