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## Taking the “Pest” Out of Pest Control: Humaneness and Wildlife Damage Management

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**ABSTRACT** Humans have been in the pest control business for a long time. At least 3 major foci of pest control activity currently can be found in governmental and private sectors, with private services focused on both traditional commensal rodent work as well as the more recent control of “nuisance” wildlife in cities and towns. Beyond the traditional approaches and techniques historically employed, animal damage managers are increasingly faced with the challenge of addressing the social context within which their work occurs. An ever-increasing variety of stakeholders have brought new concerns, new thinking, and new approaches to the table in a field that formerly received little if any, public input. A significant, perhaps the most significant, challenge for wildlife damage managers in the future is how to better engage their programs in the pluralistic and often confrontational environments of contemporary wildlife damage management.

**KEY WORDS** “pest,” pest control, humaneness, wildlife damage management, ethics.

If the grooming behavior found almost universally among primates functions at least in part to remove ectoparasites, we can confidently say that humans were engaging in pest control even before we became human. Once we domesticated plants and animals and were raising our own food, the matter of controlling pests assumed economic importance and became amenable to a business model. The first pest control businessmen in the West were probably the rat-catchers of the Middle Ages, whose profession grew out of the rise of urban centers, lack of sanitation, and the outbreak of the plagues that led to the origin of the word “pest” itself (Oxford English Dictionary 1971). Rat-catching was imported from European to American urban centers around 1840, and by the 1920s was well enough established to have spawned state and national associations (Snetsinger 1983). By then, the control of the injurious insects provided even bigger markets than injurious rodents. Traditional pest control businesses retain an emphasis on the control of invertebrates to this day. Agriculturalists were battling pests early on as well, and federal assistance came to them during the 1890s in the form of an Office of Economic Ornithology and Mammalogy founded by C. Hart Merriam. The Smith-Lever Act of 1914 established university agricultural extension services to augment some of these services (San Julian 2012), and with the 1931 passage of the Animal Damage Control Act, the government’s role in vertebrate pest control was further codified. Decades later, beginning around the 1970s, changing conditions in the cities and suburbs created an opportunity for the rise of small private businesses specializing in nuisance wildlife control (Braband and Clark 1987). These businesses were aimed at wildlife

species such as squirrels and raccoons that had not previously been the focus of professional control services.

At about the same time the nuisance wildlife control industry was taking shape, environmental awareness was rising out of a growing body of knowledge pointing to the dangers associated with the chemical control of pests. This complemented and may have stimulated contemporaneous social activism focused on the treatment of animals, leading to the rise of what can be called the modern “animal movement” (Nash 1989). Environmentalism, ecological thinking, animal rights, conservation biology, urban wildlife, and nuisance wildlife control all recently and in a sense suddenly have become relevant to the dialogue about pest control. That dialogue has often involved more polemic than discussion. My objective here will be to address where, and perhaps how, further discussion might take place.

### THE “ANIMAL MOVEMENT”: WHAT IS IT ABOUT?

The animal movement that grew of the activism of the 1970s, but which also has a significant history before that, comprises 3 main streams of thought and action: animal rights, animal welfare, and animal protection. Animal rights in its contemporary form largely took shape around the philosophies introduced by Peter Singer (1975) and Tom Regan (1983). Singer and Regan articulate quite different ideas about the duties we owe animals, belying the popular assumption that this field stands as a monolithic block of thought; still, the term “animal rights” is what one hears most often used in reference to any form of activism over

the treatment of animals, especially in the press. Animal welfare typically describes a movement that first took form in the mid-nineteenth century, largely over concern for the treatment of domestic animals, particularly pets and draft animals, which led to the founding of local humane societies and animal control agencies (Niven 1967). A broad generalization about animal welfare would be that it is concerned more with *how* animals are treated than *why*. Animal protection, to this writer, is a field in which some of the concerns of both animal rights and welfare join with certain aspects of environmentalism, especially those dealing with the status and welfare of natural communities. When considering a program to reduce a population of prairie dogs, an animal protectionist would ask not only *how* the animals would be killed but also *why* the killing was justified in the first place.

Activism springs directly from all of the arms of the animal movement and ranges broadly across a spectrum of social activities encompassing everything from violence to civil disobedience to democratically legislated initiatives. That animal activism and vertebrate pest control would provide a fertile ground for direct confrontation, and that activism would be perceived as an important threat to wildlife managers, is a bit of a foregone conclusion (e.g., Brooks 1988). Differences, some big and some small, always will exist between the two, making it less relevant that they be resolved than understood. How to arrive at a better understanding of the varied opinions and positions taken in the highly plural environments surrounding wildlife damage management perhaps is the most significant challenge in contemporary wildlife damage management.

### SOME GENERAL PREMISES

Given that any dialogue about the control of vertebrate pests will likely include strongly held and often diametrically opposing points of view, it might be helpful to look for common ground and shared concepts before considering ways to deal with disagreements. Recent studies of human-wildlife conflict emphasize what those who specialize in this area have known more intuitively for some time—that it is often human-human more than human-wildlife conflicts that managers must face (Madden 2004). People construct their view of conflicts based on individual and group-shaped assumptions, perspectives, and values (Goedeke and Herda-Rapp 2005). What anyone

feels is right or appropriate for a given issue can, and perhaps inevitably has to, be wrapped up in his or her identity. The facts (data) can be laid out on the table, but the table itself (feelings) is very much a part of the room.

It is also important that those involved in the dialogue about wildlife damage management, either as practitioner or critic, own a piece of the concept of “humaneness.” Both the term and the concept of humaneness have to come into much more common use and those who use or appeal to either have to be clear about what it is they are saying. For example, consider the almost casual way in which many who advocate for humane treatment embrace the “humane” trap—the box or cage-like device that often is employed in wildlife control to capture and hold animals alive. It may be right to argue that cage traps are less likely to cause harm than other restraining devices, such as snares or foothold traps, but it is still important to recognize that they can. Abrasions and lacerations are something anyone who uses cage traps has encountered, particularly in excitable species or individuals, and broken teeth are not uncommon. A broken canine can lead to prolonged suffering or even a potentially life-threatening problem that will not be manifested until long after release. Human error, ignorance, or apathy also can lead to a painful death when trapped animals are left unattended in extreme heat or cold. Perhaps it would be better not to call any restraining devices “humane” and turn attention instead to appropriate frameworks within which their use, or misuse, could be better defined.

### DO WE NEED ETHICAL FRAMEWORKS?

The concept of ethical frameworks can be used to visualize how we ought to act toward wild animals (Fraser 1999, Hadidian et al. 2006). Ethical frameworks are widely used as guides in everything from medical practices to tow truck operations. They are useful in directing the way we think, or should think, about issues, even when we know we cannot—or will not—act accordingly. Ethical frameworks are applicable to all aspects of animal welfare and pest control (Littin and Mellor 2005, Warburton and Norton 2007) including areas where we might think ethics not to be a consideration at all. For example, consider the relationships we have with insects and commensal rodents, two common types of pests. A reasonable argument could be made that we owe no duty or

obligations to either. Both invade our homes, expose us to disease, spoil our food, and compete for our crops, among other insults and injuries. Why should we worry about how we treat either?

Arguably, we have obligations toward both, even if they are minimal. If we concede that insects and rodents are sentient, that is, capable of experiencing feelings such as pain, then we at least should hold a duty toward them not to cause harm when they are not, or only trivially are, causing us harm or harming things we value (Lockwood 1987). With insects, such thinking opens a moral umbrella over the many tens of thousands of species whose presence does no offense to humans, may yet be found critical to the functioning of healthy ecosystems, and for whom extinction would be irrecoverable. With rodents, given our long and adverse relationship, the idea of minimal harm perhaps is more applicable to how we kill them than why we need to kill. If, as has been convincingly shown, we can identify ways to kill rodents that are far less humane than others (Mason and Littin 2003), then we can argue that the *least inhumane* of these ought to be given priority consideration when control is going to occur, as a duty and obligation to avoid causing unnecessary suffering.

### MEASURING HUMANENESS

Humans intervene in the lives of wild animals for many reasons to create both positive and negative welfare consequences (Kirkwood and Sainsbury 1996). These interventions may be indirect, as in the case of human-caused habitat loss, or direct, as in the case of trapping and killing animals deemed to be pests. Whatever the case, interventions can be conceptualized using ethical frameworks to identify practical procedures that will ground interventions in more concrete and measurable understanding of the extent to which animals will suffer, as well as die unnecessarily.

Criteria for the measurement of suffering are fairly well established. Kirkwood et al. (1994), for example, identified several factors associated with welfare measures, including: the number of animals affected, the cause and nature of the harm, the duration of the harm, and the capacity of the animal to suffer. Proulx (1999) applies welfare standards to the technology used to lethally trap or restrain wild animals and introduces a set of factors that includes: time to death, efficiency,

statistical confidence, uncontrolled environmental settings, and state-of-art traps. Metrics such as these can be used to create assessments of welfare states.

Sharp and Saunders (2011) provided a robust model of welfare assessment. Recognizing that both nonlethal and lethal methods can affect welfare, they employed the concept of domains as recognized by the United Kingdom Farm Animal Welfare Council to identify five areas in which an animal's welfare can be compromised: water and food deprivation; environmental challenge; pain, injury, and disease; behavioral restriction; and anxiety, fear, and distress. Then they created an assessment matrix that scales the severity of the harm as a function of its duration, to identify the overall consequence of an intervention. Additionally, for killing methods, the level of suffering before insensibility occurs can be mapped against the duration of the event to measure welfare consequences. The resulting matrices can be used to organize thinking about severity in situations that compromise an animal's welfare.

In theory at least, such approaches can provide objective comparisons of the welfare consequences of different techniques commonly used in wildlife damage management. Obviously, a raccoon caught in a cage trap and removed an hour after capture suffers significantly less than one caught and held for an entire day, and the assessment matrix easily accounts for this. But did a raccoon caught in a body-gripping trap that rendered her insensible in six minutes and dead in fifteen suffer less than a raccoon left in a cage trap for too many hours, who then died of hypothermia? Ideally, welfare matrix assessments will be able to address such questions and go a long way toward creating more focused and productive dialogues, if not consensus, about the welfare consequences of management actions. One thing such assessments will not do, however, is fully address such questions as whether management is justified and objectives achievable in the first place.

### MANAGEMENT PRINCIPLES

Addressing these and other concerns about why programs are implemented has been a longstanding concern of wildlife managers (e.g., McCabe and Kocizky 1972), but a general set of management principles has only recently been derived (e.g. Fisher and Marks

1996, Marks 1999, Littin et al. 2004). The following can initially be identified as required steps in management of human-wildlife conflicts:

- Need to act must be clear (justification),
- Benefits sought must be realistic (achievability),
- Methods to be employed must be able to achieve benefits (effectiveness),
- Approach must be targeted to the problem-causing individuals (specificity),
- Methods used must be the most humane available (welfare priority),
- Consequences of actions must be amenable to evaluation (monitoring), and
- Benefits achieved must be maintained (follow-up).

The process is open-ended and recursive. Once the follow-up is completed and results evaluated the cycle can be initiated again, if needed. Hadidian (2010) recommends these principles be made part of operating procedures in a grounded, stepwise decision-making and action process consistent with existing integrated pest management approaches and rationale.

#### **HUMANENESS AND WILDLIFE CONTROL**

The field of wildlife damage management is rapidly responding to new challenges such as the control of non-native species, new methodologies such as DNA analysis, and new disciplines such as human dimensions research that substantively broaden, strengthen, and expand the scope of this traditionally very conservative field. In a discipline where emphasis historically has been placed on finding technical solutions to technical problems, wildlife damage managers now must focus on problems for which technical solutions might not even exist. Conflicts that arise over natural resources, such as wildlife, are increasingly recognized not so much as problems of management as they are of governance (Jentoft & Chuenpagdee 2009). How this will affect the field in the future remains to be seen, but it strongly suggests that new arrangements will be coming, broader dialogues opened, and more transparent programs initiated. A new form of professionalism may emerge from the confluence of the private, corporate, and federal streams that currently stand more or less apart. A small step that might be taken in the direction of modernizing the professional practice of wildlife damage management would be to excise the word “pest” from its lexicon. Unless we can

apply the term consistently to all species—the deer, beaver, geese, elephants, gorillas, and, yes, humans—with whom conflicts arise that must be resolved, then it might be advisable to find alternative ways of describing matters. If we are to retain the term, then we ought to freely admit that any species can be referred to as a “pest,” and remember to include ourselves, since it may well be that humans are the greatest pest species of them all.

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