New York State Department of Environmental Conservation
Division of Fish, Wildlife and Marine Resources
and
U.S. Department of Agriculture
Animal and Plant Health Inspection Service

# When Geese Become a Problem

May 2007

## Canada geese...

...are a valuable natural resource that provide recreation and enjoyment to bird watchers, hunters, and the general public throughout New York State. The sight of the distinctive V-formation of a flock of Canada geese flying high overhead in spring or fall is a sign of the changing seasons. But in recent years, flocks of local-nesting or "resident" geese have become year-round inhabitants of our parks, waterways, residential areas, and golf courses, and too often, they are causing significant problems.

In urban and suburban areas throughout New York State, expanses of short grass, abundant lakes and ponds, lack of natural predators, limited hunting, and supplemental feeding have created an explosion in resident goose numbers. While most people find a few geese acceptable, problems develop as local flocks grow and the droppings become excessive (a goose produces about a pound of droppings per day). Problems include over-grazed lawns, accumulations of droppings and feathers on play areas and walkways, nutrient loading to ponds, public health concerns at beaches and drinking water supplies, aggressive behavior by nesting birds, and safety hazards near roads and airports.

This document describes the most effective methods currently available to discourage geese from settling on your property and to reduce problems with geese that have already become established on a site. **For more information, contact any of the agency offices listed at the end of this booklet.**

## Population Growth

In the early 1900s, only a handful of Canada geese nested in the wild in New York State. These geese were descendants of captive birds released by private individuals in the Lower Hudson Valley and on Long Island. Local flocks grew rapidly and spread to other areas. During the 1950s and 1960s, game farm geese were released by the State Conservation Department on wildlife management areas in upstate New York (north and west of Albany).

Today, New York's resident Canada goose population numbers close to 200,000 birds, with nesting documented all across the state. The estimated number of geese breeding in New York has more than doubled since population surveys began in 1989 (Fig. 1).

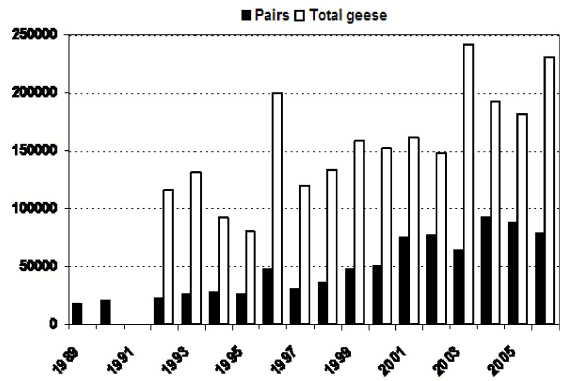


Figure 1. Estimated number of resident Canada geese (breeding pairs and total birds) in New York State, based on spring surveys, 1989-2006.

## Legal Status

All Canada geese, including resident flocks, are protected by Federal and State laws and regulations. In New York, management responsibility for Canada geese is shared by the U.S. Fish and Wildlife Service (USFWS), U.S. Department of Agriculture (USDA), and the New York State Department of Environmental Conservation (DEC). It is illegal to hunt, kill, sell, purchase, or possess migratory birds or their parts (feathers, nests, eggs, etc.) except as permitted by regulations adopted by USFWS and DEC. **Special permits are required for some of the control methods discussed in this booklet.**

## Goose Biology

Resident geese are long-lived in suburban areas. Some will live more than 20 years. Most geese begin breeding when they are 2-3 years old and they nest every year for the rest of their lives. They mate for life, but if one member of a pair dies, the other will mate again. Geese lay an average of 5-6 eggs per nest, and about half will hatch and become free-flying birds in the fall. **A female goose may produce more than 50 young over her lifetime.**

The annual life cycle for geese begins in late winter when adult pairs return to nesting areas in late February or March, as soon as waters open up. Egg-laying (1-2 weeks) and incubation (about 4 weeks) generally extend through April, with the peak of hatching in late April or early May, depending on location in the state. Geese will aggressively defend their nests, and may attack if approached. Non-breeding geese often remain nearby in feeding flocks during the nesting season. After hatching, goose families may move considerable distances from nesting areas to brood-rearing areas, appearing suddenly "out of nowhere" at ponds bordered by lawns.

After nesting, geese undergo an annual "molt", a 4-5 week flightless period when they shed and re-grow their outer wing feathers. Molting occurs between mid-June and late July, and the birds resume flight by August. During the molt, geese congregate at ponds or lakes that provide a safe place to rest, feed and escape danger. Severe conflicts with people often occur at this time of year because the geese concentrate on lawns next to water and can't leave during that period. Before the molt, some geese without young travel hundreds of miles to favored molting areas. These "molt migrations" account for the disappearance or arrival of some local goose flocks in early June.

After the molt and through the fall, geese gradually increase the distance of their feeding flights and are more likely to be found away from water. Large resident flocks, sometimes joined by migrant geese in October, may feed on athletic fields and other large lawns during the day, and return to larger lakes and ponds to roost at night. This continues until ice or snow eliminates feeding areas and forces birds to other open water areas nearby or to the south, where they remain until milder weather returns and nesting areas open up.

"Resident" geese, as their name implies, spend most of their lives in one area, although some travel hundreds of miles to wintering areas. Resident geese are distinct from the migratory populations that breed in northern Canada. **Banding studies have shown that resident geese are not simply migrant geese that stopped flying north to breed.** In fact, Canada geese have a strong tendency to return to where they were born and use the same nesting and feeding sites year after year. This makes it hard to eliminate geese once they become settled in a local area.

## Discouraging Geese

There are many ways to discourage geese from settling in your area. No single technique is universally effective and socially acceptable. **Persistent application of a combination of methods is usually necessary and yields the best results.**

Goose problems in suburban areas are especially difficult because birds are not afraid of people and may become accustomed to scaring techniques. Also, some techniques are not

compatible with desired human uses of suburban properties. For example, loud noisemakers in residential areas, putting grid wires over swimming areas, or letting grass grow tall on athletic fields are not practical remedies in those situations. But don't rule out any technique that might work; dogs under strict supervision can safely be used in parks and schools, and controlled hunting has been successfully used at some golf courses.

Begin control measures as soon as you notice geese in your area, and be persistent. Once geese settle in a particular location, they will be more tolerant of disturbances and be difficult to disperse. No method works well with just a few attempts, and a comprehensive, long-term strategy is usually needed.

Control measures work in various ways. Some reduce the biological capacity of an area to support geese by reducing availability of food or habitat. Other methods disperse geese to other sites where, hopefully, they are of less concern. Some techniques reduce the actual number of geese to a level that people can tolerate ("social carrying capacity").

Control techniques described in this booklet include only those that have the best chance for success based on past experience. Other methods may work, and new techniques will undoubtedly be developed in the future. **We welcome reports on the effectiveness of any goose control measures that you employ.**

## Discontinue Feeding

Although many people enjoy feeding waterfowl in parks and on private property, this often contributes to goose problems. Feeding may cause large numbers of geese to congregate in larger numbers than natural habitats would support. Well-fed domestic waterfowl often act as decoys, attracting even more birds to a site. Feeding usually occurs in the most accessible areas, making a mess of heavily used lawns, walkways, roads, and parking areas.

Supplemental feeding also teaches geese to be unafraid of people, making control measures less effective. Feeding may be unhealthy for the birds too, especially if bread or popcorn become a large part of their diet. Geese that depend on human handouts are less likely to migrate when severe winter weather arrives, and are more vulnerable to disease. Once feeding is discontinued, some geese will disperse and revert to using higher quality natural foods.

Supplemental feeding should be stopped as a first step in any control program. Wild geese are very capable of finding other food and will survive without handouts from humans. Some success in reducing goose feeding may be achieved through simple public education, such as posting of signs. DEC can provide examples of signs to help with this technique.


Further reduction of feeding may require adoption and enforcement of local ordinances with penalties such as fines or "community service" (cleaning up droppings, for example!) for violations.

## Allow Hunting

More than 30,000 people hunt waterfowl in New York State each year, and close to 100,000 Canada geese are taken annually. Hunting in

urban-suburban areas is often limited by lack of open spaces and local ordinances prohibiting discharge of firearms. However, open shoreline areas, reservoirs and large private properties where access can be controlled (such as golf courses) are good places to try hunting.

Where it can be done safely, hunting can help slow the growth of resident goose flocks. Hunting removes some birds and discourages others from returning to problem areas. It also increases the effectiveness of noisemakers, because geese will learn that loud noises may be a real threat to their survival.

Goose hunting is permitted in most areas of New York State during September, when few migratory geese from Canada are present. Hunting is allowed also in fall and winter, but regulations tend to be more restrictive then to protect migratory geese that may be in the state at that time. To hunt waterfowl in New York, a person must have a State hunting license (which requires a hunter safety course), a federal Migratory Bird Hunting Stamp, and be registered in New York's Harvest Information Program. Hunters should check local laws regarding discharge of firearms.

Landowners concerned about potential conflicts can easily limit the number of hunters and times they allow hunting on their property. For more information about goose hunting regulations or setting up a controlled hunt, contact DEC.

## Modify Habitat

Geese are grazing birds that prefer short, green grass or other herbaceous vegetation for feeding. Well-manicured lawns and newly seeded areas provide excellent habitat for these grazing birds.

Wherever possible, let grass or other vegetation grow to its full height (10-14") around water bodies so that it is less attractive to geese. In time, most geese will stop feeding in those areas. Instead of grass, plant or encourage native shrubs or less palatable ground cover, such as ivy, pachysandra, or junipers, around the shoreline of ponds and along walkways where geese are a problem.

You can also plant grass species that are less palatable to geese, including some that go dormant in the winter. Geese tend to prefer Kentucky bluegrass, and are less attracted to fescue. Also, minimize use of lawn fertilizers to reduce the nutritional value of grass to the birds.

It is very difficult to eliminate goose nesting habitat. Geese rarely nest in open lawns where they feed. Typically, they build nests on the ground close to water, hidden by vegetation. However, geese are very adaptable and nest in a variety of habitats, including woodlands, flower gardens, and rooftops. Islands and peninsulas are preferred nesting sites, and often support many more nesting geese than mainland shorelines. Avoid creating such features during landscaping of ponds in problem areas. Local zoning regulations may be a way to discourage habitat developments that favor geese.

## Install Grid Wires

Geese normally rest on open water or along shorelines to feel safe from predators. They also tend to land and take off from open water when feeding on adjacent lawns. Where practical, construct a system of suspended wires over the water to deny the birds access to such areas. Single strands of #14 wire or 80-100 pound test monofilament line can be arranged in a grid with 10-15 feet between wires. Each wire must be secured so that it remains 12-18" above the water surface, and perimeter fencing may be needed to keep geese from walking under the grid. To reduce the risk of birds flying into the wires, attach brightly colored rope, flagging or other markers to make them more visible.

Wire systems are not practical for ponds used for swimming, fishing, or other recreation. However, golf course ponds, reflecting pools, wastewater ponds, and newly seeded lawns with limited public access, may be suitable. Human disturbance (vandalism) of grid wires may be a problem in public areas.

## Install Fencing

Fencing or other physical barriers can be

effective where geese tend to land on water and walk up onto adjacent lawns to feed or rest. Fencing works best during the summer molt, when geese are unable to fly and must walk between feeding and resting areas. In these situations, fencing, dense shrubbery, or other physical barriers installed close to the water's edge are effective ways to control goose movements. Fences must completely enclose the site to be effective. Fencing may also be used to block aggressive birds on nests near buildings or walkways. Although birds can get around most fencing, direct attacks may be prevented. Fencing around large open areas, such as athletic fields or ponds, has little effect on free-flying birds.

Goose control fences should be at least 30" tall (48-60" to block aggressive birds) and solidly constructed. Welded wire garden fencing (2" x 4" mesh) is durable and will last years. Less expensive plastic or nylon netting is effective, but will have to be replaced more often. Fences may be hidden by planting shrubs close by. Snow fencing or erosion control fabric may be used as a temporary barrier to molting geese. Fencing made of two parallel monofilament fish lines (20 pound test) strung 6" and 12" above ground and secured by stakes at 6' intervals can work, but is less reliable. Some success has been reported with low voltage electric fencing.

## Use Visual Scaring Devices

Various materials may be used to create a visual image that geese will avoid, especially if they are not already established on a site, such as newly seeded areas. Geese are normally reluctant to linger beneath an object hovering over head. However, visual scaring devices are not likely to be effective on suburban lawns where trees or other overhead objects exist and where geese have been feeding for years.

One inexpensive visual deterrent for geese is Mylar tape that reflects sunlight to produce a flashing effect. When a breeze causes the tape to move, it pulsates and produces a humming sound that repels birds. This product comes in 1/2"-6"widths. To discourage geese from walking up onto lawns from water, string the tape along the water's edge. To ensure maximum reflection and noise production, leave some slack in the tape and twist the material as you string it from stake to stake.

Another visual scaring technique is the placement of flagging or balloons on poles (6' or taller) or other objects in and around an area to be protected. Flagging can be made of 3-6' strips of 1" colored plastic tape or 2' x 2' pieces of orange construction flagging. Bird-scaring balloons, 30" diameter, with large eye-spots and helium filled, are sold at some garden or party supply stores. Numerous flags or balloons may be needed to protect each acre of open lawn. These materials should be located where they will not become entangled in tree branches or power lines. They also may be subject to theft or vandalism in areas open to the public. If geese become acclimated, frequent relocation of the materials is recommended.

For small ponds, remote control boats have been used to repel geese, and these may be practical if staff or volunteers are available on a daily basis to help out.

## Use Noisemakers

Geese may be discouraged from an area through the use of various noisemakers or pyrotechnics. Shell crackers are special shells fired from a 12-gauge shotgun that project a firecracker up to 100 yards. Other devices, such as screamer sirens, bird-bangers, and whistle bombs, are fired into the air from a hand-held starter pistol or flare pistol. These devices generally have a range of 25-30 yards.

Automatic exploders that ignite propane gas to produce loud explosions at timed intervals are effective for migrant geese in agricultural fields, but are not suitable for residential or public areas.

Noisemakers work best as preventive measures before geese establish a habit of using an area and where the birds are too confined to simply move away from the noise. At sites with a history of frequent use by geese and people, the birds may become acclimated in 1-2 weeks.

Noise devices are often not effective for moving nesting geese.

**Before using any of these techniques, check with local law enforcement agencies (police) about noise control ordinances, fire safety codes, or restrictions on possession and discharge of firearms.** Obtain special permits if necessary. In some areas, starter pistols are considered a handgun, and their possession and use may be regulated. Federal and state permits are not necessary to harass geese with these techniques, as long as the birds are not physically harmed.

Where discharge of firearms is allowed, occasional shooting of geese can increase the effectiveness of noisemakers, as geese associate the sound with a real threat. Special Federal and State permits are generally needed to shoot geese outside of established hunting seasons.

## Apply Goose Repellents

The U.S. Environmental Protection Agency and DEC have approved the use of one product, ReJeXiT®, as a goose repellent on lawns. Geese will feed less often on treated lawns because they dislike the taste. However, geese may still walk across treated areas to get to adjacent untreated areas.

The active ingredient in ReJeXiT® is methyl anthranilate (MA), a human-safe food flavoring derived from grapes. The material is available at some garden supply centers and costs about $125 per acre per application. Several applications per year are usually necessary. Therefore, it is most practical and cost-effective for homeowners with only small areas of lawn to protect. For best results, follow directions on product labels; if too dilute, it won't work, if too concentrated, it can kill the grass.

ReJeXiT® may not be used in ponds or wetlands in New York State, and a DEC Article 24 (Freshwater Wetland) permit is needed to apply it within 100 feet of a regulated wetland. No other repellents, including products containing formulations of MA, have been approved for use in New York State.

## Use Dogs to Chase Geese

Use of trained dogs to chase geese is among the most effective techniques available today. It is widely used to disperse geese from golf courses, parks, athletic fields and corporate properties. Border collies or other breeds with herding instincts tend to work best. The dogs must be closely supervised during this activity. Except where permitted, compliance with local leash laws or park regulations is still required. Initially, chasing must be done several times per day for several weeks, after which less frequent but regular patrols will still be needed. Geese will not become acclimated to the threat of being chased by dogs.

This method is most practical where the dog and handler are on-site at all times, or where daily service (as needed) is available from private handlers. Another approach is to allow dogs to roam freely in a fenced (above ground or "invisible" dog fence) area that is not open to the public, but this may be less effective. Dogs generally should not be used when geese are nesting or unable to fly, such as during the molt or when goslings are present. Use of dogs may not be practical near busy roads or where a property is divided into many small sections by fences, buildings, or other barriers. Also, dogs can not easily repel geese from large water areas, but may be able to keep geese off shoreline lawns or beaches. Although this technique has proven effective, it can be expensive and labor intensive.

## Control Goose Nesting

Geese usually return in spring to the area where they hatched or where they nested previously. Over time, this results in increasing numbers of geese in areas that once had just a few birds. Local population growth may be controlled by preventing geese from nesting successfully. Although it is difficult to eliminate nesting habitat, harassment in early spring may prevent geese from nesting on a particular site. However, they may still nest nearby where they are not subject to harassment.

If nest prevention fails, treating the eggs to prevent hatching is an option. This can be done by puncturing, shaking, freezing or applying 100% corn oil to all of the eggs in a nest. The female goose will continue incubating the eggs until the nesting season is over. If the nest is simply destroyed or all the eggs are removed, the female may re-nest and lay new eggs.

**Federal and state regulations apply to any disturbance or treatment of Canada goose nests or eggs.** However, federal rules only require that persons register on-line at: https://epermits.fws.gov/eRCGR before conducting this activity. This website is also a good source of information about egg treatment.

Egg treatment helps in several ways. First, it directly reduces the number of geese that will be present on a site later in the year. Second, geese without young will be more easily repelled from a site after the nesting season. Finally, if conducted on a large enough scale (throughout a town), it can help slow the growth of a local goose population, and over time lead to stable or declining numbers. Egg treatment may be necessary for 5-10 years before effects on goose numbers are evident.

## Capture and Remove Geese

An effective method of relief for sites with problems during the summer, or to help reduce year-round goose numbers in an area, is capture and removal of geese. **Federal and state permits are required for this activity.**

Geese are easy to capture during the molt by simply herding them into holding pens. In large areas, it may be necessary to remove geese for several years to get maximum results. After geese are removed, the capture site will have substantially fewer geese for the rest of the summer or longer. Over time, geese from surrounding areas may move in if preventive measures are not in place.

Geese removed from problem areas can be processed and donated to charities for use as food. If properly handled by a licensed poultry processor, goose meat is a healthy and well-received source of food for needy people. However, this method is controversial. Media interest, protests and legal challenges from animal rights activists can be expected.

Relocation of geese is not an option at this time. In the past, DEC captured thousands of geese from problem areas and shipped the birds to other states that wanted to establish their own resident goose populations. Opportunities for out-of-state transfers have been exhausted as resident goose flocks now occur throughout the U.S. In some states, problem geese are moved to public hunting areas to reduce the likelihood of the birds returning. In New York State, there are no known areas where problem geese from other areas would be welcome.

Relocation of geese is also less effective than permanent removal. Banding studies have shown that some relocated geese return to their initial capture locations by the following summer. Some have returned to New York from as far away as Maine, South Carolina and Oklahoma. Geese taken short distances (less than 50 miles) may return soon after they are able to fly. Adult geese are most likely to return, whereas goslings moved without parent birds will often join a local flock and remain in the release area. Birds that don't return may seek out areas similar to where they were captured, and may cause problems there too.

Many wildlife and animal health professionals are concerned that relocating problem wildlife increases the risk that diseases may be spread to wildlife or domestic stock in other areas.

## Not Recommended

For almost any goose control method that has been tried, there have been successes and failures. However, the following methods are not recommended at this time for various reasons: use of swans (real ones create other problems; fake ones don't work); bird distress calls (effective for some bird species, but not proven for geese); scarecrows or dead goose decoys (ineffective for resident geese); use of trained birds of prey to chase geese (labor-intensive, generally not available); sterilization

(very labor-intensive for surgery, no chemical contraceptives available in the foreseeable future); fountains or aerators in ponds (not effective, may even attract geese); introduction of predators (already present where habitat is suitable, and none take only geese); disease (impossible to control and protect other animals); and use of poisons (illegal).

## "Community-based" Goose Management

Simply chasing geese from one place to another does not address the underlying problem of too many geese, and may simply move the problem from one property owner to another. This is not an effective strategy for communities with widespread goose problems. Therefore, DEC and USDA encourage local governments and landowners to work together to implement comprehensive management programs that include a variety of techniques. Control measures will be most effective if coordinated among nearby sites in a community.

While some measures can be tried at little or no cost, others are more costly and beyond the means of some property owners. In these instances, local governments may want to hire a local "goose control officer" to work throughout a community, similar to other animal control work. Duties could include posting "no feeding" areas, installing fences, handling dogs, treating eggs, and removing geese. This way, the cost of goose management would be shared by all the residents of a community, including those who benefit from the geese as well as those who may experience problems.

## Permits

**Federal and State laws and regulations govern the capture, handling, or killing of Canada geese, including disturbance of goose nests or eggs.** Permits are required for some activities, but there are exceptions. For more information, see the DEC publication *"**Permit Requirements for Take of Canada Geese in New York - Questions and Answers**"*.

## Plan Ahead

Property owners and communities that have experienced problems in the past can expect geese to return again unless control measures are implemented. The best time to act is in late winter, before nesting begins, or as soon as geese show up where they are not wanted. If any permits are needed, allow plenty of lead time (45-60 days) for processing.

## For more information...

If the techniques described in this document are unsuccessful, or if you want more information, contact USDA-Wildlife Services or any DEC regional wildlife office for assistance.

USDA can provide information by phone or by mail and will conduct site visits in some cases. USDA also can provide control services on-site under funded cooperative agreements (for a fee). For help in New York State, contact:

USDA APHIS - Wildlife Services
1930 Route 9
Castleton, NY 12033-9653
Phone: (518) 477-4837

DEC can provide technical information and advice, and refer you to licensed wildlife control specialists who can help. DEC generally does not provide field assistance to landowners with goose problems, but will work with local governments to help develop community-based management programs. For assistance, contact the nearest DEC regional office, and for other DEC publications, go to: www.dec.ny.gov.

An excellent reference for goose control planning is "***Managing Canada Geese in Urban Environments: A Technical Guide***". This manual provides details for selecting and implementing various techniques to reduce conflicts with geese. To order or download a copy, try an internet search for the publication title or contact Cornell Cooperative Extension, Ithaca, NY 14853 (607) 254-6556.

## Good luck!