

Department. This division consist of an administrative office, an office of Conservation, Management and Services, and an office of Marine Research Laboratory and Education Programs. We now have under construction the first phase of our building program which consist of an administration building, an energy supply building, a laboratory building, a large boat slip, and a maintenance building. These facilities should be completed within about four months.

The Center is located at Fort Johnson which is in a southeast direction across the harbor from the peninsula of the city. While you are visiting with us in Charleston, we would like for you to see the progress we are making. Please contact Chief Howell or someone in the department so we can arrange transportation for you and show you our facility.

*By* DR. A. HEATON UNDERHILL

It's a pleasure for me to be here today. I had a prepared talk and last night I decided that isn't what I wanted to say, so I tore it up and got it down in notes, so I am going to talk off the cuff this morning.

I'd like to take issue with one point that the Mayor made when he said that the group here was primarily interested in fish and wildlife. I think that is only partially true, I think this group here is primarily interested in people and in people's relationship with fish and wildlife. I've got a tough act to follow—Governor West, I think, set the theme and said many of the things I wanted to say. I couldn't help but be tremendously impressed with his knowledge of the problems of environmental management and conservation and I couldn't help but feel how fortunate we are that the new breed of politicians, of public servants, have been so mindful of the importance of our resources and of man's relationship to them.

Secretary Reed and Dr. Timmerman have touched on many of the destructive forces that are within the scope of the subject that I have been asked to speak on and certainly there is no question that man does destroy natural areas. Almost everything he does modifies the environment. But in a sense, he must do this or how else is he going to support the increasing population in this country, and in the world as far as that goes. For the record, it has been estimated that approximately 420,000 acres a year go into urban expansion. Approximately 160,000 acres a year go into airports and highways and somewhere in the neighborhood of 400,000 acres a year go into reservoirs and various flood control structures. So that we have somewhere in the neighborhood of one million acres a year that you might say are being destroyed or removed from most wildlife products. Of course urbanization is continuing in this country, with over 70% of our population living on 3% of the land. This pressure has resulted in tremendous pollution loads and a disproportionate pressure on open space and various types of environmental habitat. History is replete with examples of civilizations which have risen, have exploited unwisely their resources and which have been destroyed. Part of this was moral decline, a lack of drive, a freak or fat fighter who has become soft and is overrun by a hungry fighter. But part of it also was misuse of the resources and destruction of the habitat on which man depended. I can't help but point out, however, that Man has the ability to resurrect even these habitats. I cite for you the example of Israel on the shores of the Mediterranean which developed a viable nation on land which was supposedly exhausted and yet by utilization of his mind, man has been able to do something about it. We're finding now, too, that we can do something about it in this country.

Previous speakers have discussed our increased public awareness of the importance of environmental quality, of ecology, and of our relationships with our environment. This awareness has resulted in a number of actions, environmental quality councils, environmental quality legislation, the requirements for environmental impact statements, and

numerous local actions along the same line. I think the greatest challenge of the Environmental Quality Act is going to be to make it work. Its theme is without question what we need. It requires all agencies that are spending federal money to take a look at which they are doing, to see what impact on the environment will be, whether or not the pros outweigh the cons, and whether or not they have taken all steps to lessen the impact. Unfortunately, in the implementation of this Act, it has become a question of one agency washing the other agency's linen and we are sending a flood of paper back and forth among various agencies seeking to either justify or explain or block particular projects. The challenge is to work out a system whereby we can achieve what we want and still not bog down the whole function of government.

In fish and game work we have altered the environment and habitat for years. In fact the whole history of fish and game management is modified habitat. Certainly when you dike a coastal marsh to create a freshwater impoundment, you have destroyed one type of habitat and created another. When you modify your timber harvest to create a certain type of rotation, a certain type of edge, you are again changing and modifying your environment, destroying one type and developing another. We're losing a million acres a year of one type of habitat, on the other hand, I suspect we may be gaining almost as much of other types. Certainly the finest grouse hunting, deer hunting, much of your turkey development, and quail hunting comes from abandoned farm land. One of the challenges of game management is to manage these abandoned lands to keep them in the right stage of succession to provide the optimum habitat for desirable species of wildlife. So all of our habitat destruction is not bad. It's a modification to meet man's needs.

As you know, roughly one-third of the nation is public lands. Unfortunately, most of them are not where we need them. Nearly half of the federal lands are in Alaska and almost without exception the public lands are distant from centers of population. We need more natural areas near these urban centers.

Dr. Timmerman mentioned the wetlands, certainly these are unique areas that require a special type of management. The Everglades are a good example of problems we are faced with in wetlands management, when you move out into the coastal zone, the loss of marshes is almost unbelievable. San Francisco Bay has shrunk more than half since 1850 because of marine dredging and filling—the encroachment that Secretary Reed mentioned. Between one third and a half of the original marshes along the East Coast have been so modified. Now, obviously, we can't save all of these unique areas—keep all of America in the wilderness. I think the answer is really the point that Governor West made, wise planning. Planning includes a number of things, among them is zoning. As you know, power for zoning has been delegated by the States to lower units of government. A few States are taking this power back. Hawaii now has State zoning, and a land use commission which has classified all of Hawaii into four general classes—urban, agricultural, rural and conservation, and has set up machinery for various management of these zones. Recently, Oregon passed a law whereby the Governor has the power to zone all land which is not covered by a comprehensive plan or by local zoning acceptable to the State. Now, if we get into land-use planning—just what affects land-use in this country?

I think that probably the thing that has the greatest impact on land-use in the United States, is short term monetary gain. This, in large measure, has developed because of our tax structure. As long as local government is dependent upon real estate or property taxes, the uses to which the land is put is going to reflect the income that can be accrued from that land. With no overall public benefit or consideration in land use, you will get the short term productive uses whether it's strip mining for coal, whether it's indiscriminate destruction of forests, whether it's

milking the productivity of the land for agricultural crops and moving on, or whether it's filling in marshland for an industrial development, housing or other activities. All of these will yield a higher return. I think the answer has got to be land use planning with teeth. The country is full of 701 plans that are stacked on the shelf doing nothing but gathering dust. There have got to be practical plans, plans developed through the whole broad scope of society with political help, and citizen involvement—plans that have some kind of teeth.

In general, I think this requires standby authority at the next higher level. If you're planning is going to be done at the city level, then the County should be able to step in and modify municipal plans when they become too parochial for the common good. The State, in turn, should be able to step in when the State interests are concerned, and the federal government when the national interest supersedes a more local or State interest.

Now, this brings us to one of the toughest problems that I think we face in this whole question of planning and zoning. And that is, who pays for what? Zoning is a well recognized practice in this country. It wasn't too difficult, or didn't hurt too much, when a local ordinance stopped me from raising chickens in my backyard and said I could no longer have a horse stable in the city. But zoning ceases to be acceptable to landowners when it takes away significant potential income of lands that people have bought in good faith because they felt that the lands were going to increase in value. When you decide in the common interest that these lands should remain in open space, you are faced with the question of how much can you do with zoning and no compensation? How much responsibility do you have to reimburse the landowner for his loss? I won't say "right" denied, but an opportunity of increasing his return denied in the common good. We're beginning to see in the case of wetlands that zoning is being used by a number of States to control development; while the federal government, as Secretary Reed mentioned, is using dredge and fill permits to control development to accomplish the same thing. This may be coming in the backdoor because these permits are primarily for navigation purposes, yet by exerting this public authority, we can deny the filling of certain wetlands and we can do it without reimbursing the owner. This may be the answer, we are certainly facing the problem of land use control in a number of places.

We have a study going now of the Lake Tahoe Basin—Senator Bible would like to see a national lakeshore at Lake Tahoe in California and Nevada. It certainly is a beautiful, magnificent basin and lake. Federal agencies that have been studying it feel that in order to have a viable lake shore there, the vista and the background to the whole basin has to be protected under some type of wise land use. The question then becomes, how do you do this? How do you prevent the building of condominiums or other developments which would be an eyesore—new gambling casinos on the Nevada side of the lake, a highrise development along certain places—without buying the development rights or acquiring the land. Even the ski developments, which most people think beneficial, create tremendous eyesores during the months when we do not have snow. You're faced with the same thing in Florida, in the big Cypress, if the water that feeds the Everglade National Park and Ten Thousand Islands, is reduced because of developments, the area's wildlife and natural resources would be severely threatened. On the other hand, what reimbursement should you give landowners if you're going to prevent certain types of development in that area. These, I think, are questions which we must solve in the next few years, and I think that the Fish and Game Agencies are going to have to get more in the act than they have in the past. As has been pointed out here today, the Fish and Game Agencies have been the leaders in many of these conservation fights, but they've been a narrow leader in many ways—concerned strictly with the fish and game values and not with

how they fit into the total structure of our human society. I think that we're going to have to broaden our approach. I think we're going to have to broaden our finances and while earmarked fish and game license revenues were a godsend 40 years ago, they're becoming a millstone around our neck today, when one mile of super highway will cost as much as the whole fish and game budget in many states. Such highways will destroy considerable amounts of habitat. More and more people in our cities are not concerned with hunting and fishing, but with other aspects of wildlife. I believe we've got to get some way to broaden this financial base and to broaden our outlook in fish and game management to cover the whole realm of ecological management in planning our resources. Then we can modify some of these destructive forces and apply the same principals we have applied in fish and game management to turn much of man's development into ecologically beneficial uses. I suggest that the fish and game agencies in the 50 states are probably the best qualified agencies at any level of government, including the federal, to review environmental policy statements. I would like to see that instead of all the federal agencies expanding their budgets and their staff to handle the great flood of environmental statements, they take about a third of that money and give it to the State fish and game agencies to evaluate those statements of the environment and natural resources.

This whole problem of land use planning now involves the federal government. Currently being considered by the Congress is Senate Bill 992, which is the administration's proposal for land use planning. I won't describe the whole bill, I urge you all to take a look at it, and to read Secretary Morton's statement in support of the Bill, and also Judge Train's statement as the Chairman of the Environmental Quality Council. It isn't the whole answer by any means, but it is a tremendous step forward in land use planning. It sets up the machinery for state development of land use plans on a cooperative basis, it sets up machinery to see how those plans can best be implemented, provides federal funds for assisting in the planning, requires the federal agencies to see that their programs within a State are in accord with these plans, and sets up the machinery for cooperative comprehensive land use planning. The time could never be more right—New Jersey recently passed the wetlands management act, Massachusetts has had one, Maryland, Delaware and North Carolina, all now have coastal management acts. I believe these have to be expanded to cover the whole land use pattern. If we do this, then some of the programs which we in the Bureau of Outdoor Recreation are concerned with, such as the Land and Water Conservation Fund (both federal acquisition and state grants), the transfer of surplus properties to states and counties and municipalities for various types of recreation and open space needs, and the federal areas like Gateway NRA in New York or the Golden Gate Proposal in San Francisco, will fit into an overall pattern of land use planning. We can then accommodate our increasing population and cooperate in control of the pollution which has destroyed so much of our wildlife and fisheries habitat. We don't need to attempt to turn the country back to the Indians and we don't seek to turn it all into wilderness, but we seek to plan wisely, to have a balance and developed program where the aesthetic amenities and opportunities of outdoor enjoyment are close to our population centers.

Thank you.