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# THE FUTURE OF EXTENSION EDUCATION PROGRAMS IN WILDLIFE DAMAGE MANAGEMENT

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Almost 10 years ago in October 1981, at the Fifth Great Plains Wildlife Damage Control Workshop here in Lincoln, I presented the keynote address to those in attendance entitled, "Wildlife Damage Control and the Cooperative Extension Service" (Miller 1981a). Although a great deal of change has occurred within the Extension System and within other agencies responsible for animal damage control since 1981, the role and responsibility for Extension educational programs in the prevention and control of wildlife damage has not changed significantly. There have been some changes in the audiences requesting assistance and in the manner, delivery mechanisms, and methodologies used in getting information to those who need it. There have also been some discreet changes in sensitivity among specialists about the way their recommendations and educational programs are presented with a growing awareness that people are sincerely concerned about animal welfare and wildlife management implications.

The Cooperative Extension System (CES) includes U.S. Department of Agriculture-Extension Service, (USDA-ES), and State Cooperative Extension Services (SCES) in each state and county across the nation. It was created in 1914 by the Smith-Lever Act and is a three-way partnership involving federal, state and county people, and funding. This system functions as an educational organization that is cooperatively linked at the federal, state and local levels. CES, 1 of 3 principle purposes of the Land Grant Universities, is people oriented, and

problem or issue focused. Its programs are targeted to both rural and urban audiences primarily through non-formal, research-based educational programs. People participate in CES programs of their own volition as either volunteers or audience, because they perceive it to meet some salient interest or need.

Educational programs of CES are extremely diverse and the system has program leaders and specialists in many professional disciplines. Approximately 4% of the over 15,000 CES professionals nationwide are trained in natural resources, and less than 0.004% are wildlife specialists. Presently, CES has 1 or more Extension wildlife specialists in 36 states and 2 more states have positions that will soon be filled. With only a very few exceptions in a few States, the State Extension wildlife specialists have many wildlife management responsibilities, 1 of which includes wildlife damage prevention and control as an important part of Extension educational programs across the Nation. However, the actual number of FTE's or staff-years assigned to this effort is quite small if we consider only specialists' time. When you examine the delivery system, however, and find that Extension agents in over 3,000 county offices across the Nation also disseminate educational information to users, including information on wildlife damage prevention and control, the effectiveness of the system is better understood.

In regard to the role of CES in the prevention and control of wildlife damage, it

can still be defined as stated in 1981, "to utilize its extensive and effective delivery system to interpret the available research and technical information and to provide it through educational programs to help people help themselves" (Miller 1981b). As to changes in the audiences requesting information on the prevention and control of wildlife damage, a study reported by Jackson (1980), indicated that Extension agents in Georgia, responded to about 60,000 vertebrate wildlife damage questions annually, ranging from those with extensive economic losses or threats to human health, to those of simply a nuisance nature or perceived threat. The approximate number of these damage questions coming from the rural sector, versus the urban sector, varies from state to state and agency to agency. Some investigators conducting surveys have reported approximately 50% of the concerns acknowledged as coming from the urban areas (Marion 1988), whereas others from more rural states have reported over 70% coming from the rural sector (McComb and Bonney 1983). The important question is, "What kind of changes do we anticipate in the future regarding the source, types and extent of problems identified and how can we be responsive and effective in addressing these needs?"

Based on trends indicated by recent surveys, as well as reviewing past proceedings of wildlife damage control conferences and reports from states, I believe we can confidently predict that as the human population continues to grow and diversify, and more development takes place in formerly agricultural or wooded lands, we can expect a continued growth in urban wildlife damage complaints. It is obvious that these occurrences will also stimulate more wildlife-human interactions and more need for educational programs to assist in public policy decision-making.

We also need to examine the changing attitudes occurring within the growing population about wildlife and how they perceive its management and uses. For

example, if we examine the trends indicated in recreational uses of wildlife as reported in recent surveys such as the National Survey of Fishing, Hunting and Wildlife Associated Recreation (U.S. Fish and Wildlife Service 1988), we can quickly observe that in the 1980 survey, 59% of the total U.S. population participated in some form of wildlife-associated recreation, whereas in the 1985 survey, 77% of the total U.S. population participated. The greatest increase in types of wildlife-associated recreational use, however, was a 32% increase in 1985, as compared to 1980 survey data of so-called nonconsumptive users—those who enjoyed recreational uses of wildlife, aside from hunting, fishing or trapping.

What this tells us then is that the growing urbanization of our population predicted in the President's Commission on Americans Outdoors (1987), soon to reach 80% of the U.S. population, means that as increasing numbers of the population want to participate in some type of wildlife-related recreation, and with a progressive expansion of urban development, the potential for urban wildlife problems is also going to increase. We can also reasonably predict as noted from a national survey by Marion (1988), that 54.7% of these people want the problem to be solved without any harm coming to the individual animal or population causing the problem.

Based on landowner tolerance studies, we know that depending on the species, the type of damage, and perceived economic or health threats, many landowners are sometimes willing to tolerate considerable losses before taking action. Purdey, et al. (1985), for example, reported that landowners in New York were willing to tolerate up to \$400 damage per year for up to 2 years from beaver, before taking action to achieve some level of control. Similar studies on damage by deer and other species have been reported with various amounts of economic thresholds because in general, people like wildlife and are willing to tolerate some level of loss just because they like having them around.

The point of this discussion is that although we in Extension certainly embrace both the concept of and need for wildlife damage prevention and control programs that provide operational, service-oriented and technical assistance, and look forward to cooperation with such programs conducted by our USDA-Animal and Plant Health Inspection Service-Animal Damage Control (APHIS-ADC) partners, as well as those programs conducted by appropriate state agencies, we also recognize the growing need for educational programs. We acknowledge also the need and opportunity for private sector damage prevention and control programs, and continuing cooperation coordination and in-service training needs they might have.

I want to return to a few statements made in my 1981 address here to review past predictions and examine how appropriate these were then and are now. These are: 1) Extension's role in the prevention and control of wildlife damage is educational, not operational, 2) Extension programs emphasize prevention, non-lethal, non-capture methods, when and where possible and appropriate, as well as individual and population lethal control methods where determined to be appropriate; 3) these programs emphasize species-selective control targeted toward the offending animal(s) whenever and wherever possible; and 4) Extension specialists involved in wildlife damage prevention and control who for the most part also have wildlife enhancement responsibilities, educate landowners and others, not only in wildlife damage management, but concurrently in how to sustain and enhance wildlife habitat for preferred species.

In regard to the future of CES concerning the development and implementation of educational programs, I have serious doubts that we can expect any significant increase in the number of State Extension wildlife specialists who can devote a major portion of their time to programs on the prevention and control of wildlife damage. Obviously,

this could change if other Federal, state and private wildlife damage control programs were suddenly, for whatever reason, not available. However, not only is this not likely to happen, but we in Extension would not like to see it happen for obvious reasons.

Clearly, we feel and we hope others concur, that CES has a viable role in conducting educational programs for the prevention and control of wildlife damage. We see our role to be complementary to programs of APHIS-ADC and to those of state fish and wildlife and agricultural agencies, as well as to private sector programs, and those of other Federal and state agencies.

Some of the often misunderstood, but beneficial indirect roles we see Extension playing now and in the future related to prevention and control of wildlife damage include:

1. Cooperation and coordination with other agencies in developing and conducting regional and national workshops such as the Great Plains Wildlife Damage Control Workshop, Eastern Wildlife Damage Control Conference and Vertebrate Pest Conference.
2. Conducting in-service training and continuing education programs for other professionals in a variety of areas.
3. Utilizing our research partnership with the Land Grant Universities and their agricultural and natural resource programs to stimulate, cooperate in, and translate useful research into educational programs. To be useful and effective, this information must be understood and capable of being implemented by farmers, ranchers, land owners, urban dwellers, and the public.
4. Utilizing the credibility and delivery capability of the total Extension System to help the public understand the needs and justification for prevention and control of wildlife damage, and
5. To provide a forum for and serve as catalysts to bring together opposing

groups for conflict resolution and decision-making regarding public policy related to wildlife damage prevention and control.

As to the future benefit of direct educational efforts by the Extension System, I am confident that programs on wildlife damage prevention and control will continue to include:

1. Development and dissemination of state, regional, and national publications, videotapes, field manuals, workbooks, and other decision-making tools from research-based sources.
2. Applied field research on damage assessment, economics, landowner attitudes, prevention, capture, and lethal control techniques and methodologies for publication, use and training, and for input to other researchers.
3. On site-field demonstrations and pilot projects for agents and end users.
4. Formal and informal educational meetings for rural and urban communities, clientele groups and individual landowners.
5. Direct in-service training for extension agents and other professionals.
6. Cooperation with other Federal and state agencies on coordinated projects, programs and materials.
7. Proactive planning to address new and emerging issues (e.g., legislative mandates, regulations, animal rights opposition).
8. Development, dissemination, revision and implementation of state, regional and national handbooks and educational programs.
9. Evaluation and monitoring of educational products, programs, and their use by urban and rural adult, and youth audiences.
10. Active involvement and liaison with professional societies, conservation organizations, agricultural groups, and others.

Obviously, there are numerous other direct and indirect activities and programming efforts related to wildlife damage prevention and control that federal and state staff of CES will be involved in, however, these areas delineated will encompass most of them.

The future of CES and its educational programs that contribute in a variety of ways to professionalism and to helping people help themselves deal with wise stewardship of wildlife resources including the prevention and control of wildlife damage is in my opinion a positive one. I do not anticipate, however, that this means there will be a significant growth in numbers of FTE's or new positions with a major focus on wildlife damage prevention and control. I am hopeful that there will continue to be some orderly and progressive growth in numbers of Extension wildlife specialists positions, particularly in those states and territories that do not currently have such positions.

There are several reasons why I am confident in making this prediction, even in light of the current fiscal shortage in many State budgets and very little likelihood of any significant increase in Federal appropriation for USDA-ES. One of these reasons is the confidence I have in the state Extension wildlife specialists we have across the Nation. Not only have they earned significant credibility for the contributions of their programs to wildlife stewardship, to the mission of CES, and to the clientele they serve, but they have become recognized as important contributors to the wildlife and natural resource conservation community at state, regional, and national levels. Added to this is the credibility of CES itself and its ties to the Land Grant University System and to the research community, state, and Federal. Another of the reasons CES has such credibility is that programs and partnerships with cooperating agencies and its "grass roots" ties to people at the local level are complimentary and responsive to the changing needs of people.

These programs also have credibility because they are non-regulatory, non-advocacy, and neither dispense money to, nor take money from, the grassroots clientele they serve with educational programs. Extensive linkages are evident: to county and community decision-makers; to the 1862 and 1890 Land Grant research, education and Extension programs; to the USDA and its programs, and to other state and federal agencies, organizations, and support groups.

I believe it is obvious to all of us that what we can do in our programs in the future will be affected by changing societal values and concerns through the impact on political mandates, regulations, and on perceptions manipulated by the media. It will be affected by our competency to educate people throughout our delivery system with research-based programs targeted to their needs. It will also be affected positively or negatively by how effectively we cooperate with others, and our own professionalism in the way we conduct our programs.

As a final example of ways we can effectively work together and pool our resources and talents, I believe the effort underway now to revise and update the handbook, "Prevention and Control of Wildlife Damage" (Timm 1983) is a classic case. This handbook, evaluated several times since originally available in 1983, has proven to be a very practical, useful, and beneficial educational tool. The cooperation between Extension and APHIS-ADC to update and expand this document for wider national use is a wise use of talent and resources, that will continue to pay dividends to those who use this information and to each of our agency's programs in the future. For example, James Armstrong, Alabama CES, indicated that all County Extension Offices in Alabama have had copies of the handbook in their offices since 1985 (pers. comm.). One of the questions he asked in a survey of Alabama Extension Agents was the frequency of their use of this handbook in responding to questions or requests from clientele regarding wildlife damage

prevention and control. His findings were that 70.1% of the 80 agents responding, reported using it frequently in responding to 16,861 requests for information last year.

As a final note, let me close with a few predictions about the future of our educational programs in wildlife damage prevention and control.

1. It is evident that the ratio of requests for information and assistance on wildlife damage prevention and control will increase from the urban and community audiences.
2. We will have to increase our utilization of electronic media, computer programs, CD-ROM, videotapes, and other types of mass media programming.
3. We must continue and increase, when ever and wherever appropriate, our cooperative efforts with APHIS-ADC, and other Federal, and state agencies, and organizations utilizing Memorandums of Understanding and Cooperative Agreements when needed.
4. We must continue to identify and address emerging issues, changing clientele needs, and modify, and improve our capabilities to meet these needs.
5. We cannot survive, nor will our educational programs survive if we stubbornly fight to continue to do things the way we have in the past and only serve those traditional audiences and needs of the past. The political emphasis on the Hill today is not predominantly driven by the needs of rural American and agriculture, but by issues and needs of the urban populace.

I am positive about our future, the strong professionalism, the enthusiasm for continuing education, and the strong commitment to help people and to sustain a quality natural resource base for present and future generations and their needs. I salute those of you responsible for this conference and encourage those of you in attendance to continue to strive to improve our future

capabilities. We in CES look forward to working with you and for the people in every state and county of the U.S., and its territories to help people help themselves, and to ensure the sustainability of a strong and viable natural resource base.

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