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Every wildlife species has positive values or benefits it provides to society. Some people enjoy hunting, while others enjoy watching and hearing wildlife; still other people derive pleasure simply knowing animals exist free from human dependency (King 1947, Ehrenfeld 1976, Steinhoff 1978). Each species also has negative values (Decker and Purdy 1988) associated with adverse impacts, such as property damage, damage to agricultural crops, predation on other valuable species, or simply being a nuisance. For any location and point in time, the net value of any wildlife resource is the sum of all its positive and negative values. The goal of wildlife managers then is to enhance the net value of the wildlife resource for society, by accentuating positive aspects and/or reducing negative attributes of species.

Leopold (1933) defined game management as the "art of making land produce sustained annual crops of wild game for recreational use." During most of the Twentieth Century, wildlife agencies followed Leopold's ideas and concentrated efforts on the production of harvestable game species. In recent years, the wildlife management profession has expanded to embrace concerns for rare and endangered species, management of nongame species, as well as provide opportunities for nonconsumptive uses of wildlife (Sanderson 1991). These efforts are usually aimed at enhancing positive values of wildlife and are directed primarily at species which already are associated with high positive values. Much less attention has been devoted toward increasing the net value of wildlife resources by reducing negative values. Academic programs in fisheries and wildlife science have both reflected and perpetuated these trends by emphasizing teaching about and conducting research on those species that already have high positive values. As a

result, wildlife damage management has not received adequate attention in academic programs. The College of Natural Resources at Utah State University has recognized this deficiency in its academic program and, with the cooperation and support of the U.S. Department of Agriculture, Animal and Plant Health Inspection Service (USDA-APHIS), has established a new academic program in wildlife damage management.

Specific objectives for our program include: 1) incorporating wildlife damage management as an integral component in all appropriate courses in the curricula of the Department of Fisheries and Wildlife; 2) offering specific course and a wildlife damage management option in our undergraduate degree program; 3) providing graduate training and offering advanced degrees in wildlife damage management; 4) conducting research related to new or improved methods for avoiding or alleviating wildlife problems, and 5) providing a continuing education and extension service component in wildlife damage management.

BENEFITS

We anticipate several societal benefits from our program, including: 1) better academic training because all of our students will acquire an understanding of the need and science of wildlife damage management in their general education program; 2) a source of personnel knowledgeable about the latest developments in concepts and techniques of wildlife damage management through specialized training; 3) development of new and innovative approaches to alleviating selected animal damage problems from research efforts; 4) a wider public appreciation of the need for wildlife damage management through extension efforts, and 5) the opportunity through continuing education to improve the skills and knowledge of field personnel charged with managing problem wildlife.

UTAH STATE UNIVERSITY'S PROGRAM IN WILDLIFE DAMAGE MANAGEMENT

Our academic program in wildlife damage management is national in scope, emphasizing the magnitude, nature, and treatment of problems created by free-ranging vertebrates. This will be accomplished by:

1. Incorporating the concepts of wildlife damage management into existing undergraduate and graduate classes with emphasis on case studies of wildlife problems.
2. Creating one faculty position to conduct research, and teach courses in wildlife damage management. Dr. Michael Conover has been recruited for this position. He obtained his Ph.D. at Washington State University in 1978 and for the last 11 years has been a research scientist at the Connecticut Agricultural Experiment Station. He has a broad research background in animal behavior, wildlife ecology, and wildlife damage management, and has published over 75 papers related to wildlife management. He is also an Associate Editor for *The Journal of Wildlife Management.*
3. Establishing one faculty position in continuing education to: a) develop audio-visual programs for the general public (media); b) design and prepare teaching modules for classroom instruction, and c) write articles for both professional and lay audiences that depict the nature, magnitude, and techniques for alleviating problems caused by wildlife. Dr. Robert

Schmidt will fill this position. He obtained his Ph.D. at the University of California-Davis in 1986. Since then, he has worked for the University of California-Berkeley as a Wildlife and Natural Resource Specialist with extension responsibilities. He has been stationed at the University of California Hopland Field Station. Many of his publication and extension activities have dealt with philosophical, social, and political issues affecting wildlife damage management.

4. Organizing and teaching four courses related to wildlife damage management. These will include:

   FW 510 Principles of Vertebrate Pest Management
   FW512 Techniques of Wildlife Damage Management
   FW 580 Quantitative Analysis of Vertebrate Populations
   FW 625 Advanced Vertebrate Pest Management

5. Creating a new academic program option in wildlife damage management to allow undergraduate students to focus on this area for their B.S. degree—this primarily involves administrative adjustments within the Utah State University academic structure.
6. Developing a cooperative education/intern program to allow students on-the-job career learning experiences to compliment relevant academic course work in a more complete educational experience. Employers taking advantage of this program should acquire employees that are better trained and more highly motivated.
7. Developing a graduate program in animal damage management. Two options are currently available at the M.S. Level; one oriented toward research and the other designed for managers. The research option emphasizes research projects and gives additional credit for that part of the program. The management option requires more course work, particularly in managerial skills, with a thesis related to analysis of management problems along with recommendations for solutions. An internship can be an integral part of this program. We also offer Ph.D. programs that emphasize development of research abilities.
8. Creating teaching and research assistantships for graduate students interested in pursuing advanced degrees in wildlife damage management.
9. Developing a continuing education program in problem animal management for people who could benefit from university training but cannot attend university classes. For these people, Utah State University will offer several opportunities in continuing education including correspondence courses for credit, seminars, workshops, and short courses. Updating professionals working in problem animal management will be an important aspect.

The Department of Fisheries and Wildlife at Utah State University, in cooperation with USDA-APHIS Animal Damage Control Program, has established an academic program in wildlife damage management. The philosophy underlying the new program is that problem animal management is an integral part of the wildlife management discipline. The new program aims to insure that all graduates of the Department of Fisheries and Wildlife become familiar with the principles of wildlife damage management and recognize its relationship to other areas of wildlife

management. A second goal is to offer students a comprehensive education in wildlife damage management through course work, internship program, and by supporting graduate student research in this area. We will conduct research to develop knowledge related to alleviating wildlife damage problems. Finally, we plan a strong extension component to our program that will provide opportunities for continuing education in wildlife damage management.

CONCLUSION

Utah State University intends to become an academic center for wildlife damage management. Hopefully, our program will provide both guidance and motivation for other institutions to establish similar programs to incorporate wildlife damage management as an integral part of academic training for students interested in wildlife management.

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