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Handbook

Canada and Cackling Geese:
Management and Population
Control in Southern Canada

Canadian Wildlife Service
Environment Canada



Canada 

Library and Archives Canada Cataloguing in Publication

Canada. Environment Canada

Handbook, Canada and Cackling Geese [electronic resource] :
management and population control in southern Canada.

Electronic monograph in PDF format.

Issued also in French under title: Bernache du Canada et bernache de Hutchins,
gestion des population dans le sud du Canada.

ISBN 978-1-100-15965-2

Cat. no.: CW66-283/2010E-PDF

1. Cackling goose--Canada--Management--Handbook, manuals, etc.
2. Cackling goose--Control--Canada--Handbooks, manuals, etc.
3. Cackling goose--Conservation--Canada--Handbooks, manual, etc.
4. Wildlife management--Canada--Handbooks, manuals, etc. I. Title.

QL696 A52 H333 2010

598.4'1780971

C2010-980179-2

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1. ABOUT THIS HANDBOOK

This handbook is intended for people concerned with the management of Canada and Cackling Geese in southern Canada. Areas of concern include farmlands, airports, urban parks, golf courses, schools, cemeteries and residential properties, especially those near wetland areas. The handbook provides general information about Canada and Cackling Geese in Canada and outlines appropriate preventive and deterrent techniques for use in problem areas. It describes actions that can be taken by landowners to resolve conflicts with geese and indicates those which require a permit from Environment Canada. Finally, it provides contact information for users to obtain additional advice and necessary permits.

LEGAL PROTECTION OF CANADA GEESE

Canada Geese and Cackling Geese are migratory birds that are protected under Canadian law by the *Migratory Birds Convention Act, 1994*, which prohibits killing or capturing the birds or damaging, destroying, removing, or disturbing their nests, except as provided for under the *Migratory Birds Regulations*.

Environment Canada's Canadian Wildlife Service is the federal agency responsible for overseeing implementation of this legislation. The Canadian Wildlife Service can provide expert advice and issue permits to authorize otherwise prohibited activities if migratory birds are causing or are about to cause serious damage or danger.

2. INTRODUCTION

Canada Geese and their smaller cousins Cackling Geese are similar in appearance, and may be indistinguishable to most observers unless observed side by side. Cackling Geese and some populations of Canada Geese nest in subarctic and arctic Canada and spend the winter in the United States; they are present in southern Canada only during spring and fall migration. However, other populations of Canada Geese nest in southern Canada and may be present there throughout the year. Hereafter, the term Canada Geese will often be used to refer to both Canada and Cackling Geese and the term “temperate-breeding” Canada Geese will refer to geese that nest and raise their young in the temperate climatic zone of southern Canada.

Canada Geese are among the most familiar birds to Canadians. The V-shaped flight formation of migrating flocks is one of the most easily recognized sights signifying the change of seasons. Although Canada Geese provide an appreciated opportunity for wildlife viewing, they have caused conflicts with humans in some areas.

Geese are herbivores, feeding almost exclusively on plants and they prefer open terrain with good visibility and space to fly. For these reasons, most geese are attracted to agricultural crops, either young crop plants in spring or waste grains in fall and winter. Canada Geese in particular are also attracted to lawns, particularly those near water. These two features, lawns and water, are key components of many urban and suburban landscapes. This attraction to lawns near open water, shared by geese and humans, leads to conflict. Well-kept lawns, golf courses and city parks provide excellent goose habitat for feeding, raising young, moulting and resting. Once geese have nested successfully, encouraging them to leave an area can be difficult, and their numbers tend to increase in future years.

Canada Geese cause a variety of problems. In summer, temperate-breeding Canada Geese can damage grass and other plants, compress or erode soil in parks, golf courses and



other green spaces. Goose droppings can foul footpaths, docks, beaches and lawns, and may contribute to contamination of nearby water with parasites and coliform bacteria. Geese with nests or young can be aggressive towards humans or pets.

Temperate-breeding Canada Geese may also cause crop damage and noise disturbance; however, more often the large migrating flocks of northern breeding geese that are responsible for these problems. Goose problems are accentuated in farming areas near towns and cities where municipal bylaws prevent the discharge of firearms for scaring or hunting geese. Similarly, any habitat features (water bodies or food sources such as crops or lawns) that attract geese to sensitive areas such as airports or beaches can increase the risk of damage or danger.



Landowners who object to the presence of Canada Geese can use several techniques to deter geese from their land. However, it is important to understand their biology to determine the appropriate timing of these deterrents or to design effective habitat modification. Therefore, this handbook presents the life cycle of temperate-breeding and northern-breeding Canada Geese, to help understand their use of habitat in urban, suburban and agricultural areas, and outlines appropriate preventive and deterrent techniques.

Effective management of Canada Geese requires cooperation between land use agencies under various jurisdictions, including federal and provincial wildlife agencies, parks and recreation boards, local and regional governments, airport authorities, farmers, and owners of large properties such as golf courses. Collaboration among all interest groups is critical to the success of any attempt to manage Canada Geese to avoid conflicts in southern Canada.

3. UNDERSTANDING CANADA GEESE

Prior to the late 1960s, the Canada Goose was considered a migrant and temporary visitor in southern Canada. Beginning in the 1970s, Canada Goose populations were restored, or in some cases introduced, in several areas of southern Canada to provide a population for both local hunting and wildlife viewing. Since the 1970s, however, these temperate-breeding Canada Geese have flourished in the human modified landscapes of southern Canada and their numbers have increased substantially. They have been so successful because the current landscape provides them with everything they need. Modern agriculture provides them with a virtually unlimited year-round supply of high quality food; shoreline development that replaces forest with lawns provides food for goslings with the safety of water close by; and increasing urban/suburban development provides protection from both natural predators and human hunters.

In the Lower Fraser Valley of British Columbia, for example, the number of Canada Geese reported in the 1995 Christmas Bird Count was 50 times higher than the number reported in the 1965 Christmas Bird Count. In southern Ontario, the temperate-breeding population has increased from about 2000 in the early 1970s to nearly half a million in 2008. Rapid population growth of temperate-breeding geese has also occurred in prairie Canada, in southwestern Quebec and New Brunswick. This phenomenon is not unique to Canada; rather, it has occurred steadily over the last 30 to 50 years in settled areas across the temperate zone of North America. Northern-breeding populations of Canada Geese have also benefited from large-scale transformation of the landscape from forest to annual crops. In fact, the enormous amounts of food now available on agricultural lands, which increases both overwinter survival and reproductive output, have allowed many North American populations of geese to attain historically high levels.

Most populations of Canada Geese breed in remote northern areas and fly south to overwinter; they are present in southern Canada only in spring and fall. These geese are commonly referred to as migratory. However, Canada Geese are now year-round residents in several areas and these are commonly referred to as "resident" geese. While some of these geese may indeed spend the entire year in southern Canada, many of them also head south for at least short periods during the harshest part of the winter. Contrary to popular belief, these so-called resident Canada Geese are not migratory geese that stopped migrating; they are simply the result of increasing local breeding populations that have become established either from reintroductions or natural population growth. Because, young geese tend to return to nest where they were raised and migration behaviour is learned from their parents, with each generation these temperate-breeding populations continue to grow.

4. BIOLOGY OF CANADA GEESE

4.1 FOOD

Canada Geese are herbivores. In natural areas, their foods include grass and other tender plants, seeds and berries, as well as aquatic vegetation. In agricultural areas, they eat grasses, cultivated grains and some vegetable crops. In fall and winter, geese consume large quantities of grains which provide energy and help build fat reserves; however, in summer growing goslings and moulting adult geese require the higher levels of protein found in young shoots of grass. Because taller, older grasses are coarser and offer less nutritional value, geese prefer new grass shoots, which explains their preference for mowed lawns. In spring, migrating geese may also build protein reserves by consuming young shoots of corn and other cereal crops, spring-planted pasture, and early legumes.

4.2 IMPORTANCE OF WATER

Although geese mostly feed on land, they usually nest near water and prefer secluded areas. Water is used for drinking, preening and bathing, and is the best avenue of escape when flightless young and moulting adult geese are threatened. Nests are usually located at the water's edge or a short distance from the shoreline, and a nest surrounded by water offers excellent protection from land-based predators. Islands in wetlands are thus prime nesting sites and may accommodate high densities of nests. When goslings are young and adults are flightless, geese rarely stray far from water. After their goslings have begun flying and throughout the rest of the year, geese forage during the day on grass or crops, but generally return to large bodies of water to roost at night.

4.3 NESTING

Timing of nesting may vary by region, depending upon the local climate. In southwestern British Columbia and southern Ontario where large populations of temperate-breeding Canada Geese occur, geese pair up and establish territories by early to mid-March. In prairie Canada, nesting usually begins in early April. Northern-breeding populations nest later, depending upon when spring conditions arrive in their breeding area. Nesting pairs tend to use the same area year after year. First-time breeders (two to three years old) generally nest near where they first learned to fly. The nest is usually a roughly woven collection of grasses and other vegetation and can be up to a metre in diameter. Canada Geese are remarkably adaptable in choosing nest sites. Natural nesting habitat includes marshes, islands, cliffs and trees; however, Canada Geese have also been reported to nest on barges, pilings, apartment balconies, in flower boxes and rooftop gardens.

4.4 EGG LAYING AND BROOD REARING

Laying a complete clutch of eggs takes a little more than a week. In temperate-breeding populations, the first pairs may begin egg-laying by the end of March and last will complete their clutches by the end of April, but laying can continue into late May. Mild weather in some years may allow geese to nest as early as February. An average nest contains 5 or 6 eggs, but some may contain 10 or more eggs. Incubation lasts about 25 days, with peak hatch occurring in early to mid-May. The goslings of a goose family are collectively known as a brood. The brood-rearing period, the time from hatch until young geese are able to fly, lasts about two months.

4.5 MOULTING

Once a year, geese must grow new wing feathers, a process called moulting, which leaves the geese unable to fly for several weeks. Moulting occurs between mid-May/early June and late July. Most birds are in moult by mid-June. During this period, adult geese will be flightless for four to six weeks. When flightless, geese are particularly vulnerable to predation and will seek refuge in safe areas. Non-breeding birds often gather in large moulting flocks at this time. Breeding birds that successfully hatched goslings will stay near their nesting areas to moult while rearing their young. They regain the ability to fly at about the same time as their young begin flying. Once this happens, young and adult geese move throughout urban, suburban and nearby agricultural areas, feeding to build fat reserves in preparation for winter.

4.6 MIGRATION

Northern-breeding Canada and Cackling Geese nest in arctic and sub-arctic regions and overwinter mainly in the United States. During both spring and fall migration, they pass through southern Canada, spending several weeks feeding to build reserves. Migrating geese are present in spring beginning in late March and usually depart for northern breeding areas sometime in April. In spring, they may forage on young shoots of newly seeded crops. In the fall, they usually begin arriving in southern Canada in late September and may stay around until freeze up. During this time, they feed mainly on waste grains. Generally, by the time migrant geese arrive in the fall, most crops have been harvested and they may feed on agricultural lands without causing problems. Also, they are hunted in the fall so there are fewer conflicts than in spring. Temperate-breeding geese do not undertake regular annual long-distance migration like their northern-breeding cousins, but individuals not yet of breeding age often migrate north several hundred kilometres or more to moult, and flocks may head south in winter if conditions are harsh making open water and food unavailable.

4.7 POPULATION GROWTH AND LIMITING FACTORS

The abundant supply of food provided by modern agriculture has allowed most North American goose populations to flourish and reach high population levels. Before this virtually limitless supply of food was available, population growth was controlled to some extent by poor over-winter survival or lack of sufficient nutrient reserves to devote to laying eggs during the breeding season. Northern-breeding Canada and Cackling Geese still face a more unpredictable climate than temperate-breeders so their breeding success is more variable year to year and most of these populations tend to be relatively stable. Adverse weather is less of a limiting factor for temperate-breeders; they are more likely to lay full clutches of eggs and successfully hatch them year after year. This consistent production of young every year results in rapidly growing populations. Losses of adults, eggs and young from predators are also often lower in temperate-breeding geese, particularly in urban areas.

One of the most important limiting factors for goose population growth is the survival rate of adult geese. Geese typically begin breeding at 2–3 years of age and adults can live for 20 years or more. Each year they nest and, if successful, produce a new batch of young; after 20 years the number of young produced by one pair can be staggering. Hunting is the most important source of mortality for adult geese. Because of this, population size can be managed to some extent by changing hunting regulations to increase harvest. One of the reasons urban populations tend to grow quickly is because geese living in cities do not face as much hunting pressure as do their rural or migratory counterparts. Hunting of geese has been restricted in recent years, with the closure of areas previously open to hunting and the introduction of municipal bylaws prohibiting the discharge of firearms in urban and suburban areas, and this has contributed significantly to population growth.

5. GOOSE MANAGEMENT

Management of Canada Goose conflicts requires identifying problem birds and selecting and implementing appropriate techniques to deter them. Although the amount of suitable habitat is a key factor governing the number of geese in a given area, the number of geese considered "problem birds" will be determined by how they are perceived by property owners and property users. In some situations, such as on apartment balconies, even one pair of breeding geese is considered unacceptable. In contrast, many breeding geese on large wetland areas with adequate space and limited public access will be tolerated or even encouraged.

In addition to differences in perception of geese as a problem, there is also a clear difference of public opinion with respect to acceptable control methods in urban and rural/agricultural areas. This difference, which is likely associated in part with the scale of goose-induced financial losses in rural/agricultural areas, complicates regional goose management. In addition, special interest groups may call for specific management practices and oppose others.

This is why management of a high-profile species like the Canada Goose requires extra effort to inform the public of the rationale behind management programs. Goose management must be a coordinated community effort delivered through cooperation between land use agencies at provincial, municipal, public and private levels. As well, the appropriate timing of deterrents and an integrated approach using several techniques are critical to the successful management of goose populations.

6. SEASONAL ASPECT OF DETERRENTS

As a result of seasonal differences in goose behaviour, some goose control options do not work consistently throughout all seasons. For example, scaring geese is less effective when they are nesting or raising broods, as they are reluctant to leave eggs and young behind. Similarly, when adult geese are moulting, they are unable to fly away to another location so scaring techniques are much less effective than they would be for flying geese. Appropriately timed deterrents are best.

6.1 EARLY SPRING: REDUCE THE ATTRACTIVENESS OF FEEDING HABITATS

- This is appropriate in all seasons, but it is advisable to do this early in the season before geese arrive at a site and begin to establish territories.
- Implement the landscape modifications outlined in [section 7.1.2](#).
- If landscape changes are not possible, as in the case of agricultural crop lands or golf courses, begin scaring immediately when geese appear to prevent them from developing a habit of using the area.

6.2 EARLY SPRING: PREVENT NESTING

- Start discouraging geese early, as pairs may find a suitable nest site as early as February. By mid- to late March, most pairs have already established a breeding territory.
- Discourage birds from nesting by using habitat modification and scaring techniques, outlined in [sections 7.1.2](#) and [7.1.3](#). Some scaring techniques require a permit from Environment Canada.
- Avoid creating nesting habitats, such as artificial islands in lakes and ponds.

6.3 LATE SPRING: PREVENT HATCHING

- Techniques to prevent hatching are outlined in [section 7.2.2](#). A permit from Environment Canada is required to apply these techniques.

6.4 LATE SPRING–EARLY SUMMER: SCARE PRE-MOULTING GEESE AWAY

- Flocks of moulting geese begin to form in late May; once established, these flocks are very difficult to displace.
- Look for geese gathering on open water and in fields with unobstructed paths to water.

- In early May, start checking property regularly to detect flocks of pre-moulting geese.
- To discourage the formation of these flocks, it is essential to begin a hazing program as soon as congregations of geese are noticed and before the geese become flightless.
- This may require frequent scaring (daily) to ensure moulting flocks do not settle where they are not wanted.

6.5 EARLY SUMMER: ERECT BARRIERS

- Geese are reluctant to fly over barriers when they have young, flightless goslings with them; instead, they walk between water and feeding areas so they do not leave their young behind.
- Keep broods away from designated areas with barriers (see [section 7.1.2](#)).

6.6 SUMMER: LURE GEESE ELSEWHERE

- Providing alternative feeding areas with plants that geese prefer to eat will enhance the effectiveness of most hazing and habitat manipulation techniques.
- These alternative feeding areas can be in hunting zones or other areas where geese are not perceived to be a problem.

7. GOOSE CONTROL PRESCRIPTIONS

PREVENTION IS THE BEST APPROACH TO GOOSE MANAGEMENT

Once geese become established in an area, it can be difficult to make them leave. However, in areas where geese are established, their numbers can be controlled by both non-lethal and lethal management techniques. The following sections outline these management techniques.

7.1 NON-LETHAL MANAGEMENT

There is no single solution to discouraging the presence of Canada Geese because geese will adapt or habituate to scaring techniques and because the effectiveness of these techniques varies from season to season; non-lethal techniques are most effective when two or more are combined.

7.1.1 STOP FEEDING THE GEESE


Supplemental feeding encourages a high concentration of geese year-round. Geese will not abandon a site as long as people feed them. However, when the diets of geese are not supplemented with handouts and they have to depend on the more limited natural food supply, some or all will move elsewhere. Feeding geese artificial foods such as bread can even be detrimental to the birds' health. Signs should be posted in public areas to discourage wildlife feeding, and some localities may need to enforce no-feeding regulations or bylaws.

7.1.2 LANDSCAPE MODIFICATION

Although this may not be perceived as an acceptable solution to some landowners, changing the landscape is the best long-term solution to many human-geese conflicts. It is environmentally friendly, easy to implement and non-lethal to geese. There are several ways to reduce the attractiveness of habitat in urban and other areas to geese that do not necessarily reduce its attractiveness to humans or other wildlife.

7.1.2.1 BARRIERS

This technique is effective because Canada Geese prefer large open areas that allow them room to take off and land, with clear lines of sight so they can see predators coming and make their escape. Barriers can be used to break large open areas into smaller spaces. When moulting or escorting their young, geese are flightless so must be able to walk to grazing areas. Barriers impede access of geese to grazing and block their view of predators and escape routes to water. Barriers are typically placed at exits and entrances to ponds and wetlands or areas where geese may graze. The inconvenience and hazard associated with a barrier near preferred escape routes will discourage goose use in most cases. These barriers can include:

- **PLANT BARRIERS.** Dense plantings of tall grass, shrubs, aquatic plants, trees and bushes can prevent geese from directly accessing shorelines, grazing areas or safe cover. Plants should be tall enough to prevent geese from seeing over them. Wide plantings are more effective than narrow ones.
 - **FENCES.** Fences can be made from woven wire, poultry netting, plastic netting, snow fencing, monofilament wire or electrified wire. Fences should be placed at adult and gosling height and should prevent geese and goslings from walking around, underneath or through them. Fences can block goose access to water and block walking routes favoured by geese.
- 
- **GRIDS.** Grids or multiple parallel lines of wire, cable, twine or rope, stretched 30 to 50 centimetres above the surface of ponds or over new plantings, will prevent geese from accessing the area. If the spans over ponds or fields are too great, floats and poles can be used as needed to support the grids.
 - **FLIGHT PATH BARRIERS.** Planting more trees or using highly visible yellow ropes, flagging tape, shiny Mylar® tape or CDs strung elevated between trees can block flight paths, making the area less desirable. The ropes should have some slack so they will move in the wind, increasing their visibility and making it more difficult for the geese to predict approach and take-off flight paths.

7.1.2.2 MODIFY LAWN GRASS

Several lawn management techniques are available that may help discourage geese in your area.

- **MOW LESS FREQUENTLY.** Geese prefer tender young grass. Longer grass, which has had time to become coarse and fibrous is not as palatable to geese. Either all of a lawn or the part bordering a body of water can be maintained this way.
- **CHANGE THE TYPE OF GRASS.** Alternative types of grass and hay may be naturally repellent to geese. Check with your local lawn seed supplier for coarse grass species suitable for your climatic conditions. Geese may be discouraged from remaining in the area if these grasses are planted in habitats that they normally use.
- **APPLY GOOSE REPELLENT.** Application of "goose repellent" to grass can discourage geese from using a habitat, but it may have limited success. There are a number of goose repellent chemicals, available that act as a taste deterrent and are not considered harmful to grass or wildlife. Check with pest control service providers or wildlife control product suppliers for availability. The user must check to see if these chemical repellents are authorized for this type of use or if permits are required for their use.

7.1.3 SCARING/HAZING

Scaring or hazing works best when geese first move into an area or when more than one technique are used in combination, as geese quickly habituate to any single method. Hazing involves chasing geese every time they arrive and must be consistently applied until geese leave the area. A number of scaring techniques, some of which require a permit from Environment Canada, can be used to deter geese. Some of these techniques are described below.

7.1.3.1 SCARING TECHNIQUES NOT REQUIRING A FEDERAL PERMIT

Subsection 24(1) of the *Migratory Birds Regulations* states that "any person may, without a permit, use equipment, other than an aircraft or firearms, to scare migratory birds that are causing or are likely to cause damage to crops or other property." Scaring techniques not requiring a federal permit include the following.

- **PROPANE CANNONS.** Portable, propane-fired exploders can effectively displace geese. Equipment must be moved regularly, as geese will become habituated to these devices. Two exploders set at different intervals (for example, one at 10 minutes and the other at 7 minutes) are more effective, because the length of time between explosions is constantly changing, extending the time taken by geese to habituate. This equipment is available from wildlife control companies.
- **AIR HORNS OR SIRENS.** These noise-making devices can be mounted on vehicles, hand-held, or used remotely. They exhibit variable effectiveness, but proximity to human activity or housing may make their use unacceptable.
- **STROBE LIGHTS/LASERS.** Bright flashing strobes can disturb geese after dark or just before dawn. Although the technique is quiet, the light may disturb people. Also available is a long-wavelength "laser pistol," which can be used in low light conditions to scare geese and can be effective at a distance of several hundred metres.
- **DISTRESS TAPES.** Recorded distress calls of Canada Geese or other bird species, played loudly in the direction of a goose flock, may displace birds that believe they are also in jeopardy. Calls of eagles or falcons, in combination with models or kites displaying eagle or falcon graphics (see "Scarecrows" below), may also scare geese away.
- **FLAGGING TAPE AND STREAMERS.** Lengths of shiny or bright materials strung between stakes or poles or attached to trees and allowed to move in the wind create a visual distraction that geese may avoid.
- **BALLOONS AND KITES.** Helium balloons with graphics of large eyes and kites shaped like eagles or other large birds of prey are perceived by geese to pose a threat and may help scare them away. Check their availability from wildlife control companies.
- **SCARECROWS.** Human, eagle, alligator, swan or coyote effigies may be perceived by geese to pose a threat. Human scarecrows that appear to be carrying a shotgun may increase their effectiveness. Eagle decoys that are larger than life size and coyote decoys have shown some success.

- **FLAGS.** A fluttering flag constructed from a black plastic garbage bag and mounted on a tall pole has also been found to discourage goose use. Geese do not like to feed in areas where they sense a threat from overhead, which the fluttering flag represents to them. The dimensions of the flag should be about 0.6 metre by 1 metre. Two or three slits about one-third the length of the flag should be cut in the end of the flag, to make three or four flaps. The flag should be mounted at least 2.5 metres above the ground.
- **MOTION-ACTIVATED SPRINKLERS.** Geese may be disturbed by water sprays designed to activate when movement is detected by infrared sensors. The advantage of these devices is that they can operate unattended 24 hours a day and energy-efficient circuits allow several months of operation on a single battery. However, their effectiveness is limited to quite small areas.
- **DOGS** trained to chase and retrieve a dummy decoy or ball projected toward or over a problem flock or herding dogs (such as border collies) can successfully scare geese away in some areas. Dogs must be kept under control at all times and no geese may be injured or killed.

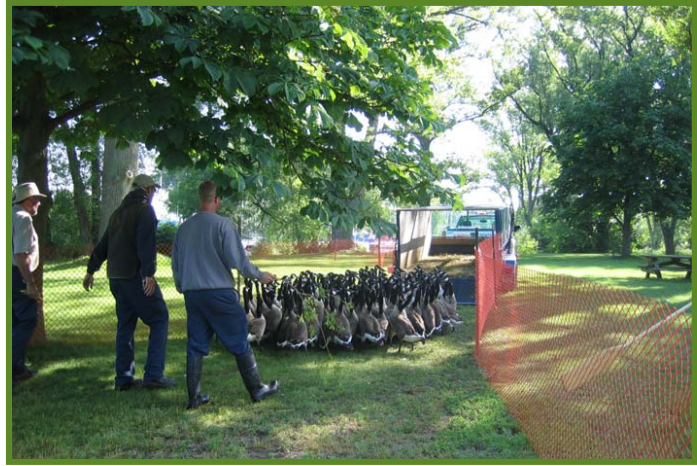
Recognizing that birds may sometimes cause damage to property or pose danger to humans, section 12 of the *Migratory Birds Convention Act, 1994* gives Environment Canada the authority to offer specified alternatives to manage birds causing damage or posing danger. The management tools are described in the *Migratory Birds Regulations*, which provide for the times and conditions under which migratory birds "may be killed, captured or taken," and when "nests may be damaged, destroyed, removed or disturbed." Any such activity requires a permit from Environment Canada.

7.1.3.2 SCARING TECHNIQUES *REQUIRING* A FEDERAL PERMIT

- **USE OF A FIREARM**, even if only used to discharge cracker shells, screamers and bangers, requires a federal permit issued by Environment Canada. A scare permit may be granted to property managers for the purpose of scaring migratory birds causing, or likely to cause, damage to crops or other property in the area. If the intent is to kill birds using a firearm, a kill permit must be obtained (see [section 7.2](#)). Please note that many municipal bylaws prohibit the discharge of firearms.
- **USE OF AIRCRAFT** to harass and scare flocks of geese is usually not practical. However, if you intend to use an aircraft to scare geese, you require a federal permit issued by Environment Canada. Use of a remote-control hobby airplane or helicopter may be applicable in some situations, but use of even these small aircraft requires a permit.
- **RAPTORS** (falcons, eagles and other birds of prey) can be used to scare geese from sites such as golf courses and city parks. Because of these birds' instinct to kill, the property owner or manager must make an application for a federal kill permit, listing the name of the falconer conducting the work.

7.1.4 REMOVAL/RELOCATION

As discussed above (section 4), Canada Geese assemble in large groups when they are moulting and flightless. At this time, they can be rounded up and moved to other areas that are capable of supporting the relocated flock. Relocation may also be appropriate for small numbers of breeding geese if problems are severe; however, they must not be moved to areas that do not already have a local breeding population. This technique is most appropriate for geese causing conflicts in urban areas. Ideally, geese will be moved to areas with more natural predators or where they



can be hunted during the appropriate season. Relocation is a short-term solution, as geese tend to return after they regain their flight feathers or when hunting pressure displaces them from the release sites.

Relocating geese may only be carried out under authority of a permit issued by Environment Canada to a land owner or land manager. The permit request must include a description of the situation, an estimate of the number of birds involved and the names of individuals who will be performing the procedure. In addition, complete contact information and written permission from the owner of the proposed release site must be provided before a permit will be issued. Environment Canada may require evidence that the individuals have the knowledge, skills and equipment to perform the relocation without harming the geese. A detailed, comprehensive management plan may also be required that specifies the target number of geese for the area and identifies measures that will be undertaken to meet the target over the long term. There will be a requirement of permit holders to report on their control activities; non-compliance may result in future permit applications being refused. A description of *Best Practices for Capturing, Transporting and Caring for Relocated Geese* may be obtained upon request and will be provided automatically with an approved permit from Environment Canada.

In addition, release sites must be approved by Environment Canada in consultation with provincial wildlife biologists. Some relocated geese may be accommodated in natural settings; however, if sites must be managed for geese, costs can rise quickly. Also, few areas readily welcome relocated geese, because Canada Geese are already so widespread.

NOTE: Geese may quickly learn that non-lethal methods do not pose a threat to them. For non-lethal devices to be effective, they must be strategically placed in areas of high goose use and be moved and changed frequently.

7.2 LETHAL MANAGEMENT

If the above non-lethal control efforts prove unsuccessful and goose problems persist, lethal control may be an option. Lethal control includes legal hunting, shooting out of season, egg destruction and euthanasia. ***For all lethal management actions, a permit from Environment Canada is required.*** In addition, the applicant may be required to submit a comprehensive goose management plan indicating what the target population is (number of geese) and how the population will be managed to achieve and maintain the target population over the long term.

7.2.1 HUNTING

In order to hunt Canada Geese, hunters must obtain a federal Migratory Game Bird Hunting Permit in addition to provincial permits that may be required. The length and timing of hunting seasons have been adjusted, and larger bag limits have been implemented in many areas to increase the harvest of temperate-breeding Canada Geese. Band recoveries from hunter-killed birds show that most banded temperate-breeding geese are shot near to where they were banded. This suggests that harvesting of geese by hunters helps limit local populations. _



7.2.2 EGG STERILIZATION OR DESTRUCTION

Because egg sterilization or destruction is considered to be a lethal technique, a permit from Environment Canada is required. Permits may be issued to property owners or managers. The written request must include a description of the situation, an estimate of the number of nests involved and the names of individuals who will be performing the procedure. There will be a requirement of permit holders to report on their control activities; non-compliance may result in future permit applications being refused.

Preventing hatching can provide short-term relief by reducing the number of geese using an area during the summer; however, for a bird as long-lived as the Canada Goose, a long-term commitment to hatch prevention is critical if population reduction is the goal. As fewer eggs hatch, birds may relocate because their breeding attempts failed, and population numbers will eventually fall as adults die naturally. Local populations can be reduced by preventing hatching because when geese become adults, they tend to nest in the area where they learned



to fly. Hatch prevention works most effectively when combined with other goose management techniques.

Hatch prevention can be achieved either by destroying eggs or by sterilizing eggs. Destroying eggs is less complicated and, in most cases, just as effective. Egg sterilization is only recommended in cases where there is reason to believe that geese will re-nest if eggs are destroyed. By sterilizing the eggs and leaving them in the nest, the female goose will continue to incubate them until it is too late in the season to start a new nest.

Egg sterilization is achieved either by i) coating the eggs with non-toxic vegetable oil or mineral oil to block air exchange through the pores in the egg and prevent it from hatching (petroleum-based oil is not permitted) or ii) addling, which involves vigorously shaking the egg to prevent it from hatching by disrupting the egg membranes. A more detailed description of *Best Practices for Sterilizing Goose Eggs* may be obtained upon request and will be provided automatically with an approved permit from Environment Canada.

7.2.3 LETHAL REMOVAL OF GEESE

Environment Canada will consider kill permit requests from property owners or managers; however, applicants wishing to obtain a kill permit must demonstrate that all other reasonable management options have been attempted and that the problem persists. The applicant may be required to submit a comprehensive goose management plan indicating what the target population is (number of geese) and how the population will be managed after the kill. In some situations, public consultations may be required, to ensure that there is adequate public support for the proposed plan. It is the applicant's responsibility to make necessary arrangements for the humane destruction of the geese and their disposal. There will be a requirement of permit holders to report on their control activities; non-compliance may result in future permit applications being refused. A more detailed description of *Best Practices for Lethal Removal of Canada Geese* may be obtained upon request and will be provided automatically with an approved permit from Environment Canada.

PERMIT REQUIREMENTS

It is important to note that possession of a permit issued by Environment Canada does not exempt permit holders from other federal, provincial or municipal laws and regulations. It is up to the person undertaking goose management actions to be aware of and comply with all appropriate laws and regulations.

8. AGRICULTURAL CONFLICTS

Not all conflicts with geese are related to temperate-breeding Canada Geese. As often as not, it is large migrating flocks of northern-breeding geese that cause damage to crops. A flock of geese can destroy newly planted pasture or cash crops in a short time if allowed to graze without interference. Geese can be discouraged by using the scare tactics listed in [section 7.1.3.1](#). You must obtain a permit if you wish to use the scaring techniques outlined in [section 7.1.3.2](#).

If scaring geese is not effective in preventing the geese from causing *serious* damage to an agricultural property, a kill permit may be issued. The intent of kill permits issued to farmers is to allow a limited number of birds to be killed to reinforce scaring. During hunting seasons, farmers experiencing persistent problems with Canada Geese should consider encouraging hunting of geese on their property. It is recommended to contact local hunting clubs if farmers do not know of hunters interested in hunting there. Note that this may occur only if the farm is located in an area where discharge of firearms is allowed or where a municipal permit has been acquired.

9. SUMMARY

Implementation of an effective goose management program involves cooperation between land managers and wildlife agencies. Public education outlining the problems associated with too many geese is a vital component of any such program. Any program to stabilize and/or reduce numbers of geese should include efforts to reduce recruitment (by preventing nesting or hatching), increase mortality, increase emigration and alter habitats. These may be accomplished through preventing feeding, scaring, egg destruction/sterilization, modification of hunting seasons and liberalization of bag limits, relaxation of restrictions on discharging firearms, and habitat modification through appropriate land management practices. The control of Canada Goose populations is a long-term undertaking that requires a persistent cooperative effort on the part of all concerned if it is to be effective.

MOST IMPORTANTLY

- 1) PREVENTION IS THE SOLUTION OF CHOICE WHEN DEALING WITH PROBLEMS ASSOCIATED WITH CANADA GEESE.
- 2) ALTERING HABITATS TO MAKE AREAS UNSUITABLE FOR GEESE IS THE BEST LONG-TERM STRATEGY IN MANY SITUATIONS.

10. CONTACTS

For further information or to obtain permits, please call or write to Permits Officer, Canadian Wildlife Service, Environment Canada, at one of the following addresses.

Newfoundland and Labrador, Prince Edward Island, Nova Scotia, and New Brunswick	17 Waterfowl Lane Sackville NB E4L 1G6 Telephone: 506-364-5013 Fax: 506-364-5062
Quebec	1141 Route de l'Église P.O. Box 10100 Sainte-Foy QC G1V 4H5 Telephone: 418-648-3683 Fax: 418-648-4871
Ontario	867 Lakeshore Road P.O. Box 5050 Burlington ON L7R 4A6 Telephone: 905-336-4464 Fax: 905-336-4587
Manitoba, Saskatchewan, Alberta, Northwest Territories and Nunavut	115 Perimeter Road Saskatoon SK S7N 0X4 Telephone: 306-975-4090 Fax: 306-975-4089
British Columbia and Yukon	5421 Robertson Road Delta BC V4K 3Y3 Telephone: 604-940-4650 Fax: 604-946-7022

11. ADDITIONAL READING

Humane Society 2009. Solving Problems with Canada Geese 5 pp.
www.humanesociety.org/animals/geese/tips/solving_problems_canada_geese.html

Link, R. 2005. Living with wildlife: Canada Geese. Washington Department of Fish and Wildlife. 10 pp.

Smith, A.E., S.R. Craven, and P.D. Curtis. 1999. Managing Canada Geese in urban environments. Jack Berryman Institute Publication 16 and Cornell University Cooperative Extension, Ithaca, New York. 43 pp.