

THE HUMAN DIMENSION

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Abstract: The human dimension of wildlife management will pose increasingly difficult and important challenges to wildlife management agencies and university wildlife departments in the 1980's. The current imbalance between services rendered to consumptive users as compared to services for appreciative users must be rectified. Realignment of policies and programs to incorporate new information generated by social scientists will be necessary. The first task should be to identify the spectrum of wildlife users from generalists to various specialists. Data on what each subgroup does in the outdoors and what each type expects from the resource should be gathered and analyzed. Analysis of recreational specialization yields new information on resource demand and provides a rationale for allocation of resources in short supply. The social scientist will work with the resource manager to match demand with supply of the available resources. The social scientists should work with wildlife educators to develop educational programs for each type of wildlife recreationist to help improve outdoor ethics. The programs would include information on skills, the wildlife resource, and the activities and rights of different user groups. The objective of such programs is to speed up maturation of users from the generalist level to a level of moderate specialization, where satisfaction stems from more than taking the limit. It is suggested that first steps in gathering information on the human dimension be done at university departments in cooperation with wildlife agencies. When techniques of integrating the human dimension with population and habitat dimensions are established, agencies will expand their professional staff by hiring managers trained in the social sciences. This gradual process will accommodate the conservative philosophy and funding limitations characteristic of the Southeast.

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“Wildlife management is the science and art of making decisions and taking actions to manipulate the structure, dynamics, and relations of populations, habitats, and people to achieve specific human objectives by means of the wildlife resource,” according to Giles (1979:4). We want to emphasize the people element in this definition. No wildlife management program can succeed without satisfying the human dimension. This comes as no surprise to wildlife and fishery administrators, who spend nearly all of their time working with people, both in and outside the agency. A foundation of knowledge of wildlife and fishery resources is essential to establish credibility. But, without an understanding of economics, political science, psychology and sociology, the administrator will have great difficulties competing for funds, surviving political upheavals, understanding the needs of his personnel, and developing and maintaining a strong constituency. As virtually every seasoned natural resource manager already knows, the challenges posed by the human dimensions are among the most difficult. Furthermore, resolution of people problems almost always precedes successful changes in habitat and population management programs.

In the 80's the challenges posed by the human dimensions will intensify. Management agencies will either include significant contributions from the social sciences to policies and programs, or the agencies will face ever increasing and bewildering hostility in the public arena. Wildlife management in North America has experienced frequent con-

troversies, but the current strength of special interest groups dedicated to eliminating trapping, hunting and, recently, fishing has placed the management community under unprecedented scrutiny. Furthermore, competition among user groups and even within user groups can be expected to increase in the 80's as the extent of open land and water habitats shrinks while the ranks and diversity of recreationists increase. Resources that could be used to improve habitats and monitor population changes are being spent defending agency policies—policies which may be out of step with the publics they serve.

Survival and prosperity in the political arena depends on the breadth and strength of constituency support. From the perspective of the human dimension, the challenge of the 80's to the wildlife management community is to realign its philosophy, priorities, and programs to fulfill reasonable expectations of society for benefits from the wildlife resource. Meeting the challenge will mean discarding the conservative view that the management community should serve primarily license holders, while giving superficial attention to nonconsumptive wildlife users. Meeting this challenge will also mean abandoning the assumption that a staff or faculty of wildlife and fishery professionals trained in the management of populations and habitats is adequate. Not only should agency and academic administrators hire professionals with backgrounds in social science, but the leaders will insist the human dimension be woven into the fabric of all resource management decisions. Our objective is to suggest how integration of the human dimensions should proceed within the framework of wildlife management in the Southeast.

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IDENTIFYING AND SATISFYING THE WILDLIFE CONSTITUENCY

Before addressing the substance of this section, we present a management-oriented perspective on the human dimension. The approach does not imply that biological facets of management are ignored. Without a resource base there would be no wildlife and fish with which to integrate the human dimension. It does not necessarily mean conducting numerous studies on motivations for enjoying the wildlife and fishery resources, expenditure patterns of recreationists or how many there are. While answer to the latter two questions can help justify programs, motivational and economic analyses are of little managerial utility without a framework yielding management direction. Similarly, while the attitudinal studies of Kellert (1978) provide fascinating insights on how the public views wildlife and wildlife issues, attitudinal studies do not integrate readily into resource management programs. Also, integrating the human dimension should not be confused with good public relations, though this may result from a good management program.

In our view, the management target of the human dimension is provision of "quality" experiences to the greatest number and variety of wildlife recreationists within the limits of resource availability. What people perceive as quality depends on what they are looking for (expectations) and how much they get (satisfactions) (Hendee 1974:108).

The human dimensions management problems are to: (1) identify the various users; (2) determine the elements of satisfactory experiences for each type of user; (3) allocate resources and make regulations to distribute opportunities among users equitably; and (4) educate users on the ethical standards expected from themselves and other user groups.

Identification of Users

This first operational aspect of employing the human dimension is so obvious that it may be taken for granted. However, the traditional pattern of giving service to holders of hunting, fishing, and trapping licenses and employing professionals steeped in consumptive uses has resulted in a communication network oriented heavily toward sportsmen. Consequently, the attendance and testimony at game commission public meetings is not indicative of the wildlife constituency revealed in recent studies (More 1979, U.S. Fish and

Wildlife Service 1977). An appropriate clue to expanding communications with constituency groups stems from the metaphor, "birds of a feather flock together." The analysis by More and the National Wildlife Federation Conservation Directory provide useful information for agencies desiring to increase communication links with the wildlife constituency. Groups dedicated to wildlife observation and conservation constitute already committed human resources for the broad-based agency. As a first step in expanding the effective constituency of the wildlife management community, we recommend agency professionals develop personal contacts with leaders of groups focusing on appreciative use of wildlife resources. These people will be interested exploring opportunities to enjoy wildlife management areas and expand educational programs. At first overtures to these groups will not be paid for in funding support, however if the increased enjoyment of wildlife creates pressures for expanded programs, political support for appropriate funding will follow.

Determining Satisfaction

We endorse Hendee's (1974) multiple-satisfaction approach to wildlife management. For each significant type of wildlife and fishery use and user there exists a set of conditions which will result in satisfaction and benefits from the resource. The essence of good management is providing quality experiences for as many people as possible within the limitations of the natural resource base.

The social scientist can report objectively on the expectations of the constituency. In the past, management programs have served broad categories of recreationists, such as small game and big game hunters, freshwater fishermen, trappers and birders. Within each of these general categories are subgroups of recreationists with expectations quite different from those in other subgroups in the category. According to Bryan (1979) recreationists go through careers. As they become more involved in their sport, they look for different things in the outdoor experience. Novices tend to emphasize consumption, focusing on numbers bagged. With more involvement, the recreationist places increased importance on esthetic qualities of the experience. Consider, for example, the expectations of the trout angler on opening day at a stocked and heavily fished stream to those of the dry fly purist on a walk-in, fish-for-fun stream. Fundamentally different from management concepts generated from studies of attitudes or motivations, the recreational specialization framework is based on the actual behavior of recreationists. Data on what hunters, fishermen, and trappers do, and how and where they find satisfactions is readily collected and interpreted without resort to cumbersome survey research on motivations and attitudes.

Allocating Resources

Disaggregating broad categories of wildlife resource users into subunits (i.e., types of hunters, fishermen, birdwatchers) permits increased accuracy in projecting supply and demand functions of recreation management. As a general rule, specialists who have the most specific expectations should be allocated resources on a higher priority than generalists who will be satisfied by less exacting settings (Bryan 1979). For example, the Virginia Commission of Game and Inland Fisheries operates 17 management areas open to the general hunting public on which waterfowl can be hunted, but the Commission has reserved and managed the 3 best areas for specialized waterfowlers. The number of hunters on each area is controlled by a drawing of applications. The application system is fair but sufficiently intricate, time-consuming, and costly, so as to result in competition among specialists for hunting opportunities. In this case, the winner of the draw will find at the management area a well-camouflaged and well-constructed blind located in a productive marsh, a set of first-rate duck and goose decoys, an easily camouflaged boat, and an absence of interference from other waterfowlers. The great popularity of the hunting programs at Land Between the Lakes (LBL) stems in good measure from the

diversity of hunting opportunities provided through varying seasons, firearms, and access (Lowe, personal communication).

If resources were unlimited, there would be no need to devise allocation schemes to satisfy users of various expectations. With our currently limited supply, the increased demand on the resource cannot be met successfully by giving each participant an equal but decreasing piece of the resource pie. The human dimensions framework provides a mechanism for allocating resources and establishing regulations which can be made explicit, fair and equitable. Such systems can be explained to the wildlife constituency and their support can be won. An indication of public support for the LBL deer hunting system is the over 90 percent return rate achieved by Lowe (personal communication) for a questionnaire sent to over 1000 past users probing the management of hunting on the area.

The social scientist can help identify the satisfactions expected by sub-units within recreational categories. But information is not useful until it is integrated with data on distribution, abundance, access, and quality of wildlife and fishery resources. We concur with Langenau (1980) who recommends biologists work with social scientists throughout wildlife management operations. There simply must be interdisciplinary exchange in both the agency and academic communities in order to realize the full benefits from the social sciences.

The Role of Education

Equitable allocation of resources alone will not rescue the management community from public criticism. Hunters as a lot are considered unsafe, inconsiderate, and inept by the non-hunting public (Rohlfing 1978). Ethics of outdoor sportsmen are of great concern because public rejection of the slob outdoorsman threatens traditional uses of the wildlife resource (Lorenz, this volume). The human dimensions approach advocates education to speed maturation of the resource user so that safety, esthetic, and social considerations reduce the tendency to focus primarily on taking the limit. Education for all wildlife recreationists should be encouraged. A goal would be to instill a desire to establish a good relationship with the landowner, not only of the hunter, fisherman, and trapper, but also of the birder, wild mushroom gatherer, and hiker. As of November 1980 at least 14 states had established campaigns to combat unethical behavior, but only three were in the Southeast (Missouri, South Carolina, and Virginia). For a discussion of the Virginia and Missouri programs see Bromley and Gillam (this volume) and Eymon (this volume). In their important behavioral study of waterfowl hunters in Wisconsin, Jackson, Norton and Anderson (1977) documented types of unethical conduct and provided new direction to hunter education programs. We believe social scientists can help wildlife educators solve significant management problems by providing information on the various groups within the constituency, to include development of reasonable ethical guidelines for each wildlife pursuit.

INTEGRATION OF THE HUMAN DIMENSION IN THE SOUTHEAST

Across the Southeast two generalizations can be made about the wildlife management community with regards to change. One is that a conservative philosophy prevails. The other is that funds are severely limited. Except in Missouri, where a 0.08 percent sales tax is ear-marked for conservation, state wildlife and fishery programs are funded by license sales, Pittman-Robertson and Dingell-Johnson moneys. This funding pattern ties the management agency to service primarily the consumers of wildlife resource. The combination of conservative thinking and fiscal constraints means that the wildlife management agencies will shift priorities slowly and judiciously to better incorporate the human dimension.

The academic community has greater flexibility than the agency and it is here that social scientists will be most effective in the coming decade. Solutions to the questions of

identifying the sub-units of the wildlife constituency and identifying the expectations of each group can be reached through cooperative research conducted at universities. Productive relationships between the agency and university at the research level will lead to incorporation of social scientists with natural resource management perspectives on agency staffs. It is reasonable to expect the first problems addressed by social scientists in cooperation with wildlife managers will be oriented toward improving allocation of hunting and fishing opportunities, such as has been done recently in Wisconsin for whitetail management (Heberlein and Laybourne, 1978, Heberlein 1978, Jackson 1978). Once on the staff of the agency, the social scientist should work directly with wildlife and fisheries managers and education chiefs to develop programs for nonconsumptive users.

A key to expanding the effective constituency of the management agency is to develop communications with citizen groups dedicated to non-consumptive use of the wildlife resource. The review by More (1979) indicates the strength and growth trends for nonconsumptive uses of the wildlife resource. Low cost, high quality opportunities for birders, nature hikers, backpackers, and other nonconsumptive users exist on many wildlife management areas. In many cases all that would be required is advertisement of trails and interpretive facilities available outside of the hunting season. Blinds on marshes can be used by wildlife photographers as well as by waterfowlers. Avid naturalists have sought out these opportunities for years, but the agencies have received scant credit for their hospitality. Once the nonconsumptive users realize benefits from the wildlife management program, pressures will mount to increase the services. Demand for wildlife experiences in excess of those legitimately provided by sporting license fees will result in political action creating an expanded fiscal structure—one that more closely matches the entire fisheries and wildlife constituency. A strong indication of support for expanded programs was the recent enactment of the Nongame Fish and Wildlife Conservation Act.

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