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Author

Howard, Walter E.

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Why Wildlife in an Urban Society?

Walter E. Howard

Professor of Wildlife Biology, University of California-Davis, Davis, CA

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INTRODUCTION

The future for wildlife in an urbanizing environment has been growing dimmer with the delivery of every load of lumber or cement. We have become so antiseptic in our urban lifestyles that many species of wildlife are considered pests when in cities. For the most part, the prior wildlife tenants of the land, where our homes, cities, and suburbia are now located, never had a chance to survive. In addition, we have usurped another large percentage of the wildlife habitats in the production of food and fiber required for our own existence. And do we try to help native species? No, we often import exotic species instead.

What does the average person usually visualize when he thinks about wildlife in the central area of a city? Depending on the area, it is pigeons, house sparrows, starlings, bats, rats, and mice. In residential areas, it is the same plus aquaria, canaries, cats, dogs, and a great variety of exotic pets. Many urbanites, especially those living in large apartment complexes or in the core area of a large city, consider this to be the whole spectrum of wildlife fauna. But in suburbia and other residential areas some people also will include such species as the mocking bird that persistently sings much too loud and all night outside the bedroom window on bright, moonlight summer nights, flickers that tap a noisy chorus on the eaves of the house, woodpeckers that peck holes in the roof shakes to stash a generous supply of acorns, jays that eat garden fruits or eggs and young of more desirable species of birds, flocks of cedar waxwings or robins that strip fruit and berries from the ornamentals in one brief visit. Also, opossums, raccoons, or other nocturnal species that raid vegetable gardens, moles in lawns, pocket gophers that feast on prized gladiolus, bats, and rats that take up residence in the attic and garage, or a hungry and cunning coyote that preys on a wandering house cat or poodle. Add to these concerns the emotional problems that arise over a neighbor's dog that seems determined to leave its territorial deposits on lawn and shrubs, after first scattering about

the contents of garbage cans. With still other people, what will come to mind first will be the toads and rodents that accidentally fall into the swimming pool and drown, or the occasional snake that slithers from the shrubbery and ruins a garden party.

In the preparation of this paper, I found the views expressed by Seymour M. Gold in his book *Urban Recreation Planning* (Lea and Febiger, Philadelphia, 1973, 333 pp.) quite helpful. The explosion of suburbia attests to mankind's desires for more open space with vegetation and wildlife. As Dr. Gold expressed it to me, we have been building cities in parks instead of parks in cities. Too often we go to great expense to over-groom our parks, whereas at least portions of them could best be left more natural to benefit wildlife and also to save money. With our current "trim and groom" philosophy toward most urban parks we defeat one of the prime objectives of parks, which is to bring nature into our cities. According to Gold: "As a nation we should ... attempt to save or create public open spaces of appropriate size, scale, and character within the urban area. An urban area devoid of physical and natural diversity cannot provide the measure of environmental richness possible and necessary to the quality of life... There is a growing awareness that the best way to preserve wilderness and resource-oriented areas from overuse is to provide more recreational open space in cities ... Poorly designed open spaces which do not accommodate a diversity of uses and social interaction can, and in most cases will, become a void for increased crime and vandalism ... The conservation aspects of public open space are not commonly associated with urban areas, but at least three have some justification: (1) retention of water supply and natural drainage, (2) alleviation of air pollution, and (3) provision of a limited habitat for natural flora and fauna. ... From a financial point of view, public open space does not produce any taxable income or become taxable real property, but it does usually increase the value of adjacent properties." I am sure we all agree with Dr. Gold that "The provision, design and maintenance of public open spaces are vital factors in the environmental quality of cities."

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THE URBAN RACE OF *Homo sapiens*

Can we be constructive and define the city dweller's wildlife needs? It will not be easy, because all factors of life are relative. No one knows what he is missing until

after he has had first-hand experience with the situation in question. If we could assemble more hard sociological or psychological facts as to why people need an infusion of wildlife in their immediate community, then perhaps federal funds could be procured to establish living demonstrations of these wildlife benefits. The U.S. Department of Agriculture has been immensely successful along these lines in the rural communities. Most people enjoy watching tree squirrels, listening to the songs of birds and observing their colorful antics; but, for the most part, a new human attitude needs to be generated so city people will also be willing to share with various species of wildlife new buds, berries, and other fruits produced by the landscaping around their homes.

Does the ghetto or slum resident really need wildlife for the good of his health, when rats may give him food poisoning, or pigeon droppings histoplasmosis? In suburbia, the native field rodents may carry tularemia, plague, and other serious diseases, and the skunks and foxes may be rabid.

Let's compare today's existence with that of primitive societies which lived much closer and more harmoniously with nature than is true today. The only reason primitive people lived more harmoniously with the environment is because not enough of them survived to produce a population density, like the world is now experiencing. Many of the benefits man enjoys today are the consequence of his conquering nature and modifying the environment to satisfy his wishes. But where does he find his tranquility and basic human gratification? In his home with its synthetic and plastic environment and TV. Modern man has adopted the medieval idea of "walling" nature out of cities, as if nature were hazardous.

Most people have convictions regarding the beneficial or detrimental value of wildlife species according to how animals affect them personally. For example, how can the urban homeowner rationalize that the farmer and rancher should calmly stand by and watch coyotes destroy their tame and domesticated poultry and livestock, when most homeowners become nervous wrecks over just one mole or pocket gopher, or one rat or snake? Why does a suburbanite think it is all right for coyotes to kill sheep, yet become highly incensed when a coyote eats his cat or when a neighbor's cat kills a fledgling he has watched grow up in his garden? Isn't this the balance of nature he proclaims is desirable?

When man builds a home and establishes a garden, he purposely, or unknowingly, displaces nearly all of the native species of wildlife which had prior claim to that piece of land. He rarely tries to favor wildlife with appropriate landscape plantings. Instead, he surrounds his home with plants that are hardy, disease or insect resistant, easy to care for, and all of this for aesthetic, not economic or ecological reasons. Yet some of these same hypocritical individuals think the farmer should not be allowed to reduce an abnormally high population of a wildlife species that may be causing acute economic damage to his basic livelihood of providing our food and fiber needs. In most instances, such species have increased beyond their normal density as a consequence of land being used to provide us with food and fiber.

In general, rural people are much more willing to share

at least part of their livelihood with wildlife, providing they can still make a living. Some urbanites are desirous of preserving wildlife and environmental quality, but only if they do not have to pay for it. But it is rare to find an urbanite who will do more for wildlife than perhaps establish a bird-feeding station and a bird bath. Some of the middle- and upper-class families may also donate to their favorite nonprofit organization, thus proclaiming their interest in wildlife, but without the faintest idea as to how the money is spent. Others have succumbed to the rage of exotics, ignoring the potential hazards to the native fauna and agriculture, and often even disobeying the law. Ground nesting birds do not have a chance when parents tell the children to put the cat and dog out after dark, so the neighbors will not see them free of a leash.

A person's house and garden are his kingdom, and man is very territorial over his home site. He is not too amenable to being told to make small sacrifices on behalf of local species of wildlife. He thinks city parks and zoos are to help wildlife, not homeowners. Man is so entrenched with the hypocrisy of thinking he is competing with nature – the man-rules-beast philosophy – that he cannot even bring himself to plant part of his garden for the wildlife he has displaced. Instead, he lets himself be guided by aesthetics, conventional wisdom and conformity. The urbanite's niche has become a concrete and plastic domain, with about the only reference to wildlife being that of calling a pest control firm to rid his dog kennel of rats and garage of mice. Man's physical environment is usually molded to fit his economic and social requirements. He isolates and insulates his biological territory on the basis of his selfish whims with little, if any, consideration of nature or wildlife.

The urban race of *Homo sapiens* is composed of highly social, gregarious individuals who seem to thrive best when highly congested. Man has become so tolerant of his own kind that he seems to have lost nature's involuntary, self-limiting forces that normally prevent the population density of any species of plant or animal from becoming so great that it destroys its own environment. People in crowded city cores may display hostility and anxiety, but they do not turn to cannibalism or infanticide, or starve their less dominant neighbors to prevent overpopulations as occurs in nature. No other species has seen its density increase so dramatically as the human race, hence the human overpopulation crisis witnessed today. It is difficult to focus our attention on how man and wildlife might better cohabit an urbanizing environment when we are also witnessing a suicidal population explosion of the worst environmental exploiter of all, *Homo sapiens*.

It could be considered foolish to further displace wildlife populations by attempting to establish them in man's habitat, unless we can rationalize a good defense for justifying this action. After all, man's selfish nature has already destroyed far too much of this biosphere without foolishly making things even worse. We must carefully consider the possibility that our attempts to encourage wildlife species to take up residence in cities, which for the most part are far from being natural habitats, may be upsetting the balance of nature even further.

Perhaps the most fundamental question we must ask ourselves is are we attempting to attract more wildlife to our urban areas for their sake, or only because we think

mankind needs this aesthetic and recreational experience for his own well-being? If it is the latter, I hope the realization stings. Of course, some will probably rationalize that this is still better than encouraging so many more city folks to swarm over the countryside in their search of opportunities to commune with wildlife. -

Why try to bring more wildlife into our cities? Why not satisfy our aesthetic appreciation and conscience like we have done in cemeteries. After we become too busy to keep fresh flowers on the graves of our former loved ones, we moralize that plastic flowers would serve the bill. We rationalize that they last longer, and that we need not become concerned about deer and rabbits eating them.

JUDEO-CHRISTIAN ETHICS

Does man have inalienable rights to be answerable only to his own kind? I am impressed by the statements of Dr. Lynn White, a History Professor at the University of California, Los Angeles. In his statement titled "The Historical Roots of Our Ecological Crisis," he points out that the pagan belief that there is conscious life in all natural objects was destroyed by Christianity. He suggested that to help overcome this Christian arrogance toward nature, we accept St. Francis of Assisi's idea of equality of all creatures including man, in place of man's limitless rule of creation.

Why is it that the only way of sensitizing urban man to assist wildlife is to convince him that his own life is endangered to do otherwise? Before he can be made aware of rare and endangered species, and the hazards of oversimplifying the environment to the exclusion of most wildlife, he must be frightened that his own welfare is involved.

WILDLIFE VALUES

It seems obvious that the best way of assuring that wildlife will get a better break in our cities is to uncover some solid evidence to show that helping wildlife will also benefit man. Unfortunately, man thinks he must own everything about him, and wildlife, if reasonably wild, does not oblige him along this line, as the animals usually do not benefit him economically when around homes or in city parks. Wildlife species desired by sportsmen have never had it so good, but songbirds and other nongame species have not acquired an economic value that can easily be assessed. We need to know just how vital wildlife is to human welfare. Because of the increased rate of urbanization that is now occurring, society must identify the social and economic benefits that surely pertain to this urban wildlife resource.

With regard to recognizing the many values of wildlife, just how does one introduce the richness of the wild outdoors into an urbanized environment? As so much of the human population now lives an urban existence, it behooves us to do all we can to acquaint these people with wildlife - that is, with nature and the natural scheme of things. For those who have been able to really know wildlife certainly suffer nostalgia whenever they no longer have the companionship of wild things. The miracle of birth can be taught beautifully by watching nesting birds and other wildlife at home or in landscaped school grounds, but the miracle of death is ignored because

parents and teachers do now know how to cope with the surplus of pets and other wildlife.

If those who live in cities had more opportunity to observe and share with wildlife, it surely would help them to understand 'themselves better. People can identify with wildlife. How can a stroll through a park be enjoyed completely without some birds and squirrels being present? Most people realize this, but how do we indoctrinate those who clearly enjoy wildlife to the realization that they should also share their yard and garden with wildlife. Perhaps we would do more for wildlife in the cities if we understood the animals better, but it is difficult to acquaint people with species of wildlife that they will not tolerate. Yet, one of the best classroom experiences is to watch less intelligent beings than ourselves adjust to various environmental factors. Even to observe wildlife in our asphalt jungle will give one some feeling toward nature. Any contact with nature in the raw adds a dimension to one's life that cannot be obtained any other way. As a natural art form, live wildlife has no equal, its innate serenity is treasured by all who have had the privilege of experiencing such pleasures.

In my own yard, I do a bit of sharing. However, I gave up growing table grapes—the birds took them all unless I put bags around them—which was too much work and also not aesthetic. Figs were a battle for a long time, but now I have a pruning scheme that seems to provide plenty for both of us. English walnuts were shared until disease got the tree because I failed to spray it. With the almonds, I have given up, and the jays and woodpeckers now have the two large trees. But they seem to agree that it is only fair to let me have most of the nuts on a smaller tree. As far as the blackberries are concerned, the birds have been generous with me. My several orange and lemon trees are excellent winter roosting sites for hundreds of robins, giving them fairly good protection from the barn owls that seem to find these robins a delicacy. One morning the barn owls dropped the heads of two robins not five feet from my front door, below their temporary nocturnal roost in a deodar cedar. My conflict with robins developed only after their numbers increased so much one winter that our orange crop became whitewashed to a degree that we didn't enjoy using the fruits. But I thought that would be easy to handle, so I pruned the trees to reduce some of the cover for the robins. I must have overdone it, for the trees now are not as favored for roosting as before.

I get along fine with a toad or two that I have in my yard. They are shy so I do not get to see them often. As long as I keep a few flat stones around that they can burrow under, or leave open holes made by dead tree roots, they appear quite contented. Jays are a problem and do eat many robin and dove eggs. Mockingbirds now nest successfully because I leave dense vegetation for them, and the jays somehow do not penetrate this barrier. But it is emotionally upsetting to see a neighbor's cat try to get at young in the nest, and later witness one catching and killing a fledgling mockingbird.

Incidentally, I just received a most valuable guide on "Landscaping for Birds," edited by Shirley A. Briggs. It was recently (1973) published by the Audubon Naturalist Society of the Central Atlantic States, Inc. We need more of these, and for other vertebrates in addition to birds.

Man's desire to rid his property of undesirable insects,

weeds, rodents, and other wildlife for his own selfish gain is rather typical of the average urbanite. It is truly amazing how little the urban race of *Homo sapiens* knows about how to purposely transform his environs to favor wildlife, along with satisfying his basic biological and economic needs. The sensitive relationship between wildlife and social factors must be recognized in urban environments. Remember, most of the voters now live in the cities, so the urbanite must be taught to appreciate wildlife.

Before we encourage some species of wildlife to share our urban environment, we must decide if such action is humane. I am not referring to the problems these wild animals will face in adapting to an unnatural urban life, but rather to the inhumane treatment so many will receive from cats, dogs, automobiles, TV cables, power lines, and children who want to experiment with nature.

When living in crowded conditions in city-core areas, can residents risk the potential hazard of deadly strains of influenza viruses mutating from the wildlife species he enticed to share his urban environment? Does he wish to expose his pets unnecessarily to diseases transmitted by wild species? Some residences in Hollywood are beautifully landscaped, and that is why they have roof rats, as do some of the freeways that have lush stands of vegetation. In California, at least, the Highway Commission has searched diligently for vegetation of high aesthetic value that will not be attractive to wildlife. *Pyracantha* berries create traffic hazards by enticing flocks of robins that fly amongst the high-speed traffic, or by causing cedar waxwings to become intoxicated from eating too many berries growing along a freeway.

Another question is whether we will be doing wildlife a disservice by providing favorable shelter and food in our cities, if we also expose them to debilitating air pollutants?

How many of us would forego using the fireplace if we knew that bats or birds were occupying the chimney? Will species change genetically to become better adapted to urban environments of air and water pollution, asphalt and concrete, and industry? Most species do not adapt readily to radically different habitats, but those that do survive may subsequently change genetically so as to acclimatize more fully to the new environmental conditions. Many mammals seem to have a fairly high degree of natural, ecobehavioral, and genetic plasticity; hence, they can adapt phenotypically to some new biotypes created by man.

BALANCE OF NATURE

Man keeps forgetting that he is part of nature, and that it is essential that he maintain better harmony with wildlife and other natural resources. But who can moralize for others as to how to obtain supreme enjoyment from wildlife in a home garden? An acceptable wildlife ethic is needed, so that man will never be allowed to forget that he is part of nature. We are not short of ecologists that know how to measure what is happening in natural environments, but we do need applied ecologists that can predict the cause-and-effect relationships between wildlife and man-modified environments. Some form of artificial control or manipulation of wildlife species is an important conservation tool that is necessary to protect the species from destroying itself, in situations where man has

appreciably modified the environment. It would be interesting to prepare an environmental impact statement about the ramifications concerning any planned increase in urban wildlife.

Is it bad to upset the balance of nature? Bad for whom or what? Man makes no advancements in this world without gaining some measure of control over nature and manipulating its balance. To benefit wildlife in an urbanizing environment is not just a matter of preserving native habitat. It is the much larger challenge of how to modify the environment further so that we can selectively benefit a vast number of wildlife species, regardless of whether these species all had prior rights to these localities. Do not try to establish a native prairie for bison when you only have a few square yards of garden available for landscaping. Instead, do what you can to alter such potential habitats in the best way possible to bring about a more harmonious wildlife-land-use micro-environment. Do not always attempt to establish climax vegetation, for with few exceptions, whenever the ecology of an area is set back to an earlier successional stage, most birds and mammals are benefited.

We need to ask whether wildlife in an urban environment is an important ingredient in the balance of nature. But to do this we must identify what is implied by the term, balance of nature. Does it involve sharing our apples with codling moths and our lawns and gardens with moles and pocket gophers? The balance of nature is the dynamic adjustment – survival of the fittest – which occurs between organisms and other components of the ecosystem. It is the relationship of population densities of diverse species or organisms that make up an ecological community. Natural environments appear to have a well-established and stable soil-vegetation complex which is *not* delicately balanced. For example, even if all deer were suddenly removed from North America, biologists would not be able to measure this effect on any other wildlife, except possibly the coyote, wolf, and cougar, until conditions of habitat had changed due to the lack of grazing and browsing by deer. Serious environmental disruptions usually result from the introduction of highly different types of alien plants or animals, or from farming, grazing, logging, man's use of fire, natural catastrophes, urbanization, or some other event for which there has not been sufficient time for a new environmental equilibrium (balance of nature) to evolve.

Once a habitat has been changed by man, to ignore necessary control measures to keep certain vertebrate species in balance is to invite ecological disharmony of land. To try to protect all vertebrate "pests" in the interest of conservation may actually be working against the very goals striven for. Many a logged over coniferous forest in the west has reverted to a brush field because either the conifer seeds used to establish the next stand were not treated to repel deer mice, or these seed-eating forest rodents were not kept at their former low levels until the new stand of seedlings was established. Protect too many feral burros and the native mountain sheep may become scapegoats when the burros then deny the mountain sheep access to their former water holes. *Man has a moral responsibility to manage nature once he has disrupted it.*

A principal factor governing the distribution and density of wildlife populations is the suitability of respective

habitats the combination of vegetation, soil, and other environmental factors which enable each species of wildlife to find food, cover, and breeding sites in a particular locality. Wildlife populations also have considerable powers of self-limitation which prevent severe overpopulations that otherwise would destroy the species. Population densities tend to stop increasing, hence prevent serious overpopulations, once the natural "carrying capacity" is reached. They do this by involuntary self-limitation resulting from the interaction of intraspecific stress factors (e.g., competition for food or mates, territoriality, weather, disease, or other vicissitudes of life) which cause increases in mortality, reductions in their innate ability to produce a surplus of offspring, or movements from overpopulated areas. The natural balance to which predators contribute makes it possible for their prey species to be sustained at a higher population density than if predators were absent.

One of the most ecologically delicate areas to tread, concerning the encouragement of wildlife in an urbanizing environment, involves what to do about predators. Predators are opportunists, so, as any cat owner knows, it is difficult to dictate what kinds of prey they will select. The greatest predator problems are the ever-present subsidized predators, dogs and especially cats, because to hunt and kill is their life. My colleague worked very hard to get cottontails established in his fenced garden, but even with all of the dense shrubbery, the neighbor's cat soon did them in just for sport, not food. Actually, in an urbanized area there is usually an excessive number of predators which can hunt for sport, since their owners feed them.

In what way does wildlife contribute to the web of life? How does it enter the food chains? As most city terrain is pavement, wildlife excrements become more of a disposal problem than a soil enricher. Urbanization reduces the variety of wildlife but may permit great increases in some species. A balanced community is one in which various kinds of organisms can sustain themselves – by eating each other. But when we add a bird feeder to our little community, we design it for the cardinal, and to keep the squirrels out. I suspect many homeowners would mistakenly desire robin control if they realized how much they fed on their garden's best soil conditioner – earthworms. It is an axiom that man must exploit the environment and deliberately unbalance the biosphere to survive. But we need to know the best way to deliberately help balance the system, as we now seem destined to isolate ourselves in concrete and artificial air conditioning.

RESEARCH NEEDS

Before encouraging the establishment of any species of wildlife in an urban environment we should: 1) identify correctly the animal and plant species that will be involved; 2) determine the size of suitable habitat that will be required; 3) consider the effects the target species may have on other species; 4) determine if there are any likely irreversible consequences; 5) consider all possible alternative species and habitat developments; 6) examine thoroughly the human relationships involved; 7) establish priorities and spell out precise objectives for each species being considered; 8) determine if the species might

become a nuisance, serious pest, or health problem; 9) capitalize on the rapidly growing social and recreational values that the public is placing on all wildlife; and 10) involve the widest range of other disciplines such as sociologists, planners, landscape architects and educators in this problem solving effort, for wildlife and other problems will be solved only if a multidisciplinary approach is used.

We should develop a set of basic principles that outline all ecological trade-offs that need to be carefully considered as guidelines to any large-scale program aimed at enhancing wildlife in an urbanizing society. Unfortunately, actions designed to benefit one species too frequently result in the destruction of others, or may have other unanticipated adverse side effects. And it is important to do everything possible to minimize any undesirable impacts the program may have on other segments of the biotic community, in or out of cities, or the likelihood of getting the general public emotionally aroused against wildlife. Emotional bias is usually the consequence of improperly thought-out or researched programs. Even a rock pile in an out-of-the-way portion of one's yard, especially if in conjunction with a pond, will be used by many species, including reptiles and amphibians. But if not managed correctly in some sections of the country it could also create mosquito and rat problems.

Much research and testing are needed in various parts of the country to determine how best to build and manufacture the needed wildlife habitats. It is desirable to preserve natural areas, but there is no reason why we should not also construct highly unnatural but manageable habitats that may have far more needed niches available than would a natural habitat occupying the same amount of space. We have not yet learned how to most effectively utilize railroad rights-of-way, roadsides, drainage ditches, and the like, for wildlife. With few exceptions city parks, school yards, and public buildings are not landscaped with the enhancement of wildlife being considered. These public areas could be used to demonstrate what is possible on a massive scale. Readily adaptable species, like the house sparrow, pigeon, starling, and rat, become difficult to manage; so, when attracting new kinds of wildlife, it is important to be certain that, if things do not work out, the species can be easily discouraged from its new niche.

The urban homeowner, more than any other person, needs leadership and technical assistance as to how he might live in greater harmony with his wildlife heritage. With pesticides, the most serious human hazards and flagrant abuses are usually not from agriculture, but from homeowners trying to protect their flowers, lawns, shrubbery, vegetable gardens, and fruit trees. Pest control is understandable when it is a matter of public health and economic survival, but how do we justify or rationalize the abuses of pest control by homeowners just for aesthetic advantages?

Much more data are needed on how best to design and manage city and regional parks, how to utilize drainage ditches and other potential greenbelts to establish mini-ecosystems, and how to develop buffer zones near cities to permit some urban wildlife species to satisfy their year-round habitat requirements. Zoning laws are needed, and nongame wildlife needs financial support from the general fund, instead of relying on hunters' fees. Perhaps the non-

consumptive bird watchers and nature photographers should be licensed to help pay for the enhancement of non-game wildlife; but this is impossible.

If we can land on the moon, why not use such technological capabilities to develop means of recycling more of our garbage directly through wildlife within the city? Utilizing garbage for wildlife does not seem so overwhelming if one considers starting out by making only selective and limited application of the approach. Golden Gate Park in San Francisco has used treated sewage effluent effectively for maintaining ponds and watering vast plantings for decades. Many desirable wildlife habitats can be developed this way, and nature can then help degrade the wastes.

Treated sewage effluent, especially in the arid west, could be used to irrigate the green belts of city and regional parks. Favorable habitats can be created for most wild species of vertebrates if the park is large enough, and if there is a sufficient supply of water available for establishing lakes and marshes, and for irrigating the vegetation needed to provide food, cover, and breeding places for the desired species of wildlife. The kinds of vertebrates that could be benefited include fish, amphibians, many reptiles, waterfowl, shore birds, other birds, upland game, fur bearers – in fact, quite a wide variety of wildlife species. This might be done in conjunction with canoeing, sailing, nature walking, cycling, horseback riding, and other types of recreation. Production of a large variety of habitats and biological communities will have great aesthetic and recreational value and will directly benefit numerous kinds of fishes and other wildlife.

SUMMARY

The average urban citizen can hardly be classified as a fanatic nature lover. If he can't make money or win a prize from a plant or animal, he is likely to consider it a weed or pest in his own yard. With prevailing attitudes, wildlife has a dim future in society's urban sprawl, because man is preoccupied with benefit/cost ratios and material amenities. To him, wildlife other than on TV, is a liability. He cannot hunt them or eat the animals, so why put up

with their undesirable traits?

Our primary goal should be to achieve maximum coexistence among all forms of life. But most wildlife needs water, and water brings mosquitoes; and the wastes of wildlife and their dead bodies encourage flies. Another basic problem is that wildlife does not recognize property boundaries. Few animals have small enough territories or home ranges so that they will remain in just one back yard.

Despite the many reasons why wildlife should not be encouraged in an urbanizing environment, there are, of course, many positive values. If man would have a high enough regard for wildlife, his coexistence could again become a reality. The essential need is for man to recognize that he is part of nature, and that he must meet nature at least halfway.

Any natural areas in a city park scheme would be aesthetically rewarding, physically stimulating, emotionally soothing, and educationally illuminating. To observe wildlife for but a few moments has therapeutic value. And any mini-wildlife habitat that is constructed should freely utilize exotic plants, if suited to the wildlife species. There is a great need for applied ecologists, planners, sociologists and other disciplines to assist in identifying the many problems associated with urban wildlife, so that the undesirable trade-offs can be anticipated and accommodated in advance.

Urban man is not nature's best friend; but I think he can be conditioned to consider urban wildlife as being not only sociably acceptable, but even desirable. Perhaps we will see the day when most people actually plant and landscape their gardens to benefit wildlife as well as themselves. Can't you hear the afternoon bridge set competing with each other for the most unusual wildlife story? "My pocket gopher has gotten so big that this year he was able to pull all of my gladiolus below ground in just two days."

The question is not why bother with wildlife in an urbanizing environment, but how and when can we start bringing about a change in human attitudes regarding wildlife? If what I have described about needed changes are to materialize, it will take a new sense of stewardship, more scientific information, and a sincere professional commitment to enhance the needs of both man and nature.