LGIEN Fact Sheet 2002-014

LOCAL GOVERNMENT TOPICS

Land Use

Urban Wildlife: Challenges and Opportunities

Cities across the country are home to a variety of wildlife species. In addition to the species you see every day, many more are present but are active only at night.

Many species of urban wildlife receive little attention from homeowners. They are present in such numbers that they become part of our everyday life. Often times we actively promote the presence of wildlife near us for personal or aesthetic purposes. Millions of people put out bird feeders to attract wildlife to their backyards, for example. Maintaining intimate contact with wildlife in this way helps humans retain a sense of their interconnection with the natural environment.

In some cases, however, the interaction with wildlife is unintentional and unwanted. Raccoons in garbage cans or bats in attics are not-so-welcome visitors in our home environment.

The purpose of this fact sheet is to inform readers about the basic requirements of wildlife, why wildlife may be attracted to urban settings, and how to discourage wildlife presence in certain situations.

The Basics for Survival: Habitat

All wildlife species need four essential elements to survive: food, water, shelter, and space. Shelter must be adequate to protect the wildlife from predators and the environment. Space must be adequate for the wildlife to successfully rear their young. In addition to these four requirements, the spatial arrangement of these necessities must be in proper order. That is to say, the sources must be within a certain distance of each other so that the animal can access each safely on a daily basis.

Food

In an urban setting, food may come from various sources, including both intentional and unintentional sources. A variety of fruiting trees and shrubs provide food throughout the summer; depending on the fruiting pattern of the plant, these food sources can last into winter. Mast-producing trees (those that produce nuts) provide a significant supply of food for squirrels and various bird species. A number of wildlife species routinely find sources of food throughout the average urban backyard. Greens from yards and gardens are eaten by many rabbits, as evidenced by significant rabbit populations in most cities and towns.

Bats are voracious consumers of mosquitoes, eating up to 3,000 per night. Hundreds of bird species are insectivores and readily consume any available insect. Grasshoppers, crickets, and caterpillars are favorite food sources of birds and small mammals.

Pigeons tend to subsist on improperly stored garbage or other food materials provided them by people's untidy habits. Crows are omnivorous and eat almost anything, readily adapting to local conditions. Weed seeds are eaten by a multitude of wildlife species and are considered a staple of farmland wildlife diets.

Other natural sources of food for urban wildlife include other wildlife species. Predatory species feed on other wildlife species (prey). Raptors, such as hawks, kestrels, and falcons, are highly successful predators in urban environments and help control the population levels of their prey species. Snakes are predators and eat various types of small rodents and birds.

Artificial sources of food for urban wildlife include garbage and any other human-propagated food source. Wildlife species should not become accustomed to acquiring food from these sources, however. It is important to maintain sanitary conditions throughout the community to eliminate this food source.

Water

There are many sources of water available to urban wildlife. Fountains, puddles, ponds, and drainage ditches provide accessible sources of water. In addition to these direct sources, many species acquire adequate water through consuming foods high in water content, such as fruits and berries, or by consuming meat. A third source of water is water droplets on plants and lawns after a heavy morning dew or immediately after a

rain event. As a general rule, water is *not* a limiting factor in terms of an urban environment's suitability for wildlife.

Cover or Shelter

You may be surprised by the many different sources of shelter wildlife can find in an urban environment. Wildlife species seek cover for nesting, feeding, and rearing young. Older, larger trees commonly serve as a home for a number of species. Cavities within these trees provide good denning sites. Birds that nest in cavities can be found anywhere they can gain access to enclosed structures, such as holes in buildings. Pigeons can be found at those sites that provide an area for perching while simultaneously protecting the bird from the elements. Other birds, such as swallows, construct nests on the sides and under the eaves of buildings.

Raccoons and opossums will find adequate shelter anywhere they can conceal themselves from people and the daily activities of humans. Because raccoons and opossums are nocturnal, their den sites are difficult to locate during daytime hours.

In short, urban settings provide hundreds of places that wildlife species can exploit as sources of shelter. As with water, urban wildlife populations are not usually limited by scarcity of cover or shelter.

Space

Animals need space to survive. Overcrowding of species can lead to competition for available resources (food, water, or shelter). For this reason, only a specific number of animals can live productively in an area. This limitation is commonly referred to as the "carrying capacity" of the area. In urban areas, space is the most challenging habitat requirement to manage because it is difficult, if not impossible, to manipulate this resource. As a general rule, urban wildlife species do not require large amounts of space to survive. In contrast, farmland wildlife, such as white-tailed deer, require larger expanses.

What Attracts Wildlife to an Urban Setting? *(Adapted from USDA APHIS)*

Various factors draw wildlife to urban areas. For example, dense plantings of evergreen shrubs and trees, certain oak varieties, Bradford pear trees, and bamboo may attract large roosts of flocking birds, such as blackbirds or starlings. Vegetation with dense foliage, such as conifers and magnolias, create an attractive roosting habitat for noisy and messy birds.

Including watercourses or ponds (intermittent or permanent) in landscape design may attract a number of undesirable species. For example, aggressive Canada geese often take up residence in office parks, residential areas, golf courses, and other urban sites associated with water. The birds' droppings are unsightly and can be a human health hazard. Aquatic mammals, such as the muskrat and beaver, also aggressively seek wetland habitats and are known to damage ornamental shrubs and trees, vegetation, turf, and structures with their feeding and burrowing activities.

Planting short grass turf in association with water may be particularly attractive to geese. As noted previously, the presence of geese often results in fouling of walkways and recreation areas, contamination of the water with droppings, and damage to turf from feeding.

Using plants that are palatable to deer can result in extensive browsing damage to expensive landscaping, increased collisions between deer and automobiles, and elevated potential for Lyme disease.

Fruit, berry, nut, and other food-producing plants attract wild animals. When these plants are placed near airports, electric power stations, and high-traffic areas, therefore, they can endanger public health and safety.

Management and Control

To control urban wildlife populations, one must manipulate one of the four habitat factors described previously. Wildlife cannot survive unless their habitat needs are met. If one of these habitat requirements is absent, wildlife will either migrate to another area capable of providing their needs or die. For long-term wildlife management, habitat manipulation is far more effective than direct population reduction. In areas that meet a species' habitat needs, an animal population's birth and survival rates will increase, ultimately replenishing losses caused by direct population reduction.

The types, amounts, and forms of habitat attributes required by individual species differ. To effectively manage an individual species, one must consider the specific habitat requirements of that species. Understanding the biology and ecology of a species will increase your chances of either improving conditions for the animals or deterring them from increasing their numbers. To gain insight into the requirements of an individual species, consult local wildlife biologists and wildlife enthusiasts.

Habitat manipulation is not only the best tool for reducing numbers of a particular species, it is also the most effective strategy for attracting wildlife to urban environments. Once you determine which of the desired species' habitat requirements is absent, you can supply the missing element and provide a habitat conducive to the animal's presence.

In short, habitat manipulation is the key to managing wildlife populations. If you provide or eliminate any one of the four necessary factors, the population will respond accordingly.

Wildlife Law

Wildlife is held in the public trust by states and the federal government. No one entity owns a wildlife species. States retain primary authority over resident wildlife. The ruling governments of various nations agree to cooperate in the conservation and management of those migratory wildlife species that move freely across common borders. In the United States, one can

find wildlife species that fall into both management jurisdictions.

When considering possible manipulation of an urban wildlife species, it is vital to determine the legality of such actions. When in doubt, always contact a wildlife resource agency for consultation. Anyone taking illegal actions against a wildlife species is subject to state and/or federal charges. The following list provides contact information for various wildlife resource organizations.

Resources for Additional Information

Illinois Natural History Survey Center for Wildlife Ecology
http://www.inhs.uiuc.edu/cwe/

Illinois Department of Natural Resources
http://dnr.state.il.us/

Wildlife Damage Management Fact Sheet Series written by Paul Curtis and Kristi Sullivan of Cornell University Extension (2001). These fact sheets help homeowners solve nuisance wildlife dilemmas around their homes and gardens.
http://www.dnr.cornell.edu/ext/wildlifedamage/publications.htm

Building Nest Structures, Feeders, and Photo Blinds for North Dakota Wildlife. *(Presented by the North Dakota Game and Fish Department)*
http://www.npwrc.usgs.gov/resource/tools/ndblinds/ndblinds.htm

USDA Animal and Plant Health Inspection Service (APHIS)
http://www.aphis.usda.gov/

USDA Natural Resource Conservation Service, Backyard Conservation Homepage
http://www.nhq.nrcs.usda.gov/CCS/Backyard.html

USDA Natural Resource Conservation Service, Wildlife Habitat Management Institute
http://www.ms.nrcs.usda.gov/whmi/

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