



TOWN OF
HILLSBOROUGH
NORTH CAROLINA

Wildlife Management Resource Guide

INTRODUCTION

Wildlife refers to all animals neither human nor domesticated that inhabit a region or area.

Increasing development across North Carolina causes the loss of open lands and forests, resulting in wildlife habitat fragmentation. Habitat fragmentation is the process of breaking large habitats into smaller, disconnected pieces and is often caused by construction and development. For wildlife species to survive habitat fragmentation, they must adapt to being in closer proximity to humans. This forces wildlife into smaller and more crowded spaces, including towns and yards. Yards make up a significant portion of land in urbanized environments and increasingly are used by wildlife for habitat and food.

The impression that some wildlife species are overpopulated generally overlooks that they have lost natural habitat, connectivity and predators. While many people view wildlife in neighborhoods as a nuisance, it is important to remember they are simply trying to survive.

Wildlife is a key part of the ecological balance and biodiversity of the natural world. Protecting wildlife is essential for maintaining and preserving the environment for future generations. Habitat conservation, sustainable land use and management practices, and public awareness and education are all important components to wildlife management.

The presence of wildlife in developed areas can negatively impact the environment and property and public health in some cases. In recent years, Hillsborough residents have experienced increasing problems with wildlife populations, especially Canada geese, gray squirrels, groundhogs, vultures and white-tailed deer.

This resource guide establishes sustainable practices for managing wildlife by combining various tools to minimize health, economic and environmental risks. It also includes resources for managing wildlife conflicts in town. The guide's objectives are to:

- Educate the public about wildlife management resources.
- Offer strategies to minimize conflicts and threats between people and wildlife.

The guide uses information and language from the following sources:

- North Carolina Wildlife Resources Commission, ncwildlife.org, including resources to reduce conflicts with wildlife.
- Humane Society, humanesociety.org. See promoting smarter wildlife management.

GUIDANCE

Helping Wildlife

Leaving food for wild animals can contribute to harmful outcomes, including the spread of disease, overpopulation and preventable conflicts between people and wildlife. Feeding wildlife — except for common backyard or perching birds — is prohibited within town limits as of February 2025. Fed wildlife

can lose their natural, healthy fear of people, putting them at risk and leading to aggressive behavior that can put people at risk. The best way to help wildlife is to add native plants to landscapes to provide natural food and shelter.

See the North Carolina Wildlife Resources Commission's frequently asked questions on wildlife problems at ncwildlife.org.

Planning a Wildlife Habitat

Individual yards are islands that can be connected within neighborhoods and towns to provide viable habitat for wildlife, such as frogs, bats, birds, bees, lizards, salamanders, moths, migratory birds and butterflies. A humane back yard is a natural habitat offering wildlife plenty of food, water and cover and a place to live free from pesticides, chemicals, free-roaming pets, inhumane practices and other threats. Such a habitat benefits animals, is healthier for the environment, supports a robust ecosystem free of toxins, saves water and connects people with their wild neighbors.

The Town of Hillsborough is a Bee City USA community and promotes sustainable activities. Simple adjustments to yard maintenance can help create an environment welcoming to beneficial wildlife. Tips for cultivating a humane back yard include:

- Reduce your turf grass lawn and let a variety of native plants flourish, providing food, nesting materials and shelter.
- Let fallen leaves remain in place or collect them beneath shrubs, trees and perennials. Both create winter refuge for amphibians and insects and also return nutrients to the soil as the leaves decompose.
- Leave plant stalks and stems instead of pruning plants to the ground. The hollow stalks and stems harbor chrysalises and bee larvae.

Preventing Wildlife Conflicts

Wild animals are looking for food, water, shelter and safety. If a wild animal is regularly visiting your property, removing access to one or more of those resources can make the area less attractive. Below are techniques that can help ensure most interactions between wildlife and people are positive. Strategies specific to a species of wildlife are provided in the Resources for Specific Wildlife Species section.

- Do not feed wildlife or throw food scraps into the yard. This causes animals to lose their natural fear of humans and is prohibited in town limits.
- Do not leave pet food outside. Remove bowls when pets are not eating and store food inside or in a secure container.
- Attract birds by adding native plants to your property. Plants provide natural food and shelter for birds.
- Close crawl spaces and openings under houses, porches and outbuildings to prevent wild animals from hiding or raising their young there.
- Trim tree limbs around buildings to prevent wild animals from gaining access to roofs or attics.
- Protect gardens, beehives and chickens from predators with fencing and other techniques. Bury chicken wire underground with an outward-facing, 90-degree bend on the bottom to prevent animals from burrowing underneath. String electric wire above fencing to prevent animals from climbing over the fence.
- Keep pets inside a fence, leashed or supervised when outside to protect them from wild predators, diseased animals and fights over territory.

- Use basic harassment to show wild animals where they are not welcome. Harassment disturbs an animal's sense of security, convincing it to leave its shelter or food source.
- Talk to neighbors about wildlife issues you are experiencing to work together to solve wildlife problems.

Performing Wildlife Damage Control

Most wild animals prefer to avoid people. In some cases, they take advantage of food or shelter provided by humans, which can lead to conflicts. The North Carolina Wildlife Resources Commission provides technical guidance and resources to help prevent or manage wildlife conflicts.

Note that relocation is not an environmentally responsible or humane method of resolving wildlife conflicts due to:

- High mortality — Wildlife removed from their home territory have a low chance of survival.
- Ineffectiveness — Strong homing instincts drive relocated wildlife to return to their home territory or to die trying. Relocation also does not solve the underlying issue that attracted the animal.
- Spread of disease — Relocating wild animals helps spread any diseases or parasites they are carrying to new areas.
- Relocation of the problem — Wildlife that have become habituated to humans will continue to cause issues wherever they are relocated.

Staff from the North Carolina Wildlife Resources Commission do not solve wildlife conflicts directly but, in some cases, they can issue depredation permits for animal removal or provide referrals to licensed professionals who can provide direct assistance.

Wildlife control agents are trained and certified by the commission and are authorized to issue depredation permits to North Carolina residents having wildlife damage problems. Where damage is occurring, the agents can issue immediate permits for certain species and may remove the animal directly.

See the North Carolina Wildlife Resources Commission's wildlife problem page at ncwildlife.org.

RESOURCES FOR SPECIFIC WILDLIFE SPECIES

Resources to reduce conflicts with certain wildlife species are provided below and drawn largely from the North Carolina Wildlife Resources Commission. For more information, see the page for each species on the commission's website, ncwildlife.org.

Canada Goose

The Canada goose is a waterfowl species easily distinguished by its "honking" call. Most are migratory; however, non-migratory populations have been increasing in North Carolina and elsewhere over the last 20 years. These geese often make their home in cities and suburbs and can be found in parks, golf courses and parking lots. They can be very tolerant of humans and sometimes conflict with them.

Canada geese are classified as migratory birds under the Migratory Bird Treaty Act. As such, they are protected by federal law and managed by the U.S. Fish and Wildlife Service.

Resources That Attract Canada Geese

Parks and neighborhoods unintentionally attract Canada geese by supplying:

- Walking access to open water — Geese retreat to water when they feel threatened but prefer to walk short distances rather than fly.
- Wide open space that provides security by allowing potential threats to be seen from a distance.
- Short vegetation under 6 inches, like a mowed lawn, that is easy for geese to walk on and see over.
- Lack of predators or other potential threats.
- New plant growth, such as a mowed lawn that grows constantly, providing tender shoots preferred by geese.
- Intentional feeding — Geese develop wing deformities from malnutrition due to eating too little natural vegetation and too much human-supplied food while developing. The birds become incapable of flight. A goose's natural diet consists mostly of green vegetation. Avoid providing any food to geese as this can lead to overcrowding, pollution and disease.

Managing Conflicts with Canada Geese

The strategies below have varying levels of success depending on the time of year and how long the birds have been in the area.

- Properly maintain stormwater control measures, like stormwater ponds and wetlands, to manage geese in these areas. Geese can damage vegetation required for meeting local stormwater regulations and can contribute to nutrient buildup within the stormwater control measure, reducing its effectiveness in removing pollutants. This may result in the property owner failing to comply with local stormwater management standards. For more information, contact the [Hillsborough Stormwater and Environmental Services Division](#).
- Use hazing to scare geese away in a way that does not make physical contact with the birds. Repeated hazing can cause geese to avoid an area. Effective strategies are:
 - Make loud noises like yelling, clapping your hands or blowing an air horn while chasing geese away.
 - Hire a company that uses professionally trained herding dogs to chase away geese without touching or injuring them.
 - Install predator decoys. Those that move in the wind or that are moved to new locations periodically are more effective than stationary ones. Pairing decoys with active hazing can be more effective.
 - Use toys such as remote-control boats to regularly chase geese out of the water.
- Install barriers around shorelines, like short fencing or vegetation, to remove walking access from water to feeding or resting locations.

- Apply chemical repellants to vegetation to deter grazing. These products contain methyl anthranilate or anthraquinone and are most practical for small areas because of cost and application frequency. Some must be applied by a certified pesticide applicator.
- Destroy nests and eggs to reduce the local population over time. If any eggs are present, a free federal permit is required. Oiling or adding eggs and leaving them in the nest is often preferred to encourage continued incubation rather than laying another clutch. All individuals must be registered prior to destroying any nests or eggs, and all destroyed nests and eggs must be reported to the commission by Oct. 31.

Targeted Removal of Canada Geese

The North Carolina Wildlife Resources Commission does not allow relocation of problem geese. The following strategies may be used:

- If geese are damaging stormwater control measures, seek assistance by contacting private companies that specialize in inspecting and maintaining the measures or by contacting the [Hillsborough Stormwater and Environmental Services Division](#).
- If geese are damaging agricultural crops, acquire a depredation permit between May 1 and Aug. 31, outside of hunting season. Depredation cases related to agricultural or crop damage do not require an additional federal permit during this time period.
- Lethal removal may be an option where hunting is not possible and crop damage is not involved if landowners can demonstrate that non-lethal control methods are ineffective and that the geese are directly causing economic loss or a threat to human health or safety. Property owners must acquire a state and federal permit.

Gray Squirrel

The eastern gray squirrel is the most common and frequently observed of North Carolina's tree squirrels. It is found in every county and was adopted as the state mammal in 1969. Gray squirrels are common in rural, suburban, and urban woodlots and are most abundant in hardwood forests containing a variety of trees that produce nuts. When food is in short supply, squirrels that survive the winter often produce fewer young. The squirrels are extremely adaptable and can thrive in urban areas. They can be a nuisance when they cause property damage.

Resources That Attract Gray Squirrels

Squirrels thrive where they have access to an abundance of unnatural food sources around people's homes, including bird seed, pet food and garbage.

Preventing Conflicts with Gray Squirrels

- Remove access to food sources to minimize squirrel activity:
 - Remove bird feeders or use feeders that prevent squirrels from having access. Baffles and trays can be placed on feeders to keep squirrels from getting to the seed.
 - Avoid feeding pets outside or supervise the food and prevent access from any wildlife. Bring bowls inside after pets have eaten or wash the bowls before putting them back out.
 - Secure garbage using ratchet straps, bungee cords or latches.

- Close entry points into the home using half-inch hardware cloth or chicken wire.
- Trim tree limbs at least 6 feet from a residence to prevent squirrels from jumping onto the roof and accessing or nesting inside buildings and attic spaces.
- Encircle isolated trees with a 2-foot-wide collar of smooth metal 6 feet above the ground to prevent squirrels from taking fruit from trees.

Targeted Removal of Gray Squirrels

If a squirrel has caused damage to your property, consider:

- Contacting and hiring a licensed wildlife damage control agent to remove the animal.
- Obtaining a depredation permit to trap and remove wildlife. Squirrels can be relocated onto private property with the permission of the landowner.

Groundhog

The groundhog, often referred to as a woodchuck, is the largest member of the squirrel family. It is a terrestrial mammal that prefers to seek cover in an underground burrow. It is a good swimmer and can climb trees to escape danger. Groundhogs have adapted well to human activities, such as agriculture and urban development, and are often considered a nuisance because they forage on crops and gardens and burrow on people's properties.

Groundhogs sometimes use stormwater pipes and culverts as burrows and can clog the pipes. If you see groundhogs using stormwater pipes within street rights of way in Hillsborough, contact the [Hillsborough Public Works Division](#).

Preventing Conflicts with Groundhogs

Hazing methods nearly always fail. Use these techniques:

- Install simple fencing to keep groundhogs out of small areas, such as backyard gardens and spaces under buildings. Install a 3- to 4-foot-high fence of hardware cloth or chicken wire with a 1-foot underground footer and at least 1 foot at the top that will wobble when climbed. Provide additional deterrence by placing a single strand of electric wire 4 inches off the ground on the outside of a non-electric fence. Similar fencing can be installed against buildings to prevent groundhogs and other burrowing animals from gaining access.
- Install motion-detecting sprinklers to deter groundhogs from small areas.
- Block a burrow entrance for groundhogs that are just starting to dig a burrow. Repeatedly place large stones or bricks into the entrance or install a wire mesh barrier over an entrance. Note that the groundhog may be able to dig around it, and its burrow system can have many entrances. Only attempt to block a burrow entrance when groundhogs are normally active and not likely to be raising young. The best time is in early spring when they are emerging from their winter dens (March) or in late summer after their young are weaned (August).

Targeted Removal of Groundhogs

The groundhog is considered a nongame species. It can only be trapped during the regulated trapping season or by acquiring a free depredation permit from the North Carolina Wildlife Resources Commission. Licensed wildlife control agents can provide direct assistance for a fee.

Groundhogs cannot be relocated in North Carolina. Trapped groundhogs must be euthanized or released at the site of capture.

Vulture

The turkey vulture is the most populous vulture in North America. It is sometimes confused with the black vulture, whose wings and head are uniformly dark and whose tail is shorter and square. The turkey vulture has a red, bare head.

Preventing Conflicts with Vultures

- Disrupt roost sites in woodlots by removing roost trees and branches.
- Remove garbage or place it in enclosed containers.
- Do not feed vultures. Vultures are carrion eaters and mostly eat dead animals, like roadkill.
- Discourage vultures by using nets to prevent them from accessing rooftops, overhangs and other structures; installing bird spikes and lines to keep them off ledges; and hanging vulture effigies from structures to discourage the birds.

Targeted Removal of Vultures

The black and turkey vultures are nongame species with no open hunting season. Under federal and state law, it is illegal for anyone to injure, harass, kill or possess a bird of prey or any parts of a bird of prey. This includes harming or removing a nest.

Both species of vulture in North Carolina are federally protected. Wildlife professionals with the Wildlife Services Division of the U.S. Department of Agriculture can help residents manage vulture damage or provide guidance on applying for a federal depredation permit for lethal removal if control methods have failed.

Federal permits are issued under limited circumstances by the U.S. Fish and Wildlife Service.

White-Tailed Deer

The white-tailed deer is an herbivorous animal. It will eat many green-leaved succulent plants, the tender new growths of stems and fruits and a variety of agricultural crops. Acorns are an important food source. The deer are so adaptable that they are found in almost any type of habitat. They like creek and river bottoms, oak ridges, pine forests, farmlands or any other type of habitat that offers food, water and cover.

For most areas of the state, the population trend has started to decrease. There are areas where localized populations continue to increase. These are typically urban and suburban areas where hunting as a management tool is greatly hindered.

Resources That Attract White-Tailed Deer

- Ornamental plants — Deer find many of the most popular landscaping plants tasty because of their high nutritional value, accessibility and tender new growth. Azaleas and flowers are among the plants most susceptible to damage from deer. Landscaping plans should be adapted to utilize fences, rocks and other materials instead of ornamental plants whenever possible. Plants should be selected for their resistance to deer damage.

- Intentional feeding — Feeding deer causes more harm than good. It will attract other wildlife to the area, result in damage to area gardens and landscaping, increase noise issues from barking dogs, and harm deer and others through increased risk of collision with vehicles and spread of contagious and deadly diseases. Chronic wasting disease was detected in 2022 in North Carolina. Once an area is contaminated, disinfection is not possible. Unnatural food also can cause painful ailments in deer, leading to severe diarrhea and dehydration that can be deadly.

To stop feeding deer, slowly decrease the amount of food offered over a period of several weeks. This allows deer to adjust their browsing habits and focus on more healthy, natural foods.

Preventing Conflicts with White-Tailed Deer

Most deer problems in residential areas are seasonal and worse in winter months. During years with poor acorn crops, deer primarily feed on herbaceous plants, making problems in residential areas more severe. The problems usually decrease in spring when native vegetation emerges. The following strategies can help prevent conflicts.

- Exclusion — Many types of deer fences and barriers are effective in certain situations. Permanent or temporary electric fences work best. Smaller woven wire fencing can protect individual plants until they are large enough to be less desirable to deer. Deer generally eat only new growth on tips of branches.
- Repellants — Many types of commercial and home remedy repellants may work on deer if used early before the deer become accustomed to eating a property's plants. Repellants may not work if the deer are hungry enough. Most repellants are short-lived and wash off with rain or wear off in a short period of time.
- Frightening — Dogs can keep deer out of a yard. Most frightening devices for deer involve loud noises that may not be suitable in a residential environment.
- Avoiding traffic collisions — Reduce speed during daylight and dusk and on dark, overcast or foggy nights, especially in areas known to be frequented by deer. Drive with headlights on high beam when possible. Watch for eyes reflected in headlights, especially at field edges or posted deer crossing areas. Immediately reduce speed even if deer are a considerable distance from the road as they may panic and run. Deer often travel in groups and cross roads one behind another. No scientific evidence shows effectiveness of deer whistles or other ultrasonic devices.

Targeted Removal of White-Tailed Deer

There is not a safe and effective way to catch and relocate deer from a residential area, and moving deer will not solve the problem of what attracted deer to the area.