

"WHERE IT'S AT AND WHY"

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The name of the game today is change. Not the kind that rattles in our pockets but the kind that rattles in our heads. And most of us resist change; it is an uncomfortable feeling, it offers new challenges, perhaps a reorientation of our thinking and of our actions. It brings about conflicts and controversies as you have recognized in the theme of your meeting, Wildlife and Society--Conflict in the 70's. But don't feel alone, there are many areas of conflict and controversy today.

Let me try to set our concerns in some sort of context so that we can deal with them. I'll share with you some of my views and hopefully they may help you sort out the very complex world of today. I won't attempt to solve all the problems that we have.

First, I believe we must ask ourselves some questions--hard questions--and sort out our own answers to them. These are questions such as:

What sort of world do we want?

What do we want in or from that world?

What sort of priorities do we set?

What is the cost of what we want?

Are we willing to pay the cost?

I'm thinking of cost in terms of dollars, in terms of use of resources and energy, and in terms of alternatives and trade-offs. And I'm thinking of our willingness to pay in terms of what we as individuals are willing to pay--not somebody else. We have offered too many solutions that require the other fellow to pay for providing what we want.

Let me suggest also that we try to sort out the current scene in terms of facts rather than emotions. There is a strong emotional overlay in much that is spoken and written today even on factual subjects. As human beings we are emotional organisms, emotions are part of our very being. Emotions, however, are not our most useful tool in problem solving. We are also thinking creatures and capable of rational thoughts and actions. We must seek and use facts and recognize when we are emotionally involved. It is all too easy to polarize into opposite camps with opposing goals. You are aware of many of these conflicts in the wildlife and fisheries areas. I note that you are looking at several of them in your program here.

You have all been exposed to discussions and articles explaining the causes of our concerns today. I will spend a little time on five of these that seem to me to be of paramount importance in understanding our problems and in seeking solutions. Three of these are familiar to you, two may not be. But they are all interrelated and it is the complex of interrelations that compound our difficulties in seeking simple solutions. You will be better able than I to relate these to your own interests and I'm sure have already considered at least some of them.

Population. The first of these is population. We can get emotionally involved in this subject but the facts round out like this. You know some of these figures, but I'll tell them anyway. The estimates are that in the year one there was about one-quarter of a billion people on the face of the earth. It took 1650 years to double, to 1/2 billion people on the face of the earth. It only took 200 years to double again. Around 1850 there were a billion people on the face of the earth. It only took 80 years, to 1930, to double again, 2 billion people on the face of the earth. The bets are, 1975, 4 billion people on the face of the earth, another doubling in 45 years. We're nearly there--last time I counted there were 3.7 billion. I could have missed some of them. By the year 2000 to 2010, approximately 35 years, there will be 8 billion of you here.

There are two things here: more people than have ever been on the face of the earth--more people by far, and the rate change is faster than ever before. People are like molecules of gas, as you start crowding them together heat develops, friction develops, explosion develops. We don't get along very well as human beings when we get too close together. But these are simple facts on numbers of people. The other concern is that they are increasing faster and faster. Now back in the year one, there was little concern over what we would do with another 1/4 billion people on this earth by 1650. That was way in the future. But another 4 billion people in another 35 years, that's not very far in the future. So, we don't have time. The implications of this are fantastic. The implications of living together as human beings, the implication of how do we feed 8 billion people. We're not doing a heck of a good job feeding 4 billion people today. Less than half of us are well-fed; some of us are too well-fed. But how are we going to feed another 4 billion people? Here is where agriculture is deeply involved. And, there are much more subtle involvements: land use planning, which is a real problem in California today. How are we going to preserve our agricultural land? How are we going to have agricultural land, plus land for people to live, plus all the other things we want, recreation, wild lands? How do we fit these together into a world that we can live with?

Let me play another very short game of population with you. At the height of Indian culture, in California, there were something like 100,000 Indians in California. There are 100 million acres of land in California. That's 1,000 acres per Indian. And it took about this much, 1,000 acres, to support one individual with the technology that was available at that time. They were eating acorns and roots, which are not too good if you've ever tried them. They had smoked salmon, dried salmon, some deer, some antelope,

and whatever little rodents they could catch, that sort of thing. Not a very well-fed population, with one individual per thousand acres. Also, one individual could hardly foul up 1,000 acres. Today we have 21 million of us in California. That's less than 5 acres each. So I can see across 5 acres, and another 5 acres, and another 5 acres. And, I can do this in all directions. Here is my problem again, I begin to worry. If you're upstream from me, I really begin to worry about what you are doing up there. That's my drinking water! With the technology we have today, we can foul up 5 acres very easily. We can cover it with asphalt, or houses, and where did our production area go? Where did our wildlife go? But we're not going back to the old days. The old days weren't that good, and there's too many of us to go back. We have to find new solutions. So population is one basis of our concern.

Affluence. The second of the important sources of problems is affluence. It may sound foolish to say this is a problem, but the fact remains that we have more money to spend today than we have ever had before. It doesn't always look like it at the end of the month, but we spend money for a fantastic array of things. How many of us have two cars in the family, or three, and a camper, and a boat, and a trail bike maybe, or a snowmobile? We have leisure time, we buy things, we discard things. We are spending more dollars for more things. We can tie this to GNP if we want but there is more money abroad in the land today than ever before so we have more things than we have ever had before. President Nixon recently mentioned that there were 7 1/2 million TV sets sold in 1969 in the U.S. and for most of these there was an old TV set thrown away. Now 7 1/2 million TV sets takes up a bit of space just to get rid of. If you burn them, you create another problem.

Let's try electric motors as another example. How many electric motors do you have around your house? I have a rather liberal legislator friend who is working on a bill for poverty aid to any family that has less than 25 electric motors around. Count them around your place sometime. You have them doing all sorts of very important things: combing your hair, crushing ice, sharpening the knives, opening cans, cutting the meat; doing all these things that we used to do by hand.

And then we worry about energy. There are only two generations of human beings that have ever used electric motors. Now, they are just part of our lives, part of our affluence. They are part of our life style. They use energy. And air conditioners, of course we all need those. I don't want to sit around in the summer and sweat anymore than anybody else does so I have an air conditioner too. Most of us do. So we use this fantastic amount of electricity with all its implications for air pollution, dams, nuclear plants, etc. Let's make some decisions, is that really the way we want to use our energy resources? So, affluence is part of the basis of our concern, as well as part of our life style.

It is a fact that the population on earth today could not live in our life style. There are simply not that many resources on the face of the earth. Now, we can feed them better. We can do that much for them, but we can't give them all three cars and 25 electric motors and all these things. So, we are going to have to set some priorities if we want to live on this earth.

Technology. The third concern is technology itself, and this is one Barry Commoner plays up quite strongly. That is, it is technology, per se, that is wrong. And I disagree. I think it's our use of technology. What do we want to do with it? We have fantastic technology. We've gone to the moon and back how many times now? We go up and get a bucket of rocks and bring them back and look at them. We have spent 80 billion dollars, or some such sum like that, to run back and forth to the moon. Now I'm not knocking it,

but I think we have to decide how do we want to use our technology? We have the technology to tidy up all the sewage in America. We know how to do it with three-stage sewage treatment plants, so that you could have the sludge back again to sell, or whatever. But we don't want to pay for it. It costs too much money. So we'd rather somebody else did it. We built our early cities on rivers so we could take the water out upstream and dump the sewage out downstream. And if you are high up on the rivers it isn't bad. But if you are on the downstream end your water is kind of thick, and it has already been used several times before you get to it. But if we're going to clean it up we have the technology. We have the technology to do many of the things we want. Now it isn't all technology, because it is going to take a gut level commitment that this is what we want to do. But technology by itself is not a bad thing. It's our use of it and, as I mentioned under population, we're not going back to the good old days. They're not there any more. And they never were.

Urban Population. A fourth point is that we are in the second and third generation of young people who have never grown up on farms, who have never raised a crop, who have never seen livestock raised. Food is a "given". Food is something that is down at the store. Now, most of us that grew up on farms in the old days knew something about agriculture. We knew what happened when we had droughts and floods and insect plagues. We had an inner concern over this effect on our food supply. A whole generation now does not have this at all. Food is something that is given, it's down at the stores, so why should we worry about either food or its production.

At Davis, we have a Plant Science 2 course for students that are not in agriculture but are interested in learning something about plants, how they grow, and so forth. They get a little piece of land and this gets worked up for them. And they have irrigation water pipes right there. It's like real hard-shell learning! But, they do get to plant seeds and see them grow. I was looking at one planting of hills, about 1 1/2 feet apart, and I thought I could tell what it was, but I said, "What are you growing there, man?" He said, "Those are radishes." I asked, "How come you didn't plant them in a row?" And he answered, "Radishes come in bunches, don't they?" A logical answer. All radishes he'd ever seen were tied up in a bunch, so little bunches of radishes grow up into big bunches of radishes!

We have most of a whole generation, and part of another, that has simply lost all contact with soil, land; with what it's about in terms of raising food. The historian, Henrick Van Loon, in his "Story of Mankind" makes this statement: "The history of man is the record of a hungry creature in search of food." The integration of food production with open space, with wildlife and recreation values is an important area of concern.

As of January 1, the state planning and zoning code requires two new elements in the general plan for every county and city. These concern many of you. One is an open space element for the "comprehensive and long-range preservation and conservation" of open land. Some local governments add recreation values and call this an "open space and recreation" element.

The second is a conservation element for the "conservation, development and utilization" of natural resources. Land use planning and control is an important political issue today and is important to all of us in preserving the many values that we may have. This leads into the fifth point I want to make.

Changing Values. We are in the midst of a changing value system today. We are looking at different values than we did a generation ago. We are shifting from a "more and bigger is better" attitude to a concept of quality of life, of human values. Not just thing values, but values that are internal values. How can I enjoy being a human being? How can I get satisfaction out of being a human, other than just having more and more things? We have

a younger generation at the college level, many of whom really believe this. I think it's beautiful. But it also presents some problems because these are hard values to equate with straight dollar values. What is the sight of blue sky worth? What is it worth to be able to stand up here and look out over the ocean? We have never had to ask these questions before. And, if you grew up on the farm, following a mule along and looking him in the eye, you didn't have to worry about open space. You didn't have to worry about planning to commune with yourself to get your head on straight. If you didn't get it out of the way, you'd get it kicked off. We had solitude; we had time to sort ourselves out as human beings. As we get more crowded together this becomes a value that we're reaching for. And our younger people are now really reaching for this. I think it's a beautiful thing, really. What sort of satisfactions do I get just being an individual human being? But these are hard to measure and harder to fit into cost-benefit equations. We're equating them with open space, with wilderness areas, with land for food production, often without realizing the interrelations.

Perhaps this leads into another aspect of value change that offers promise in our considerations of management in relation to ecosystems. Whether we are managing wildlands or farmlands we are beginning to understand that these are part of a broader ecosystem concept that includes man and his physical needs--food, clothing, shelter, as well as his psychological needs as a human being. It's an evolutionary change that presents new challenges. Man as part of a steady state ecosystem is a different role than man has ever played before. The change to human values is a move in this direction, not requiring ever-increasing consumption of resources.

How to manage our ecosystem is the one challenge to our survival--and manage it we must--recognizing the fantastic complexities and interrelations. Manage it with all the facts and information we can muster. Manage it as a system, recognizing that it will change even in a steady state.

I'll close with a quotation. This one comes from Bacon's New Atlantis. It says: "Men ought to know that in the theatre of human life it is only for gods and angels to be spectators." We have to be part of the action. That's what it's about. That's where it's at.

