University of Nebraska - Lincoln
DigitalCommons@University of Nebraska - Lincoln

Fifth Eastern Wildlife Damage Control Conference (1991) | Eastern Wildlife Damage Control Conferences

2-2-1991

ECONOMICS AND EFFECTIVENESS OF CONTROL METHODS: FACT AND FICTION

Rick D. Owens
U. S. Department of Agriculture, Animal and Plant Health Inspection Service, Animal Damage Control

Dennis Slate
U. S. Department of Agriculture, Animal and Plant Health Inspection Service, Animal Damage Control

Follow this and additional works at: http://digitalcommons.unl.edu/ewdcc5

Part of the Environmental Health and Protection Commons

Owens, Rick D. and Slate, Dennis, "ECONOMICS AND EFFECTIVENESS OF CONTROL METHODS: FACT AND FICTION" (1991). *Fifth Eastern Wildlife Damage Control Conference (1991)*. Paper 30.
http://digitalcommons.unl.edu/ewdcc5/30

This Article is brought to you for free and open access by the Eastern Wildlife Damage Control Conferences at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Fifth Eastern Wildlife Damage Control Conference (1991) by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

ECONOMICSAND EFFECTIVENESS OF CONTROL METHODS: FACT AND FICTION

RICK D. OWENS, U. S. Department of Agriculture, Animal and Plant Health Inspection Service, Animal Damage Control, 7(Executive Center Drive, Brentwood, TN 37027

DENNIS SLATE, U. S. Department of Agriculture, Animal and Plant Health Inspection Service, Animal Damage Control, 9 North State Street, Concord, NH 03301

Abstract Wildlife damage management decisions are often incorrectly viewed as being predicated solely upon economic Although costs of wildlife damage and methods employed to reduce this damage are considerations in damage management decision-making, the selection and application of methods are also dependent upon environmental factors that include biologic physical, social, and legal influences. Professional decision-making involves an assessment of these factors on a case-by-c: basis, to determine which methods and application strategies are environmentally cost-effective and therefore practical.

Proc. East. Wildl. Damage Control Conf. 5:24-27. 19!

Wildlife damage management professionals often claim that the methods we use or recommend depend on economics and effectiveness. However, critics often challenge that these methods are neither economical nor effective. Both claims are legitimate. Although these are considerations in decisionmaking, management decisions may or may not be dependent upon this. We must recognize that management decisions are based upon other considerations as well. To fail to do so is both unprofessional and unrealistic.

Approaches to wildlife-human conflicts are highly variable due to an almost infinite array of factors such as the wildlife species involved, their population dynamics, and behavior. Likewise, there is great diversity in human populations, cultures, and behaviors. The human-wildlife interface is dynamic. The resulting conflicts are dynamic as well.

Our publics generally lack an understanding of wildlife management principles and so may have gross misperceptions about wildlife damage management. Unfortunately, these misperceptions are shared by many wildlife professionals not routinely involved in wildlife damage management. It is too often thought that solutions to human-wildlife conflicts are simple and straightforward. Consequently, our recommendationsarefrequentlynotacceptedbecauseofthisoverlysimplistic view. Too few people understand that wildlife damage management decision-making is a complex process.

These misperceptions must be changed if we, as a profession and management specialty, are to provide appropriate assistance to our publics. We must communicate that many variables must be evaluated in developing and implementing wildlife damage management strategies. Our credibility, and consequently our effectiveness, are dependent upon public understanding.

COMPLEXITY OF DECISION-MAKING

The resolution of human-wildlife conflicts is a dynamic and frequently complex process. Management decisions are based on many factors. While our objective as professional wildlife damage specialists is to solve problems with a minimum of negative biological impacts, it must be more widely recognized that many potentially "effective" methods may r be applicable because of overriding social, economic, or other considerations.

In addressing any wildlife damage situation, the though process that leads to action is basically the same. However, ea situation has a unique set of environmental circumstances that require an assessment to determine solutions specific to that particular situation.

When a request for assistance is received, we, like medic doctors, auto mechanics, or other professionals, must fn identify the problem and determine if the assistance request is within our abilities. We must determine the impacts of the damage and then assess the management actions potential applicable to the particular situation. This is followed 1 selection and implementation of those methods or approach most appropriate. An assessment of the effectiveness of d management actions is made to determine if additional treatment is required or if approaches must be modified (Fig. 1).

Decision-making consists of concurrent, multi-stage thong processes to determine impacts to, or caused by, the biology economic, physical, social, and legal environments. We must evaluate not only the immediate impacts of the problem but t long-term impacts as well. The relative impacts of implement tation of potential methods must be compared to those for i action. Consideration must also be given to environment influences upon the effectiveness and practicality of various methods (Fig. 2).

Damage Assessment

We must first assess the damage or conflict itself. Imm diate attention is given to identification of the species involve and extent of damage. We must also determine present and potential future environmental impacts in the absence of contr actions. If left unaddressed, what will be the biological impact of the damage? Will there be unacceptable habitat degradation or interspecific competition? Will there be impacts up threatened or endangered species, or other species of sped concern?

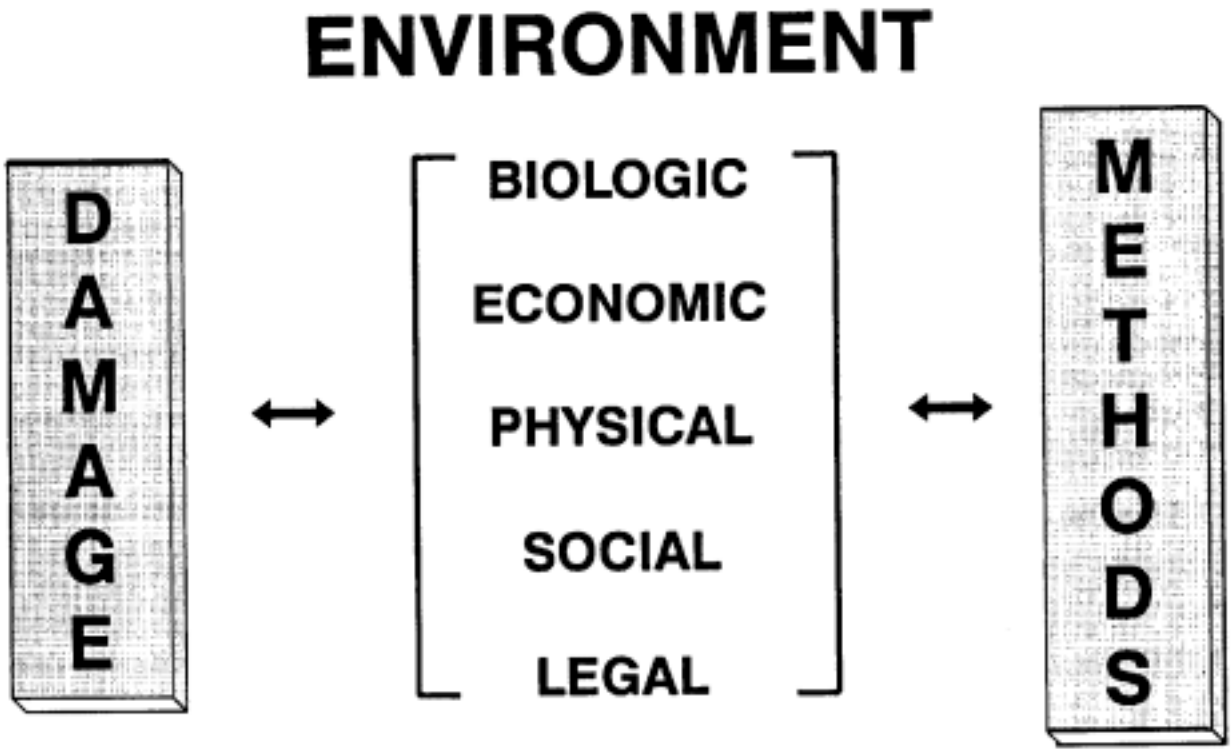

Fig. 1. Environmental influences on wildlife damage management decision-making.

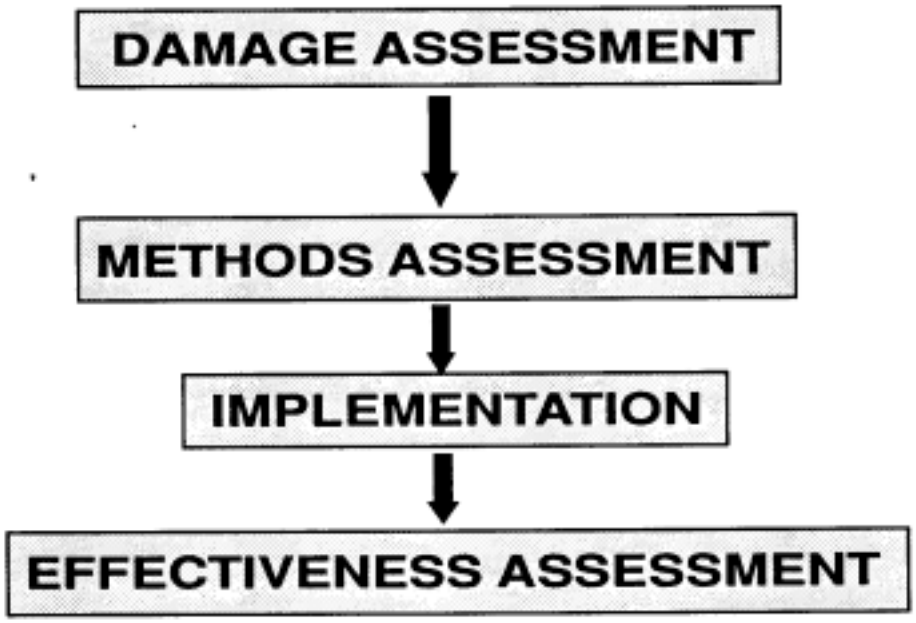

Fig. 2. Compartmentalized flow model for determining wildlife damage management strategies.

What are the economic losses attributed to the damage? What is the social acceptability of the damage? We must also consider other environmental impacts. Will damage to soils, water, or air be unacceptable? What are the legal implications to the property owner or manager, or possibly to us as wildlife managers, if no attempt is made to resolve the problem? This damage assessment must be conducted first to determine the seriousness of the problem and allow comparisons among management options.

Methods Assessment

The most commonly recognized aspect of the decision process is that of evaluating methods, or action approaches. As with damage assessment, we must consider impacts of management actions on various environments, and the influences of the environmental components upon management actions.

These include both positive and negative impacts. Of the array of methods or management actions potentially applicable to a particular situation, we must assess the impacts on various habitats and wildlife. What are the monetary costs of implementing various management actions? What will be the impact on soils, water, or air? What are the animal welfare concerns and associated social acceptability of various actions? What are the legal ramifications regarding what can be used, who can use it, and when and where it can be used?

Implementation

At this point, several management methods should have been identified that are practical for the situation. The determination of which methods) to initially implement is then dependent upon relative effectiveness and available expertise. For example, the most effective action for one situation may be lethal removal, while a similar but uniquely distinct situation may be most effectively addressed by scare tactics. Effective damage resolution is often best attained by combining several methods with an integrated pest management (IPM) approach.

Professional assistance may be provided through technical advice, hands-on management, or in combination. Exclusionary methods and methods directed at managing the affected resource are usually implemented by the property owner or manager. These include such actions as animal husbandry, crop management, fencing, structural improvement, and modifications of human behavior. Direct management may be implemented by either the professional wildlife specialist or resource owner. These actions are directed at moving or removing wildlife and include harassment, translocation, and lethal control efforts.

Cost-effectiveness considerations of wildlife damage management actions are not limited to those related to economics. This decision process illustrates the environmental cas*teffectiveness* considerations routinely made in developing management strategies. The resultof these assessments are managementapproaches that are the mostenvironmentally cost-effective not only with respect to economics, but to biological, physical social, and legal parameters, as well.

INFLUENCING PUBLIC PERCEPTIONS

Our professional management decisions and associated reasoning are often not appreciated or accepted by many of publics. Why? People increasinglyviewusnotasprotectorsb as destroyers of wildlife. These perceptions are based emotion rather than reality. Unfortunately, perception often becomes reality and emotions impact how we do business. Sociocultural influences may require us to develop recommen lotions or implement actions that are costly, ineffective, and even biologically unsound.

Why is emotionalism having an increasing influence on wildlife damage management? It is because of the activism of emotion-ridden and often self-serving rhetoric of individuals and organizations who have a common concern for animal welfare. These well-meaning individuals do not understand the basic principles of wildlife management and are ignorant of the environmental parameters within which damage management decisions are made. Regardless, they actively and effectively communicate their messages to people.

Animal activists are getting the attention of the American public and are increasing the credibility of the messages they send. Because of shared concerns for the welfare of animals, the naive public increasingly perceives many of these activists and organizations to be wildlife management experts. They are heroes who have come to the rescue of defenseless wildlife which the public believes have no otherprotectors. We are often portrayed as villains mismanaging our nation's wildlife, and our credibility is being steadily eroded.

Why are they so successful? It is because we, as a wildlife managementprofession,arenotadequatelyinformingourpublics of what we do and why we do it. Through lack of action we are nurturing public misperceptions regarding wildlife-human conflicts and ways to address them. We must become *wildlife management activists* if our publics are to fully understand our decision-making processandmakelogicalandrealisticappraisals of our professional recommendations and actions. We must become proactive rather than reactive.

In our contacts with people, whether one-on-one with a homeowner who has squirrels in the attic, or when addressing a large audience such as this, we must make every effort to communicate the many factors that require consideration in developing management actions. We must communicate that decisions are the result of a complex assessment process and not based solely on economics, effectiveness, or any of a number of other single factors. Very importantly, we must emphasize that each situation is unique, as are the solutions to the problem.

We must be aware of public perception and its influence on the services we provide. In promoting the responsibility of our

actions, we must focus on our mutual concerns for the environmentand for the well-being of both humans and wildlife. It must be understood that our actions are based on many environmental considerations. We must ensure that our publics understand that our actions are those of responsible, professional, and caring wildlife biologists. We must not assume that our publics understand this, much less accept it.