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An Assessment of the Urban Wildlife Problem

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An Assessment of the Urban Wildlife Problem'

William D. Fitzwater

Abstract.--Basic urban wildlife problems include: proper identification of species, shift from agrarian to urban society, different interpretations of humaneness, compassion for individual rather than a population as a whole, and public ignorance of urban pest management. Positive values are esthetics and environmental education opportunities. Negative values are disease transmission, life/injury-threatening situations,

Modern civilization has created artificial habitats. Most other life forms have been walled out of cities except for animals dominated by humans, such as, cats, dogs, caged birds, and exotic fish or those who have adapted to humans so well they have become pests, such as, commensal rats/mice, pigeons, starlings, and house sparrows. As urbanization continues to gobble up more and more living space, evicting other forms of life, we can expect urbanitewildlife interactions to increase.

gophers, few householders know which they have; some ADC specialists called in to trap gophers ended up with a large, angry armadillo; "starlings" poisoned with treated rice on a Texas courthouse turned out to be cowbirds. Some animal groups, like bats and reptiles, are generally greeted with repulsion, but most wild animals are "cute" until their paths cross those of the urbanite.

SOME CONCEPTS ABOUT NUISANCE ANIMALS IN URBAN ENVIRONMENTS

Identification of nuisance species

There are some 1,100 species of birds and 467 species of mammals present in North America. While less than 2% of these are urban pest species, the ignorance of the urban populace concerning the identification of their "pests" is appalling (Dagg 1974). One woman caught and released in a nearby park some "...eight naked-tail squirrels." (known in the trade as "roof rats") (Whitten 1979). Muskrats are frequently described as very big sewer rats; while effective controls for moles are quite different from pocket

'Paper presented at the Ninth Great Plains Wildlife Damage Control Conf., Ft. Collins, Colo., Apr. 18-20, 1989.

2William D. Fitzwater, Secretary, NATIONAL ANIMAL DAMAGE CONTROL ASSOCIATION. Albuquerque, N.M.

Shift from Rural to Urban Society

Since World War II this country has been a shift from an agrarian society to one predominately urban in its thinking. Surveys have shown a rural society is more tolerant of other animals and willing to share some of their living space with them (O'Donnell & VanDruff 1983). The urbanite, never having had to wrestle basic life needs from the earth, panics whets encountering a "wild" animal he can't control. The thought of sharing the house with a mouse is repulsive. On the other hand, the coyote is a friendly dog that lives in a Disney movie or paces the concrete pads in the local zoo. **He cannot** understand why so much money and effort is being spent to limit coyote numbers in the "out-of-doors".

Different Interpretations of Humaness

While people may advocate **humaneness** to other animals, this attitude **changes** when they are directly challenged. One woman called the Extension Service for help in ridding her fireplace of a colony

of swifts (Anon. 1988). Their flapping wings were spreading ashes all over her living room. She became so desperate she lit a fire in the fireplace but found, "You could smell burning feathers, but they still wouldn't leave." Now this woman would not dream of hurting an animal but she set fire to a bird because it was causing a mess in her living room.

This variable sensitivity to "humaneness" is also shown in the matter of who is the victim. There is little interest in the agonizing death of a lamb in the jaws of a coyote, but if that same coyote is seen trotting down a city street with a freshly-killed house cat in its mouth that is "inhumane" (Howell 1982). Despite public approval of the animal rights' philosophy - "all animals have rights" - the urbanite doesn't actually believe all animals have equal rights. Thus he sees no parallel between his desire to eliminate the mouse and the rancher's desire to eliminate the coyote.

The urbanite is horrified at the continued use of the leghold steel trap. The occasional raccoon or squirrel that gets into the attic can often be taken in alive trap so he cannot understand why leghold traps have to be used in the wild. The gap between the technology of going to the moon and developing a painless, BUT effective and practical, trap for field use is not understood.

Poisoning is another dreadful happening. Poisons are associated with a theatrical thrashing about of a victim in terrible pain. This rarely occurs as modern pesticides affect body chemistry and nervous systems in more subtle ways than the metallic toxicants of several decades ago. Poisoning, compared with natural causes, is generally the most humane way for the majority of nuisance animals to go.

Compassion for the Individual

Conditioned to a great extent by Disney make-believe, there is great empathy for the individual. For example, the rescue of two out of three California gray whales trapped in the Arctic icepack has no practical significance on the whale population in the Pacific. The \$million plus spent in their rescue could have been better utilized in research on improving status of world whale populations.

While expensive capture and translocation of individual animals from a habitat where they are not wanted or are so numerous they endanger the welfare of that habitat is acceptable (Hadidian,

et al 1988), the fact is most transplants are disasters ending in the early death of the transplanted individuals and/or disruption of the new environment in which they were placed. Of 300 eartagged raccoons released in North Carolina at a cost of \$15,000, only 1696 survived (Boyer & Brown 1988).

Urban Pest Management

More research needs be directed to the problem of urban pest management. The methods in place today are those developed from agriculture. Urban animals due to the largess of urbanites are generally well-fed and more difficult to trap. The use of toxicants in urban vertebrate pest management needs closer scrutiny. Habitat modification is the most effective method of control, but is not popular as it involves the urbanite doing something physical and expensive. Wild animals do not honor human boundaries so while an individual might encourage their presence, neighbors may be very hostile.

Further research needs be done on the life histories of urban animals. Heavier densities are found in species, like squirrels (Flyger, et al 1983) and raccoons (Schinner & Cauley 1974), in urban habitats versus free-ranging animals in open habitats. There is also the need to adapt control measures to conform with city ordinances and wildlife agency codes. The inability to recognize the species of animal involved could lead to a conflict with State wildlife codes as the average homeowner recognizes no restrictions on methods used in solving personal problems. While these attitudes can be changed (Timm & Schemnitz, 1988), we are not doing a good job in this area,

POSITIVE VALUES OF URBAN

Esthetics

The urbanite is thrilled by fleeting contacts with wild animals in the asphalt/concrete habitat - unless it is a rat or skunk. Sparrows hustling in the streets and pigeons gliding between tall buildings revive the deeply buried tie between man and lower animals that our forefathers understood.

Environmental Education

Psychologists believe contact with lower animals encourages the development of intellectual and social competence as

well as physical development. Children flock to a petting zoo to have contact with living "toys".

When we discuss "urban wildlife" we are actually dealing with two separate habitats -the "inner city" and the suburbs. While inner city inhabitants could undoubtedly benefit from more contact with wild species, this paved over area offers little refuge for them. Until more natural areas are developed in inner cities, there is little hope much good can come from wildlife contacts in those areas. Suburban habitats are entirely different and will continue to be the site of most urban-wildlife conflicts.

NEGATIVE ASPECTS OF URBAN WILDLIFE

Health

The ubiquitous commensal rodents, i.e., the house mouse, Norway rat, and the rat, are the biggest threat to human health as they serve as vectors and reservoirs for many harmful pathogens including:

Amebiasis, Chagas disease, Dwarf tapeworm, Fchinococcosis, Endemic relapsing fevers, Histoplasmosis, Leptospirosis, Lymphocytic choriomeningitis, Murine typhus, Plague, Rabies, Rat-bite fever (Haverhill), Rat-bite fever (Sodoku), Rat mite dermatitis, Rat tapeworm, Rickettsialpox, Rocky Mountain spotted fever, Salmonellosis, Schistosomiasis, Sporotrichosis*, Toxoplasmosis, Trichinosis, Trichophytosis, and Tularemia.

Pathogenic organisms associated with other avian and mammalian species of wildlife in the urban habitat include:

Aspergillosis (Thrush), Canine distemper, Cryptococcus, Ectoparasites, Encephalitides, Giardiasis, Histoplasmosis, Leptospirosis, Listeriosis, Lyme disease, Newcastle disease, Ornithosis, Plague, Rabies, Raccoon roundworm, Salmonellosis, Toxoplasmosis, and Tularemia.

Life/Injury-Threatening Situations

Besides disease transmission, wild animals can aggressively threaten humans by biting and scratching. Humans have also been killed by alligators, bears, commensal rats, coyotes, dogs, mountain lions, and poisonous snakes in suburban situations. Coyotes, in particular, adapt to human-caused environmental changes to the point this species has become a threat to children in certain

areas (Howell 1982). Humans have been killed as a result of collisions between automobiles and deer or dogs and in aircraft with birds, coyotes, and deer. Still another cause are fires started by rodents gnawing on wires or pigeons carrying burning materials into flammable nests (Fall & Schneider 1969).

Property Damage to Buildings

Physical damage through the gnawing activities of rodents, such as, rats and mice (both commensal and native species like pack rats and deer mice), and tree squirrels can result in expensive damage. Squirrels and raccoons join these animals in ripping up insulation for nesting material, chewing holes in siding or walls to gain entry, splintering window frames in a frantic attempt to escape, and cause water damage from holes gnawed in lead or plastic water pipes.

Damage can also be done to the outside of buildings where the acidic accumulations of pigeon feces erode metal drains and limestone building blocks. Nesting, signalling, or territorial activities by woodpeckers result in damage averaging \$300 per home (Craven 1984). The mud nests made by industrious swallows under the eaves are unattractive to the neat householder. Loose feathers and nesting material from pigeons and sparrows plug the vents of air conditioners and drains. This action resulted in over a \$100,000 loss with the collapse of a flooded department store roof in Santa Barbara, Calif. (Gilman 1978).

Other Property Damage

The branch of the Federal government assigned the task of reducing wildlife damage is currently in the U.S. Dept. of Agriculture, Animal & Plant Health Inspection Service, Animal Damage Control (APHIS-ADC). They have a computerized program providing monetary data on the damage caused by wild animals. Data from two States, California (Thompson 1987) and New Mexico (Nunley 1987) for Fiscal Year 1987 indicates the extent of these losses:

STATE	BUILDINGS	GROUNDS	OTHER PROPERTY
Calif.	\$43,727	\$71,642	\$91,682
	<u>7,310</u>	<u>\$21,653</u>	<u>\$4,970</u>
	\$93,259	\$96,652	N.M. 1
			Total \$51,037

This total of \$240,948 annually represents only part of the cost of wildlife damage to property in these two states. It does not include the costs of

control measures taken to reduce these losses or those losses not brought to the attention of APHIS-ADC. Whitten (1979) reports an earlier APHIS-ADC compilation for Texas in FY 1978 gave a total of :154,196 for rural losses compared to :197,838 losses in 11 of the largest cities in the State.

Probably one of the greatest losses is in landscape damage. One must consider not only the replacement cost, but the time lost. Trees and ornamental shrubs are barked by squirrels, deer, rabbits, meadow mice, beaver, wood rats, and porcupines. White tail deer alone in Westchester County (N.Y.) cost homeowners from \$6.4 - \$9.5 million PLUS an additional \$1.2 to \$1.6 million in attempted control measures (Connelly, et al 1988). Such species as, raccoons, tree and ground squirrels, mice, muskrats, coyotes, chipmunks, armadillos, deer, rabbits, woodchucks, and moles that keep truck gardeners awake nights can also wreck havoc on a city garden or flower bed.

Other target areas are lawns and golf greens. Raccoons, skunks, ground squirrels, and woodchucks dig into them; moles and pocket gophers burrow under them; coots and Canada geese graze them closely. The geese and coots also deposit a high-powered fertilizer creating a golf hazard not covered in the rule book. The extent of this problem was investigated by Conover (1985) who found at least 26% of golf course managers in the Northeast had such a serious problem they would gladly pay an average of \$444 to reduce it. Animal waste products can cause unsightly burn spots in the vegetation under heavily populated blackbird-starling roosts.

The food and environs in city zoos is equally attractive to wild animals who eat and contaminate food, destroy ornamental plantings and buildings, and carry diseases. In a survey of zoological gardens 59% admittedly had problems. Control efforts cost an average of \$6,500 annually per zoo (Fitzwater 1988).

DeGrazio (1978) reported utility pole damage by woodpeckers cost the Bell Telephone Co. \$441,000 annually. Squirrels and roof rats gnaw on overhead cable lines causing power outages. Transformers and crossarms on cable systems are attractive nest sites for squirrels and raptors also resulting in power outages. A study (Hamilton, et al 1989) estimated squirrel-caused outages annually cost power companies in Lincoln (Neb.) \$23,764 and in

\$47,954. When squirrel guards were placed in Lincoln at a cost of \$260,000, annual losses were reduced 78%. Pocket gophers work underground on these cables too.

Water Structures and Quality

Burrowing by muskrats and nutria weaken water-retaining structures, causing cave-ins, washouts, and loss of stored water (DeAlmeida 1987). Dams built by beaver plugging culverts and drainage ditches result in flooding of roads, levees, pasture land, agricultural crops, and forests. Timber loss alone has been estimated at \$17 million annually in Mississippi and \$23 million in Arkansas (Wigley & Garner 1987).

The quality of drinking water has been lowered for city-dwellers where gulls, geese, and other waterfowl concentrate in water reservoirs. A protozoan parasite, Giardia lamblia, from the bladders of beaver is becoming an increasing problem. Minor disturbances include frogs, snakes, and mammals falling into swimming pools and depredations on ornamental fish in backyard pools by raccoons.

Petty Annoyances

The unesthetic effects of animal feces is undeniable. The mess created by pigeon, sparrow, starling, blackbird, and bat roosts can accumulate on/in buildings causing odor, slipperyness, and health problems. The aroma of a disturbed **skunk remains** an unpleasant memory long after the incident has passed. The removal of dead animals from the streets after an accident is not a high priority of city governments.

One form of loss that really riles urbanites is a pet cat or dog becoming a meal for a hungry coyote. Neither are they happy about pets fighting possibly rabid raccoons or the consumption of pet food by wild animals. Where poultry are raised within city limits, they must be tightly caged to protect them from raccoons, skunks, opossums, weasels, fox, and coyotes.

Nothing human is sacred to these non-human species. Burrowing animals like woodchucks, pocket gophers, and moles pattering around in cemeteries have brought up remnants of dead humans. The writer once had to scare a Chihuahua raven congregation away from a cemetery as the mourners confused them with vultures having sinister intent.

From the disruption of individual garbage cans to city dumps, urban garbage is another source of annoyance. Raccoons, crows/ravens, dogs, and rats are the chief offenders at the householder's garbage cans. At dumps, rats have long-standing proprietary rights, but bears, gulls, pigeons, and starlings have become frequent and more visible visitors.

Mississippi kites harass humans in certain sections of the country (Parker 1988). While this is only protection of the kite's "nesting territory", humans tend to resent any non-human claims to the same space. Mocking birds are sometimes similarly protective, but, outside of making the family cat miserable, are rarely as menacing as the kites.

There is no wakeup alarm more aggravating than the plaintive cry of a mourning dove under your bedroom window at an ungodly hour. Woodpeckers, too, sometimes choose the early morning to start up their signal drumming on the siding wall next to your bed. The chatty conversation of starlings/blackbirds roosting in trees around the house is doubly annoying - first when they arrive at night and when they leave early the next morning. One New York resident who refused to let authorities remove a communal nest of new South American immigrants, monk parakeets, called two weeks later begging them to take them, please, and give his eardrums a rest. Among the annoying night noises is the ghostly parade of rats, mice, bats, raccoons, and flying squirrels around the attic.

To the individual who sets a feast for song birds in his back yard, it is frustrating to find it disappearing in the mouths of what he considers undesirable aliens, such as, rats, squirrels, jays, house sparrows, and starlings

Indirect Economic Losses

Wildlife damage to farm and forest production cost city-dwellers indirectly in the price of food and fiber (Nunley 1987 & Thompson 1987):

DOLLAR LOSSES TO AGRICULTURE FOR 1987

STATE LIVESTOCK AGRIC. CROPS FORESTRY

Calif.	\$404,152	\$357,659	\$25,595
N. M.	\$255,884	\$233,291	115
Total	\$660,036	\$590,950	\$37,710

This adds up to \$1,288,696 annually for just two states plus the cost of animal

reduce these losses. Bird damage to grain, sorghum, blueberries, and grapes amounts to \$5.8, \$1.6, \$2.1, and \$4.4 millions respectively in crop-growing areas annually (DeGrazio 1978).

We can't put a dollar value on the joy of seeing wild animals, but neither can we ignore the cost/benefit ratio of their presence.

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Urban Wildlife Damage: A Complex Problem

Mark E. Mapstow

Abstract. Wildlife can create problems when they conflict with man's health or economic interests, or when their presence is a nuisance. Animals have had to adapt to a variety of environmental alterations thrust upon them by land development and urbanization. This has caused a closer association of some wildlife species with man. What were once mainly rural occurrences can now be found taking place more and more in urban and suburban environments. An increasing amount of native and introduced wildlife species are coming into conflict with man --- not just limited to the typically thought of " animals such as commensal rodents, squirrels, raccoons, opossums, and skunks. We now also have problems with larger predators, larger rodents, and others.

In order to effectively deal with these newer and increased number of wildlife damage concerns, it will take the combined efforts of civic, private, and state entities as well as the local wildlife damage control agency. Control efforts are largely dependent upon the particular animals involved and the complaint situation and locale.

INTRODUCTION

In recent years the urban and suburban wildlife damage problem has become much more complex. There is a continual expansion of urban and suburban areas into the rural community of our country. With this expansion, more and more native and introduced wildlife species are coming into conflict with man's health or economic interests, or their presence is creating a nuisance.

Animals have had to adapt to a variety of environmental alterations thrust upon them by land development and urbanization. This has caused a closer association of some wildlife species with man. These same animals have more than adequately overcome any difficulties they have faced in the urban and suburban environments and many wild animal populations are thriving in these communities. What were once mainly rural occurrences of wildlife damage can now be found taking place more and more in our urban and suburban communities.

URBAN WILDLIFE DAMAGE

Animals can regularly be found raiding garden and trash containers, and eating and drinking from pet dishes from within the confines of a populated neighborhood. Other animals can be found rooting for food in yards and flower beds, while some are taking up residences in attics, barns, sheds, and underneath houses. An increasing amount of wildlife species are coming into conflict with man --- not just limited to the typical "urbanized" animals such as commensal rodents (*Mus musculus*, *Rattus rattus*, *Rattus norvegicus*), tree squirrels (*Sciurus sp*), raccoons (*Procyon lotor*), opossums (*Didelphis virginiana*), and skunks (*Mephitis mephitis*, *S. spilogalis pretorius*)

We now also have problems with larger predators, exotic birds, bats, larger rodents, and reptiles in these areas as well. Complaints come into the state's animal damage control offices on a regular basis regarding problems associated with these different species.

PREDATOR DAMAGE

Larger predators have imposed themselves upon the urban and suburban scene in recent years. The most common complaints received are for the predation of domestic pets such as dogs, cats, chickens, ducks, geese, and the predation of urban or suburban livestock, or for the harassment of these animals, or the feeding on of pet food or garbage.

1Paper presented at the Ninth Great Plains Wildlife Damage Control Workshop. Marriott Hotel, Fort Collins, Colo., April 17-20, 1989.

-Mark E. Mapston, Wildlife Damage Control Specialist, Texas Animal Damage Control Service, Waco, Texas.

I have personally been involved with several cases of suburban predation problems. Some of the first direct control work that I did was for coyote (Came latrans) predation of calves and sheep. In one case, coyotes had killed 8 calves on a small ranch located on the city limits of Wichita Falls, Texas during the winter of 1981-1982. Traditional coyote control methods were employed and 5 coyotes were taken off of the ranch and the predation was stopped.

In another situation, predators were responsible for the loss of 50 head of lambs, 1 ewe, and 1 calf on the city limit boundary of Olney, Texas. This represented an economic loss of \$3583.00 to the rancher who was dependent on this ranching operation for his livelihood.

Other Texas Animal Damage Control personnel have related similar complaints and have had to deal with larger predators in the urban/suburban locale. In several instances predators (mainly coyotes) were responsible for killing cattle. In one case, 6 cows and 6 calves were lost to coyotes on a suburban ranch of Fort Worth, Texas. This was an economic loss of \$5148.00 to the rancher. Twenty-six coyotes were taken off of this ranch which was surrounded on two sides by urban communities.³

On an adjoining ranch, a similar situation occurred with the loss of calves to predation by coyotes. At this site, 42 coyotes were taken off of the ranch. Needless to say the ranchers involved in each incident were quite pleased with the results.

I have also worked complaints as have others at urban/suburban Air Force bases, airports, and other such areas. During these occasions, coyotes were traveling on the runways and creating a hazard for the **aircraft or they were** causing other physical damage to the properties. Control procedures had to be undertaken where possible to try and alleviate the damage. At some facilities this type of complaint occurs yearly.

Requests for assistance with these types of problems are continually being received and are increasing in frequency across the state. I am sure that similar scenarios could be given by other states as well. '

OTHER ANIMAL DAMAGE

Beaver (Castor canadensis) have also found their way into the urban and suburban environment as well. Requests for assistance in urban areas

³Thomas, Thurman R. 1988. Personal communication. Texas Animal Damage Control Service. Gatesville, Texas.

'House, Dayton. 1987. Personal communication. Texas Animal Damage Control Service. Mullin, Texas.

are being received continually and once again are on the increase. In some urban areas as many as 2 to 3 calls per 5week are received regarding urban beaver damage.

Complaints involving urban beaver damage include damage to trees and shrubs, the building of dams on creeks and waterways, the plugging up of drainage culverts, and other types of damage to private property. Beaver burrowing activity in water impoundments both public and private, is another common complaint from many urban areas.

Another increasing problem from within these areas is the incidence of human giardial infection caused by the transmission of the Giardia (Giardia lamblia) parasite by positively infected beaver

Beach 1985). A beaver can shed millions of infectious cysts in a single scat which is generally deposited in the water system in which the beaver inhabits.

The presence of bats in urban areas tends to create much anxiety particularly in the Central and South Texas region. Although bats are the second highest carrier of rabies in the state, most actual bat damage is slight and usually results from bats in a roosting situation.

Birds continually cause problems in most urban/suburban areas because of their roosting, feeding, and/or nesting habits. Bird droppings are also a problem when they accumulate in large proportions. Many different species of birds are involved in these damage or nuisance situations.

Recently, even exotic species of birds have involved themselves with the urban scene. Birds such as Cattle Egrets (Eulbulaus ibis) and Little Blue Herons Egretta caerulea have established heronries in urban areas of southern states (Telfair 1983). Complaints are also received regarding such species as Mississippi Kites (Ictinia mississi ap ensis) (Peterson 1985) and Monk Parakeets Myiopsitta monachus due to problems caused from their respective nesting activities.

Other types of animals have begun to inundate our cities as well. Not only do many people keep exotic pets (ie: lions, tigers, wolves, snakes, etc.) that escape periodically, native "exotic" wildlife are beginning to show up in these areas. Reptiles such as the Mediterranean Gecko (Hemidactylus turcicus turcicus) have caused problems. This lizard likes habitat around human habitations as its home and recently has appeared in Dallas which has not been in the animals normal range of occurrence.

⁵Sramek, Ricky. 1988. Personal communication. Texas Animal Damage Control Service. Dallas, Texas.

I have also received complaints regarding a nuisance situation involving Rough Earth Snakes (*Virginia striatula*) and Texas Blind Snakes *lephlo s dulcis*. Both of these snakes are small (to 6 inches) and brown-colored and may occur around human habitations and/or find their way inside buildings.

DISCUSSION

Each of the complaint situations that have been related all required some form of associated control activity to help solve the damage or nuisance problem. This control activity is largely dependent upon the particular species of animal involved and the complaint background and locale. In most cases, technical assistance or control methods instruction is the desired and the primary mode of operation. Many times there are extenuating circumstances which may prohibit specific direct control activities being conducted.

With environmental concerns still in full swing, more and more urban areas are being designated as wildlife and/or bird sanctuaries where little or nothing can be done to alleviate wildlife damage without special and most often hard-to-get authorization. Also, a continually increasing amount of urban and suburban communities are adopting more and more restrictive city legislation which may limit control techniques. This includes the banning of the use of steel-jawed traps from within city limit boundaries, usually including Conibear traps, and the curtailing of the use of certain pesticides and the use of firearms.

Most local city animal control agencies are not set up for handling wildlife damage problems or do not have the personnel with the technical expertise to consult with a complainant on wildlife damage and control. This is particularly true in the smaller urban communities where funds and personnel are limited.

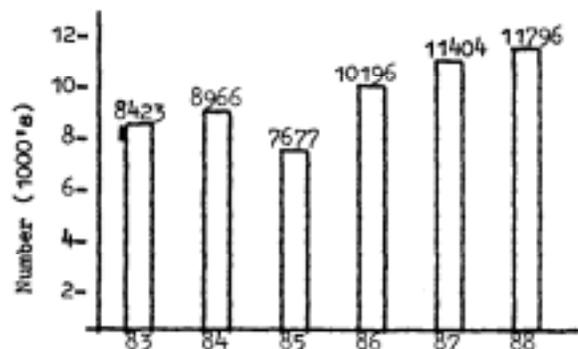
CONCLUSION

The wildlife damage complaints from within urban and suburban communities can be quite varied and may involve numerous wildlife species. There has been a continual increase in damage complaints and the associated technical assistance provided in Texas in the past few years (Table 1). Eightyfive to 90 percent of this technical assistance was provided by an urban wildlife damage control specialist.

By the year 2000, it has been estimated that 90 percent of the human population in this country will live in an urban area. Consequently, there will be an increase in urban -'aud-aiiurban human/ wildlife conflicts particularly of the kind described in this paper. Wildlife damage control special

6Hawthorne, Donald W. 1987. Personal communication. Texas Animal Damage Control Service, USDA APHIS-ADC. San Antonio, Texas.

Table 1. Technical assistance projects of Texas ADC Program, (fiscal years)



ists will be called upon in greater demand for assistance in solving these conflicts. He or she will need to address these problems in the most proficient and professional manner possible. In order to effectively deal with these newer and more numerous complaints, it will take the combined efforts of civic, private, and state entities as well as the local wildlife damage control agency. These other entities need to be educated about wildlife Damage and wildlife damage control in order that they too can at least provide the proper information to their public and/or provide the proper assistance to the control agent as needed.

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