"Nuisance" Wildlife Control Trapping: Another Perspective

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ABSTRACT: Urban wildlife control is a rapidly growing profession in which many practitioners apparently still come from a recreational or commercial trapping background. Perhaps for that reason, much of the "control" in resolving human-wildlife conflicts in cities and suburbs seems to revolve around the use of lethal traps to eliminate "problem" animals. Although some states allow relocation and most apparently allow for nuisance animals to be released on site, the extent to which these practices occur is little known. Further, the biological impacts of continual trapping cycles on urban wildlife populations remain little known as well. An alternative approach to trapping is to exclude problem animals, as is the generally accepted protocol with bats, taking care to avoid separating young from their mothers, or employing techniques to reunite mother and young through a carefully crafted reunion strategy. AAA Wildlife Control is a large wildlife control business based out of Toronto, Canada, that employs almost exclusively an exclusion-reunion strategy. This paper addresses the rationale for that approach and the general strategies the company uses for common problem species. Exclusion-reunion is arguably the most humane and biologically sound approach to wildlife conflict resolution, at least from the animal's perspective, but questions will be raised about the potential transfer of "problems" from one site to another. These and other implications of this approach are raised and discussed based on multiple years of customer service.

KEY WORDS: animal welfare, humane, nuisance wildlife, urban wildlife, wildlife control

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INTRODUCTION

Based on what little hard information actually seems to exist, the "nuisance" wildlife control industry seems to have has grown exponentially in recent years (e.g., Braband and Clark 1992, Curtis *et al*. 1995, Barnes 1997, Bluett 1999). This is expectable from what we know about urban growth patterns, which seem to increasingly bring people and wild animals into closer contact (Adams 1994). It is also likely that many wildlife species are adapting to urban habitats through the development of survival skills and strategies that allow them to live in close proximity to humans (Hadidian and Smith 2001). Whatever the case, human-wildlife conflicts appear on the rise, with many homeowners turning to private businesses which offer for-fee services to help resolve their wildlife problems. The training, skill, and experience of the wildlife control operators (WCOs) who provide these services may vary widely, as does the regulatory control under which they may operate (Brammer *et al*. 1994, La Vine *et al*. 1996, Bromley *et al*. 1999, Hadidian *et al*. 2001).

Many WCOs come to the work of urban wildlife control from a traditional recreational trapping background and, not surprisingly, employ skills acquired there in the pursuit of problem-causing urban wildlife. This is amply reflected in the many articles in the trade journal *Wildlife Control Technology*, for example, that emphasize the use of snares and killing traps in urban wildlife control (e.g., Lewis 2005, Noonan 2005).

This approach leads to conflicts with animal welfare and protection interests, who typically abjure the devices used (e.g., Fox and Papouchis 2005) and question the need to lethally control wild animals whose only offense, often, has been to take advantage of a structural defect or deficiency in a home to move into what, to them, appears to be a secure den site (Hadidian *et al*. 2002). These groups advocate for more "humane" and "appropriate" forms of problem resolution, but to date seem not to have done much to articulate what those might be. This paper provides a narrative report on the approach used by one wildlife company in Canada, AAA Wildlife Control, in urban wildlife work. The services this company provides rarely involve the use of cage traps, and kill trapping is never employed. The majority of the animals handled by AAA in a given year will be allowed to self-relocate within their known home ranges. The social, biological, and operational advantages of this approach are discussed, as is the program's success in allowing animal protection and wildlife removal businesses to work together in a complementary and collaborative fashion.

AAA WILDLIFE CONTROL

AAA Wildlife Control is Canada's largest wildlife company, having been started in 1984 and growing from a single operator into a company that had 36 employees in a headquarters office and 3 franchises in 2005. The company received more than 37,500 calls from the public in 2005 and utilized a total of 27 service trucks to perform 17,000 home inspections deriving from these. The company policy on wildlife removal is to provide services that lead to the eviction of problem-causing animals from structures, the repair of structural deficiencies, and the

reunion of family units in a manner that allows them to relocate within the existing home range of the adult female. The company works closely with wildlife rehabilitators, who often refer callers to AAA, knowing that the company's procedures will prevent unnecessary orphaning and reduce the number of animals needing rehabilitative care.

ISSUES ASSOCIATED WITH TRAPPING

The consequences for animal welfare that can come from the use of any trapping device are well known and have for many decades been a hotly debated social issue that has pitted animal welfare and protection against trapping interests (e.g., Darwin 1863, Fox and Papouchis 2005). Among the known adverse consequences to trapped wildlife in contemporary urban "nuisance" control work are: 1) death due to operator neglect in servicing traps, 2) self-injury from attempts to escape, 3) stress caused by confinement, 4) death from exposure to adverse weather, and 5) the orphaning and death of dependent offspring. Also of considerable concern is the risk of capture and injury or death to non-target animals, including owned domestics. Little data exists to indicate the scope and extent of these concerns in overall trapping activities, but occasional reports from state surveys illuminate at least some aspects of trapping (non-target captures, for example) that are indicative of a significant issue (e.g., Frawley *et al*. 2005).

"BEST" PRACTICES IN URBAN WILDLIFE MANAGEMENT

AAA approaches the practice of urban wildlife management by subscribing to a number of constructs that outline the company's basic approach and serve to inform the public of its operational policies. These are considered to be biologically sound and appropriate in urban wildlife management, and representative of "humane" standards that would be subscribed to by animal protection organizations such as The Humane Society of the United States (HSUS). These constructs include:

1. Being Target-Animal Specific

An important concern for animal welfare and protection interests is the taking of non-target animals in trapping programs. Indiscriminate or "blanket" trapping appears to be tolerated and perhaps even promoted by some wildlife control businesses, to the extent that standard contracts may include a fee for any wild animal (and sometimes feral cats, *Felis domesticus*) that are trapped coincident to the effort to capture a "problem" animal. Thus, an opossum (*Didelphis marsupialis*) caught in a trap set for a problem raccoon (*Procyon lotor*) is "removed" and a charge rendered, even while the target animal remains at large. Such practices are questioned by animal protection interests and considered ethically suspect. By not setting or using traps in its control work, AAA Wildlife avoids this issue.

2. Managing the Stress Caused by Removal

Stress to the animal that is removed from a conflict site is inevitable, and to some extent may even be desirable. For example, if a mildly stressful experience can cause a "problem" animal to abandon a den site in a building and move her young, then this has, from a welfare perspective, certain value. Minimizing stress is important, however, and by not capturing and handling animals except when absolutely necessary, AAA attempts to control and limit the amount of stress inflicted on the animal.

3. Preserving the Family Unit

A key concern of animal protection interests, wildlife rehabilitators, and others concerned with humane wildlife removal or control service is preserving family units to the greatest extent possible and avoiding orphaning of young. This is the principal objective in the removals AAA conducts and is emphasized as the company's standard for operation.

4. Reducing the Animal's Conflict with Environment

This simply means: leave the animal in its known home range. Until quite recently, translocation was a widely recommended and practiced, if not well-documented, "solution" to urban wildlife problems. Questions concerning the biological effects, especially with respect to disease transmission, as well as impact on animal welfare of this technique, have led to other views on the issue of its appropriateness (Craven *et al*. 1998). If a "problem" animal is evicted from a structure but allowed to stay in an area where alternate shelter and food resources are known to it, then logic dictates that the animal will be in less conflict with its environment.

5. Maintaining Stable Population Dynamics

Little is known about the demographic consequences of trap and removal programs in urban environments. We hypothesize that the approach advocated by AAA, which does not remove animals from the areas in which they are trapped, would lead to more stable local populations and fewer human-wildlife conflicts. Speculatively, we argue that this would come about, in part, by the absence of "vacuums" created by the removal of resident animals, into which new animals would inevitably move as long as habitat suitability had not been altered.

6. Preventing the Spread of Disease and Parasites

One consequence of stabilizing local populations is the theoretical possibility that the frequency of disease transmission might be lowered. Obviously, a good deal more research on this topic remains to be conducted, but again logic dictates at least some possible effects. A classic case of negative consequences from relocation is the example of the introduction of raccoon rabies into the mid-Atlantic states (Jenkins and Winkler 1987), purportedly done to restock areas where raccoons were being hunted.

7. Initiating the Natural Response of the Animal

By this, we mean allowing the animal to do something that it would be capable of and likely to do anyway. Excepting bats, most if not all of the common "problem" mammals in urban areas can and do move their litters to

alternate den sites. A study of raccoon denning habits in and around Rock Creek Park in Washington, D.C. (Hadidian *et al*. 1991), for example, found that of 27 animals (9 adult males and 18 adult females) followed by radio-telemetry for long enough to collect at least a minimal sample, none relied solely on one site for dens, and all in fact changed sites frequently, so that on average a new den would be occupied about every fourth time the animal was relocated. Den site use among these animals varied, as expected, depending on the number of times an animal was located, but as a group these raccoons used a total of 534 individual sites a total of 3,914 times, ranging from a low of 9 separate sites used in an animal that was located only 33 times, to a high of 54 sites used in an animal located 202 times.

8. Providing a Long-Term Solution for the Customer

The customer in a wildlife conflict situation should reasonably expect, and receive, services that ensure the problem they are experiencing is resolved and that it will not reoccur. AAA ensures this by animal-proofing at almost every site and guarantees its work for 1 to 10 years. Less than 1% of all jobs require a call back.

AAA'S FOUR-STEP APPROACH

AAA's basic approach consists of four steps to ensure the most practical and humane approach to wildlife conflict resolution is practiced. These are: 1) Inspection, 2) Removal, 3) Wildlife Proofing, and 4) Release on Site. Each involves a considerable variety of techniques and specific practices in actual field application, the details of which are not given here.

1) Inspection

The process of wildlife removal should begin with a thorough examination of the property and determination of points of access that a wild animal (e.g., squirrel or raccoon) could be using, as well as potential weakness in structures that could be used if the animal were highly motivated to regain access. Preemptive exclusion will be used at these, while the main entrance/exit is left unsealed until removal occurs. A detailed inspection allows the technician to better estimate the job and work with the customer to establish a fee for work that might be done. Some structures in advanced stages of disrepair may not be "fixable." In such cases, the building owner is advised of the need to take remedial action before lasting animal-proofing can be implemented. The search for young does not occur until the job has been booked and the home-owner is ready to have work performed. The inspection of the nest area is also avoided at this time, to minimize the risk of the adult female relocating her offspring within the building structure before the actual removal takes place.

2) Removal

If the inspection has determined the presence of a litter, removal efforts first focus on chasing the adult female away from her offspring. This facilitates the collection of the offspring without undue interference by the adult. The risk of the adult female carrying-off a baby or more within the structure would compromise the time usually needed for a successful removal of the entire family. Removal of the adult female usually consists of chasing her towards and out of the main point of entry. If chasing is not possible, then one-way doors are used. However, a one-way door will not be installed unless it has been determined that offspring are not present in the structure. Cage traps are only set in situations when the target animal has found its way into a part of the structure from which it cannot escape (e.g., basement). Traps are never set outdoors.

3) Wildlife Proofing

The key to a successful wildlife removal operation is to completely animal-proof the house or structure, and it is here that the major commitment of time and expense is often found. It is also here that a major concern, as discussed below, arises when the home or property owner may not wish to invest in proofing services. Each company and sometimes each operator will have their own preferred way of animal-proofing a structure, and except for the literature on bat exclusion (Frantz 1986, Tuttle and Smith 1992), this area of wildlife control remains poorly documented. AAA uses heavy galvanized screening in the majority of its work to exclude wild animals, for reasons that lie beyond the scope of this paper. If operators use repair materials that are not adequate for the species in question, then it is not uncommon to hear claims that a determined animal can, and will, break back into a structure.

4) Release on Site

To this point, we have described practices that are used by at least a few of the businesses engaged in urban wildlife control work. The last step in the process followed by AAA is rarely practiced, even at the time when many provincial and state agencies are restricting the options on wildlife control to either releasing animals on site or killing them. Release-on-site involves the use of a specially constructed "reunion" box (for raccoons) or readily available substitute nests made by employing plastic jugs (for squirrels and for starlings, *Sturnus vulgaris*) to ensure that family units are kept together. Accompanying the technology directed at this procedure, of course, is a relatively involved set of handling and care protocols that work to maximize the success of the removal-reunion approach. Employing these, a review of one year's (1997) work with 131 raccoons with litters found that when females were caught and placed in the box with their young (44 times), that 91% "successful" (all offspring relocated) and 7% "semi-successful" (at least one offspring relocated) levels were achieved. In the 87 times in which the mother was not caught and placed with young, but the box was located where she could find it, a 73% "successful" and 13% "semi-successful" rate was achieved.

The advantages in the four-step approach extend to the business end of wildlife control as well as welfare concerns. The four-step approach allows the technician to confirm the suspected species and attain a high rate of success in removing entire family unit, which economizes on the time spent on a given job. From the animal's

perspective, or from the perspective of people who are concerned about maximizing the animal's welfare, the four-step approach allows for the animal's behavior after eviction to signal that offspring may have been overlooked, and for the animal to remain in a familiar home range with access to known sources of food and water.

From the perspective of population management, this approach establishes a potential to stabilize animal numbers in ways that culling or killing will not. It comprises a broad-scale test of the idea that the carrying capacity of urban environments, particularly as regards shelter, can be managed to limit the numbers of animals present. Among all existing approaches in "nuisance" wildlife control, the four-step approach best provides for a long-term solution that is both humane and cost effective.

BUT WHAT IF…

There are many questions that can be asked about any of the commonly practiced approaches to urban/suburban wildlife control. Does it make better sense to kill offending animals under the assumption that they will just become offenders again, having learned how to occupy and use homes as denning sites? What are the rights of the homeowner with respect to not wanting a wild animal whose known home range encompasses their home and yard? What if the problem does not involve a structure, but another issue, such as an animal getting into the trash? Clearly, as these and other questions are asked, it becomes obvious we do not have good science to answer them. Pending that, we do have the ability to dialogue on questions, and we should. We offer below a sampling of those we feel most representative of the sorts of concerns heard anecdotally from other wildlife control operators, along with opening responses in order to begin to frame that dialogue.

…the homeowner does not want, or can not afford, exclusion?

Some structures in which animals are causing problems may be simply too vast or in too great a state of disrepair to allow exclusion to be practiced. Airplane hangers and big box stores, for example, do not lend themselves well to exclusion strategies. Sites like these are bound to have recurring wildlife problems, since they afford shelter and don't block entry, so animals will continually find and take advantage of openings. AAA would evaluate and respond on a site-by-site basis, in such cases, and recommend the best and most practical non-lethal solutions to the problem. If the owner or facility manager simply wanted to engage services for a lethal removal program and continue that on a recurring basis, the job would not be taken.

Undertaking lethal control without making an attempt at non-lethal first, and not following lethal control where it has been used with prevention strategies that reduce or eliminate its subsequent need, is irresponsible and arguably unethical.

…the young cannot be accessed?

At times, a litter of squirrels or raccoons will not be accessible. The customer would be advised of this and if they wished to contract for services that employed gradually escalating aversive strategies, the technician would use these. However, it would also be possible in such situations to leave the mother and young together for a period of time until they either relocate into a reachable area within the structure, or until they can exit the building through a one-way door. Once this has occurred, exclusion can take place to ensure there is no re-occupancy during the next breeding season. The model for this already has been set in many states and provinces with restrictions on the exclusion of bat colonies.

…the homeowner wants the animal killed?

This prerogative is, unfortunately, far too easily available and usable by either the homeowner or the WCO. AAA does not contract with homeowners for such services.

…the problem is not structural?

The raccoon in the trash or opossum that visits the dog bowl on the patio every night are not "problems" for which "solutions" need to found. Rather, these tend to be issues associated with negligent human behavior, and that's where AAA would attempt to diplomatically intervene by giving proper garbage disposal and storage advice.

…this just moves the problem elsewhere?

It is a fact that wildlife are abundant in urban environments and they choose their territories based on the availability of food and shelter. Therefore, it is reasonable that building owners assume the responsibility to maintain and safeguard their own premises against intrusions by opportunistic wildlife. Regular maintenance, animal-proofing, and restricting access to food wastes are the key priorities. We argue that forced relocation, as practiced by AAA Wildlife Control, does not allow the animal time to explore and occupy a novel den site. Animals moving under forced relocation will seek den sites they know about and have used before. Where homeowners have conducted regular inspections and practiced preventative maintenance, they will not be "invaded" by wild animals displaced by this approach.

CONCLUSION

The growth of "nuisance" wildlife control work in urban and suburban areas and the emphasis, still, on traditional trapping techniques to "solve" problems there represents one of, if not the, biggest areas of concern for animal protection and welfare organizations that work on urban wildlife issues. There are, of course, many aspects to the issue of urban wildlife control that have not been broached and discussed in this brief paper. Costs are one. When a homeowner is faced with thousands of dollars in repairs that would be needed to permanently exclude animals, but only a fraction of those costs if an animal is trapped and killed, how does this affect how the professional advises the homeowner or the homeowner makes sound decisions? Are immediate savings more important or defensible as opposed to long-term and perhaps, in the long run, economical solutions? The need

for better information is another. A recently published study suggests that raccoon mothers not only often fail to retrieve litters after being excluded from structures, but that they tend to prefer alternate structures when they have been excluded from their primary den sites (O'Donnell and DeNicola 2006). We argue that these findings, as its authors in fact suggest, are influenced by the fact that females were anesthetized before reunion was attempted. Further, we argue that a female faced with the need to move a litter would not, and could not afford to, seek a novel site to den in, but would move to a known location. If this were another building, the pre-existing availability of a den site would suggest that homeowners had been unaware of or did not care that much about raccoons using their home for denning. Clearly, there is much to be considered, discussed, and debated with respect to this issue than has been possible here.

That said, we feel that from a humane perspective, the approach outlined here represents a *prima facie* argument for a more appropriate set of techniques to urban wildlife control than is generally practiced today. This does not mean we should not continue to ask hard questions about what is and is not "humane" about this or any other any sort of human involvement with wild animals, nor expand that dialogue to include questions about the natural world and our role as interveners in it (e.g., Howard 1990).

There is an art as well as science to the management of human-wildlife conflicts in urban environments. Both must involve a constant search for improved and better ways to work with wild animals that elevate to the highest achievable professional standard the approaches, strategies, and techniques employed by the wildlife control industry. This emerging field must shake itself off from a past in which questionable practices and approaches have often led to conflict between practitioners and animal protection interests. Recognition of the adverse repercussions caused by trapping and relocation has prompted the development of a positive approach that safe-guards the welfare of our urban wildlife while providing a satisfying solution for the customer.

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