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# THE FUTURE OF WILDLIFE DAMAGE CONTROL IN AN URBAN ENVIRONMENT

by Gary J. San Julian<sup>1/</sup>

## ABSTRACT

As the trend towards urbanization escalates, the United States is rapidly becoming a nation of nonfarmers and suburban residents. Consequently, the conflicts between residents and wildlife species are increasing, while the interest in urban wildlife and backyard habitat is growing. These trends, coupled with changes in pesticide regulations, a shortage of trained professionals and relic legislation, create a complex and paradoxical situation for residents and professionals in the area of urban wildlife management. The future of wildlife in the urban environment will depend on our ability to convince and educate wildlife managers, citizens and legislators about the need for control as well as enhancement of urban animal species.

The population of the United States has migrated from the city cores into the surrounding agricultural land. The number of acres dedicated to farming has dropped dramatically and housing developments have replaced agricultural lands. Each year about 1.5 million acres are removed from agricultural production. As this trend continues, the loss of farm and woodland habitat will intensify, and it is estimated that by the year 2030 the urban area of our country will double in size. Many wildlife populations require a mix of farm and forest land to maintain stable and healthy numbers. Consequently, some populations have decreased and several species have become extinct as a result of the habitat loss. Movement to rural areas will continue as the socio-economics of residential development outpace those of agriculture.

Development of land for residential construction normally resulted in clearing the trees and the removal of the topsoil. Environmental groups have

encouraged landowners to maintain native habitat for wildlife. Residents have responded by requiring contractors to develop their lots in a manner that will salvage trees and natural areas in order to attract wildlife. The result has been an urban setting occupied by a nonconsumptive clientele which is primarily interested in nongame wildlife. For the most part, these new wildlife lovers are not familiar with the habitat requirements and behavior of wildlife.

Nongame programs have become a part of many state wildlife agencies, and each year billions of dollars are spent on nonconsumptive wildlife related activities. Many home owners are trying to attract animals by developing their back yards into islands of urban wildlife habitat. This has created pockets of habitat that usually support more animals than an equal amount of woodland acreage because of the supplemental food supplied by residents. The lack of natural den trees and nesting holes has forced some animals to adapt to this altered environment by using attics and out buildings for homes. Consequently, the number of complaints about wildlife damage have escalated with the conversion of rural land to urban development.

An urbanite's threshold of tolerance for wildlife concerns often depends on the species creating the problem, the immediacy of the situation or the anticipated cost of repairs. When a bat or snake is found in the living area, the residents usually have a rather low tolerance level. They perceive the animal to pose an immediate threat to them and usually take direct action with any available object. On the other hand, if a resident hears a woodpecker drilling on his siding or birds in the chimney at six o'clock in the morning, he is likely to roll over and go back to sleep. Many of these urban residents have no prior association with wildlife pests and tend to believe that the problems will go away if ignored long

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enough. A lack of response to the problem could have expensive and sometimes serious consequences.

Economics are usually not as much of an immediate concern to urban dwellers as they would be to a person who was losing crops or livestock to wildlife depredation. Suburbanites only show concern when the cost of repairing their house or replacing their shrubs becomes excessive. Yet, if we look at these costs on a per acre basis, damage in an urban area can cost more than the loss of a farm crop. If one considers an average city building lot to be half an acre and the cost to repair damage to siding at \$1,000 or more, wildlife damage can be expensive. It would be difficult to find agricultural crops for which similar losses could be documented.

The number of nuisance wildlife complaints received from urban residents is increasing as more people are being pushed beyond their threshold of tolerance. In many states, extension and wildlife agencies receive more calls about urban wildlife problems than for agricultural depredation. Nevertheless, there are few control options available to the agency or professional whose responsibility is to handle these questions. Most rules pertaining to control of wildlife species were designed for large mammals and rural situations.

In North Carolina, the law states that a citizen has the right to shoot (with a firearm) any animal caught in the act of depredation. It does not mention those animals protected by Federal statute such as woodpeckers or other migratory birds. The law makes no distinction between large mammals or rodents. It is easier to dispatch a deer in a peanut field than to shoot a fossorial pine vole 2 feet under an azalea.

When many wildlife damage laws were enacted, concern was for the protection of crops and rural rather than urban property. Most wildlife populations were on the farms and wood lots of rural areas. City streets were not tree-lined and suburban lots looked like golf

courses with little in the way of rough. This concept may still be valid in some of our western states, but it certainly is not true east of the Mississippi. Landscaping has changed and houses are set into wooded areas, often with few trees removed. Manicured lawns have given way to natural areas with the heavy use of mulch and bulb beds under existing vegetation.

Wildlife professionals do not answer questions about urban wildlife damage very effectively because they are trained primarily in game management. Few universities offer courses in wildlife damage control in their wildlife curricula. If the topic is included in a management course, it is usually in association with agricultural or livestock concerns. Because urban wildlife problems do not threaten a resident's ability to make a living, they have not been investigated as intensively as concerns related to agriculture.

Control of wildlife species in an agricultural situation is very different from control in an urban environment, even if the same species is involved. The use of traps and chemicals is easier to monitor when they are placed in an agricultural setting on your own property. The landowner has the responsibility and control over his livestock and fields. In a neighborhood, it is very difficult to use traps and rodenticide because of the unrestricted pet and people traffic in an urban area. Many rodenticide products used in agricultural areas are not labeled for lawn and garden use. Chemical companies, because of the expense and hassle of establishing new uses for their products in an urban market, have not pushed for expanded label uses.

Homeowners often have very few options to control problem wildlife species on their property. For example, in North Carolina, homeowners can only snap trap pine voles, and a permit from the North Carolina Wildlife Commission is required prior to instituting the trapping program. They also must notify the agency as to the number of animals

trapped and the method of disposal of carcasses. No chemical is registered to control voles in an urban lawn or garden, yet there are at least 5 products and various formulations to control voles in apple orchards and tree nurseries. In frustration, one homeowner trapped a dozen voles and sent them to me in various stages of decomposition with a blistering letter of complaint about the current system. He also sent the same letter to the Governor, but did not include the package. This was my reward for writing a popular publication explaining the laws regulating their control.

For the most part, urban dwellers are tolerant of wildlife problems and professionals' lack of solutions to their concerns. However, this ambivalence will not last. People will find answers to their concerns, and they may not be the ones that wildlife professionals would select. An electrical engineer was tired of being wakened early in the morning by a flicker and was not satisfied with the scare tactics offered by his state's wildlife agency. In desperation, he wired his gutters to kill the offending individual and succeeded in burning down the house. (There is no mention in the report if the problem was corrected.) Granted, this is an extreme case, but it is not uncommon for residents to try bizarre methods to get relief.

Individuals will use whatever they think will work. Some of these solutions or remedies are harmless; others are dangerous to the user and the environment. Placing chewing gum in a mole run may or may not get rid of the problem, but the action will not be detrimental to you or the environment. However, it is a different matter to pour gallons of gasoline in a hole close to the house and ignite it to get rid of chipmunks. Many of these "home remedies" can do more harm than good, and in some cases, may jeopardize the environment and the landowner.

Those few remaining tools for animal damage control are quickly being removed by local, state and federal regulations. Many of us were schooled during the

1970's in the era of the first Earth Day and, in many cases, are very reluctant to use or recommend pesticides. This is particularly true in the area of chemicals to control animal pests. The area of vertebrate control materials is charged with emotions and great interest from individuals outside of our profession. When tools for control of animals are scheduled for investigation or recall, wildlife biologists must take part in the discussions and give the products a holistic review. If we as professionals shirk this responsibility, many valuable animal control chemicals will be lost, further complicating management of wildlife species.

If professionals working in the urban environment are to maintain credibility and ensure the future of wildlife in the urban setting, changes need to be made. Wildlife regulations, agency policies and even the way we train our students must be evaluated in light of the increased emphasis on urban wildlife and the associated concerns. As professional wildlife biologists, we must take responsibility for this area of management and provide realistic and reasonable answers to questions from urban residents.

Many agencies tell the individual to use scare tactics such as hawk and owl silhouettes, rubber snakes, shaving mirrors, and pie pans to scare away woodpeckers. If these tactics fail, the person is requested to contact the U. S. Fish and Wildlife Service (USFWS) for a kill permit which will allow the homeowner to kill the offending bird. Sometimes the paperwork requires a month, and by the time the landowner receives the permit, a minor inconvenience has developed into a significant repair job. In many regions of the country, the USFWS will not issue the permit. In other areas, wildlife officials turn their heads to the shooting of the house-drilling birds rather than deal with the bureaucracy. Surely there is a more efficient and consistent method of securing permits for the public. A system that allowed other responsible wildlife related agencies to issue permits with less

paperwork would seem to be the most biologically and politically advantageous solution.

Wildlife laws and regulations must reflect today's needs in animal damage control. After all, almost 80% of our citizens live in urban environments, and they have a need for answers to their unique concerns. Many state wildlife agencies still place significantly more emphasis on "game" species and their management, while the majority of the citizens are not involved in the consumptive use of wildlife. In the face of dwindling revenues from hunting and fishing, and an expanding interest in nonconsumptive wildlife, agencies must reflect the interests of their clientele. State regulations on wildlife depredation should be reviewed as to their applicability to urban situations. This will require in some states that entire sections of the law be rewritten to reflect the needs in the urban community. Agencies that have the authority for regulating wildlife must also bear the responsibility for managing all wildlife species.

Federal agencies such as the USFWS and U. S. Department of Agriculture, Animal and Plant Health Inspection Service (USDA-APHIS) must be willing to re-evaluate regulations and initiatives in light of the urban environment. APHIS is responsible for wildlife damage control when agricultural crops are involved; USFWS is responsible for many wildlife species but is no longer involved in damage control. Somewhere the lines of authority and responsibilities have become blurred, and the urban resident who has a problem with a migratory bird does not know who to contact for an answer. Much better coordination between federal agencies and state wildlife officials must be established. This is particularly critical in the urban wildlife damage control area where federally-protected species are involved, and no one seems to want to take responsibility.

State wildlife agencies must bear some additional responsibility in the area of wildlife damage control. For years they have been involved in

agricultural depredation problems but have shown no interest in urban concerns. After all, their money was historically derived from hunting and fishing license sales, and the constituents were the consumptive users of wildlife. Today their clientele has broadened, as indicated by the number of states with active nongame programs.

The public gets frustrated when their state wildlife agencies cannot or will not answer nongame wildlife concerns. Their displeasure may be affecting agency support from general revenues. Recent studies have indicated that the income generated from license sales is, at best, stabilizing and many state wildlife agencies must receive support from general tax revenues. Consequently they must be responsive to all wildlife concerns.

Too often in the area of urban wildlife damage control, we do not have many "good" answers for the public. Until recently, research in the area of urban wildlife, and in particular, damage control was not being done. Specific research efforts will be necessary to address nuisance wildlife in the urban area. Traditionally, wildlife research was done on game species in the field, not in the confines of suburbia. Wildlife research reflected the interests of state and federal game agencies. Consequently, projects were molded by Pittman/Robinson funds and license sales.

Our nongame programs usually depend on the generosity of the public and concentrate on enhancement rather than control of urban wildlife habitat and populations. Programs have been established on increasing wildlife and protecting critical areas. It would be difficult to get the public to support English sparrow control programs; yet, in many areas bluebird numbers suffer from competition with the exotic sparrow.

In the past, wildlife researchers have envisioned themselves as rugged individuals that spend months in the field with only the bare essentials. It seemed to be required as part of a wildlife biologist's right of passage to

work under tough conditions in remote locations with glamorous animals. The major emphasis of wildlife research was large game animals. Today, much of the support base for wildlife comes from urban residents who probably do not hunt or fish but enjoy watching bluebirds as much as deer or rabbits. They want to enhance their environment with more flora and native fauna. At the same time, these homeowners need and expect answers to their wildlife concerns as much as the consumptive user.

Changes in research directions must be instituted at several levels. Federal funding agencies should encourage research and management programs in the area of urban wildlife. This change in direction will help universities to develop solid and holistic urban wildlife programs. All aspects of urban wildlife including human perceptions must be critically evaluated to determine the best way to manage these wildlife populations. Management recommendations should take into consideration the negative as well as the positive aspects of game and nongame wildlife as they relate to urban environments.

The future scenario of urban wildlife control is unclear and in a state of change because of the growing interest in attracting animals to our own back yard sanctuaries. The conflict between man and nuisance species of wildlife must also be addressed. There is a real potential for backlash against all wildlife management programs if concerns are not answered. Changes must be made in the way agencies react to these problems as well as the way we train biologists. Rules and regulations regarding wildlife species must be evaluated in light of the changing attitudes of our citizens and the increasing urban communities. We must not let benevolent neglect shape that future; wildlife management is more than working with "showy" species in breath-taking environments. We must address the issues that exist in our back yards if we are to maintain the current support that we enjoy for our wildlife programs.