SOME PROBLEMS IN WILDLIFE CONSERVATION

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It is the purpose of this paper to call attention to some of the critical conservation problems with which we are particularly concerned, and to suggest some approaches to the solution of these problems. The scope of these problems is so vast, and so intricately meshed with our social and economic structure that it is only possible to refer to some of the more acute and conspicuous matters which have an immediate bearing on our existence and on our way of life; and which pertain particularly to our interests as biologists and conservationists.

In a recent, much quoted article Joseph Wood Krutch makes reference to the vast complexity of man's relationship to his environment, and notes that, as technology advances, it becomes necessary for man to know more and more about the elements and forces around him in order to control those forces he has turned loose. He concludes that an appreciation of nature, and a willingness to let other organisms survive are essential to man's continued existence on the earth. Certainly one of our biggest problems is to bring about a better understanding of man's relationship to his natural environment and an appreciation of that environment which has contributed to his growth and development. Our understanding of our relation to these surroundings in which we live is incomplete and, as yet, society recognizes only a little, values other than those which can be interpreted in terms of material gain.

In The Measure of Man Krutch states ". . . because—we have not clearly formulated the other possible ends which we may vaguely acknowledge as desirable, we have accepted a materialistic philosophy which makes any definition of these other ends difficult." He points out that, prior to the second world war, Germany was represented by certain writers as having the ". . . highest stage of development which civilization had yet reached. And the proof offered was (that) under Hitler, production per man hour had reached a level never previously achieved." Thus, one of our biggest problems is instilling an appreciation of values which cannot be turned into material wealth, or money in the bank.

Among our objectives should be the development of a culture which encompasses ideals and appreciations extending beyond the gains we achieve through the processes of technology. It is the duty of the scientist, and particularly the biologist, to bring about a better understanding of these values in our natural environment and to act to help conserve those values. The development in our society of appreciations of values in our natural environment, which cannot be bought or sold, is one of our most critical needs.

Our conservation problems are fundamentally due to shortcomings in the nature and scope of our concepts and thinking, and in our failue to find solutions to the problems that confront us. In the first category, we have hardly gone beyond the production for use concept in wildlife management. We have measured our results by the number of head of game we have been able to produce on a prescribed area, and within limits, this is a desirable objective. We have, however, largely ignored the factor of quality in sport, in recreation and in existence. For good reason, we envy the sportsman who can visit the wildest areas of the earth to hunt the rarer, more elusive and dangerous kinds of game. We consider that high adventure. Certainly, hunting the grizzly or casting a fly on a fine swift clear-water stream is superior in quality to shooting pigeons released from a coop or casting a bobber among floating beer cans and other bobbers in a man-made reservoir. We may acknowledge the necessity of the beer cans and coop raised pigeons because of factors beyond our control, but we need to develop standards of quality, and preserve in our environment natural areas to which we can escape from the complexities and confusion of civilized living.

I believe it is highly significant that Dr. Karl Menninger, of the world famous Menninger Institute for Mental Diseases, is a member of the Board of Governors of the organization, "Nature Conservancy," and that, as a busy man, he considers the objectives of that organization important enough to receive his attention.

Our moral attitudes and mental health are conditioned by the environment in which we live, and the human slum is the antithesis of the primitive environment which strengthened the moral and physical fiber of our forefathers and our country. We should make a more concerted effort to preserve some features of that character building environment which produced our way of life, for ourselves and for posterity. We should consider the factor of quality as important as that of quantity in our recreation and in our environment.

I think we have sold ourselves short in the values we place on this factor of quality. Those who can afford it place a high monetary value on this factor, and we should recognize both the esthetic and monetary value of this particular consideration. As civilization "advances" the quality factor will become increasingly important.

Not long ago I heard a fellow worker comment on a paper, which he heard read as follows: "Of course all that has been said before." And in that statement lies an attitude which, I believe deserves criticism. Technical workers often presume that they must concern themselves, like true scientists, only with new problems and objectives. If any problem has been previously explored it is outdated and outmoded. They forget that repetition is the stuff from which understanding is built, or they look upon themselves only as investigators and ignore their responsibility to bring to society the results and benefits of what they have found out. As somebody said, "If they, the scientists, can't concern themselves with the application of their findings to human problems, who can and, moreover, who will?" One of our major problems is our failure to follow through and concern ourselves with the end results of our investigations toward the achievement of a better way of life. Plowing new ground is essential, but we should be responsible for that already turned over.

Another criticism which can be made of the technical worker is that he often expends his talents and efforts in objectives which are, by comparison with the complex problems confronting us, relatively unimportant. Not long ago I noted in a technical journal, that a large money grant had been made to study the mortality effects of ectoparasites on a carnivarous form which is being ruthlessly shot and destroyed by man. Acutely needed is a more extensive and intensive study of the food habits of this species in order to demonstrate its true ecological relationship to man and other species. The mortality factor represented by ectoparasites is certainly insignificant when compared with the mortality produced by man's persecution. This does not imply that the study of parasites is unimportant, but it does imply that there is a critical problem which should have priority over the study of this creature's parasites. Studies of this type represent a waste of talent, money, and effort in view of the more critical problem confronting the species. Certainly there are many problems that can wait while more crucial problems receive the time and talents of trained biologists.

As yet, there is an insufficient appreciation of the value of research in the wildlife conservation field; although its value to most other forms of human endeavor is widely accepted. That mechanistic marvel, the automobile, is the result of millions of hours of research, and no dealer would expect to be in business five years hence, if his company discontinued its research activities. Every medical advance is the result of centuries of research in such fields as physiology, biochemistry and pharmacology; and no doctor could practice without the advances in medicine produced by these investigations. But in the complex business of wildlife management, which involves extremely complicated problems in biology as applied to and conditioned by human relationships, the value of research has not been adequately recognized.

Without adequate study we have, in the past, made vast and costly mistakes in the management of our wildlife resources, and will continue to make such mistakes in the future. As Charles Kettering said, "Research is essentially nothing but a state of mind—a friendly welcoming attitude toward change . . ." ". . . an effort to do things better."

As yet there is insufficient recognition of the professional status of trained workers in the wildlife profession. There are, in the field, a large number of men whose training has been equivalent to that of men in such professions as law, medicine and engineering; but partly because the field is new, and partly because there are still too many "wildlife experts," the knowledge and professional caliber of these trained biologists has not been adequately recognized. The sportsman accepts, without argument, the professional opinion of his lawyer, his doctor and his mechanic, but too often, he completely rejects the considered opinion of trained biologists who have combined years of formal training with years of experience in the management of wildlife. Part of this lack of recognition is due to the biologists failure to advertise and sell the professional caliber of his qualifications and to be responsible for the application of his findings to concrete problems.

The things I have mentioned refer primarily to the deficiencies in our concepts and in the nature of our thinking. In addition to these there are vast physical problems which confront us. The destruction of forests, stripping of grasslands, and draining of swamps and marshes have come about so rapidly and completely that the results are conspicuous to those who care to observe them. Many of these changes were inevitable. Many were the result of a greedy desire to exploit resources for profit as quickly and completely as possible. Only recently have dust storms and erosion reminded us of the destructive forces we have loosed. Certainly one of the most acute problems confronting us as conservationists is the intensive use of land, accelerated by the demands of an ever higher standard of living.

Although swirling dust storms remind us that lands subject to extensive drought should not be plowed, we plow it anyway when wheat prices are high. Through the efforts of soil scientists and educators, land use methods have improved.

Methods used in the management of timber lands present problems in the conservation of wildlife forms, and in the character of our surroundings. Clean cutting and fire destroyed forests and wildlife habitat in an early period of our development. Today, the conversion of extensive areas of forest lands from mixed stands of hardwoods and evergreens to forests of pure pine through management methods, is having an acute impact on forest wildlife forms such as the wild turkey. This form of timber management is particularly apparent in such areas as Arkansas, Louisiana, and East Texas. Beyond the impact on wildlife, the ultimate results of this intensive management has not been wholely determined for either the trees of the forest or for man.

Government agencies, with enormous funds and facilities at their disposal, have drained marshes, dammed, altered and straightened rivers, and have vast plans for the management and manipulation of water in the future. We cannot assume that all these manipulations of water are undesirable, in fact, we must assume that much of it is inevitable and certain aspects of it necessary. We can say, with fair certainty, that many of the things being done to our rivers and surface waters is the direct result of public demands for the expenditure of large sums of public money in the communities where projects are planned, and that the cumulative and end results of much of the drainage and water management in progress has not been determined and is questionable. Certainly the engineers, to whom all this work has been entrusted, are not wholly competent through training to evaluate the end results of all they are doing.

It is significant to note that in 1949, six hundred and seventy-one major construction projects, calling for expenditures of $41,000,000,000 had been authorized or planned by those agencies to whom responsibility for water management has been delegated. The scope of these projects and their effects are vast. Briefly, it can be stated that we will have very few larger free running streams left, and comparatively little swamp or marshland essential to aquatic forms. The drainage of surface water has already had marked effects

on underground waters. The economic justification of much that is being done is questionable when we note that informed authorities give cost estimates as high as $2,500.00 per acre for irrigated lands produced by mighty storage reservoirs.

As conservationists, we should be concerned with saving some of our natural waters for wildlife, for recreation, for their esthetic values and for future generations. I believe conservationists in each state have a clear duty to keep well informed as to what is going on and to take collective action to make their voices heard. They should help designate and demand the preservation of certain natural waters, as Missouri has done with selected clearwater streams. They also have a duty as informed citizens to concern themselves with a proper and socially beneficial use of public funds. All values, instead of only a few, should be considered; and biologists are competent to define certain values not generally considered by engineers.

Recently there have been concerted efforts to take over all or certain portions of our wildlife refuges. The army attempted to incorporate part of the Wichita Mountain Refuge into the Ft. Sill Reservation and has made other efforts to acquire portions of the Cabeza Priesta and Kofa Ranges in Arizona, The Desert Game Refuge in Nevada and vast areas in Alaska. Other agencies have designs on the lower Kalamath and Tule Lake areas in California; and Lucassine and Sabine Refuges in Louisiana. It is our duty to "keep up" with what is happening and consistently protest the destruction of such areas.

At this time we have certain rare or decreasing wildlife species in the south which deserve our concerted attention. Among these are the true wolf, both red and gray, the puma, whooping crane, the various kites, prairie chicken, and others. The decrease or near extinction of some of these forms is the result of environmental changes we can't do much about, but we can help some others, such as the predators, by calling attention to their status and giving a true picture of their relation to man and other species. General information of this type is badly needed, and research could point out the way to the preservation of some of these forms of wildlife.

Another problem is the establishment and preservation of natural and wilderness areas. Many regions and states do not have even small tracts of this type, and further efforts should be made to locate and define and set aside such land units.

Still another major problem is the lack of a basic program to give the public information on conservation problems of the type to which I have referred. In fact, this problem of educating the public is basic to all the others. An informed public is necessary to the achievement of any conservation objectives.

In summary, I think we can say that many of our problems are due to shortcomings in our thinking and in the scope of our concepts. Among those deficiencies is our failure to develop an appreciation of values in our environment which cannot be "bought or sold." We have over emphasized the factor of quantity in sport and in our existence, and have given too little consideration to the factor of quality in our environment and in our recreation. We have failed to consider sufficiently the importance of environment in the development and maintenance of our American way of life.

We have given our time and efforts to relatively unimportant objectives when crucial problems cried out for our attention. And we have often failed to follow through and be responsible for the application of our knowledge to human problems. We have not given sufficient recognition to the value of research in solving wildlife problems, although its value is widely accepted in other fields of endeavor; and the biologist has not yet been accorded professional status, even though his training and experience are equivalent to those in other professions.

We have vast physical problems in the use of lands, forests and water which impinge on our wildlife resources and on the quality of our way of existence. As a member of society, it is the biologists duty to concern himself first and foremost with the most crucial and pressing of these problems.

Among the things we need to do are "to keep ourselves informed about what is going on and by—action make our voices heard." We need to make more

effort to work with other agencies. There is often a total lack of cooperation between agencies having like objectives. The lack of cooperation between educational institutions and conservation agencies is particularly apparent.

We need to make special efforts to save some of our vanishing species. This has been given too little consideration; and we need to specify natural areas and waters of particular merit and initiate action to preserve such high quality areas for ourselves and posterity.

In the last analysis, we need to revise much of our thinking and alter many of our concepts. We need to separate the "forest from the trees." We have lost sight of many crucial problembs through our pre-occupation with less important things.

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