

Canada Geese and Your Lake

The Canada goose (*Branta canadensis*) is one of the most well known and popular game birds in the upper Midwest. It is instantly recognizable in a field or on a lake, and its distinctive V-shaped formations flying overhead are used as a sign of changing seasons. Canada geese figure strongly in tales and folklore: their heroic migration jaunts and devotion to their mate (they bond for life) make them good animal models for humans.

Canada geese also are a success story in wildlife management. By the early 1940s, heavy hunting had reduced Canada goose populations close to extinction. A concerted effort by federal agencies, particularly the U.S. Fish and Wildlife Service, has brought the Canada goose back to levels where hunting is again allowed—and has been for over 20 years. All in all, the Canada goose is a proud, respectable bird.

Until now. People tell tales about the Canada goose that drove them over the edge, until they ran screaming out of the house to chase away any goose that strayed into their yard. Suddenly the headlines are full of proposals to kill Canada geese and donate them as food for the homeless. Companies have sprung up that specialize in keeping Canada geese off of ponds and property. Why all the fuss? Quite simply, the problems started when some of the geese stopped migrating.

In the last ten years, the population of Canada geese permanently residing in suburban America has skyrocketed. These are full-time residents who don't fly away with the first ice. They are big and intimidating, hissing and charging in defense of their territory. There are so many of them that their ordinary honking can even become irritating. They eat turfgrasses down to a nub and then leave uncountable piles of slimy green droppings to be stepped in. And, they can spread disease. Almost overnight, these once-endangered birds have become pests at some Illinois lakes.

Canada geese have 11 subspecies. These subspecies range in size from 29 to 38 inches in length and 6 to 12 pounds in weight, with the smaller populations generally living further north. In 1965, a biologist found a population of the subspecies *Branta canadensis maxima*, the giant Canada goose, which had been thought to be extinct. This subspecies averages 12 pounds and is the subspecies that originally inhabited much of the upper Midwest, including Illinois. Since its rediscovery, the giant Canada goose has recovered more quickly than any other subspecies and now makes up the bulk of our resident goose populations. There are estimated to be as many as 1 million giant Canada geese in the Mississippi flyway, as many as all other Canada geese subspecies in the flyway combined.

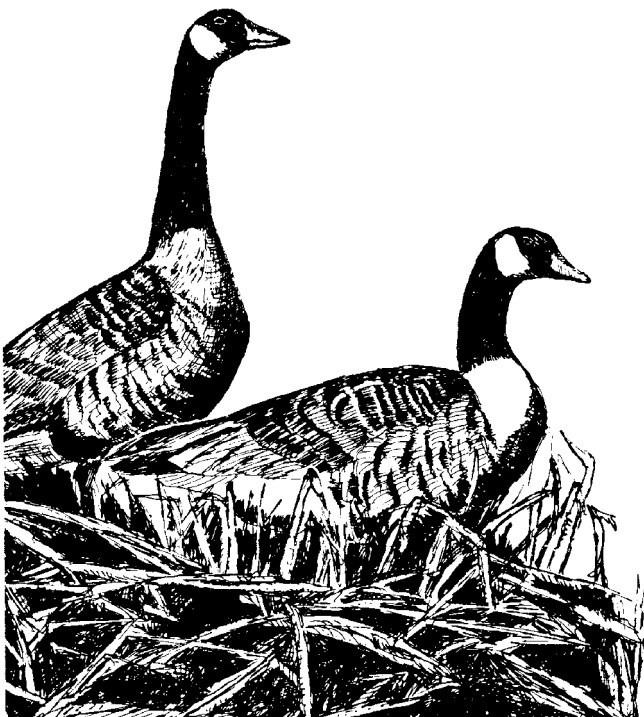
Canada goose "paradise" would include acres of short tender grass, a freshwater pond for drinking water and security, and no predators. It would look much like a public park, corporate office campus, golf course, cemetery, or waterfront yard. However, while other Canada goose subspecies are wary of humans, giant Canada geese are predisposed to ignore people. The biologist who rediscovered the giant Canadians noted that the "placid disposition of the giant Canada goose sets it apart from all others."

Disposition or not, the giant Canada goose has adapted well to living among us. They have a weak migratory instinct and will stay in place as long as there is ice-free water and available food. Since people are willing to feed them and often keep their ponds ice-free in the winter, the geese have begun sticking around in suburbia. They have become accustomed to cars, planes, and other noises of modern life. In fact, they are so used to cars that they are willing to walk out in front of oncoming traffic, secure in the knowledge that the cars will stop for them.

The suburban landscape contains food and space to support a few geese without causing too much difficulty for people. Giant Canada geese, however, like to stay around where they are hatched, in the same way that migrating geese tend to return to the same spots year after year. The lack of predators and abundance of food allows giant Canada geese to lay more eggs and have more goslings survive to adulthood than would be normal in the wild, so a small population can quickly grow into a large population. In addition, the presence of geese and goslings (as well as ducks) is an attractant to other giant Canada geese who might have been displaced from another area.

In addition to the trouble they cause for people living around lakes, excessive, unnatural populations of giant Canada geese are as much or more of a problem for the lakes themselves. Geese eat plant material on land, but are frequently out on the water or ice when they defecate. This material is high in nutrients derived from the plants they eat. These nutrients are the same ones used for growth by algae and plants in the lake. When the geese become year-round residents, the nutrient loading can become very significant, contributing to algal blooms and excessive plant growth. In fact, one Canada goose can contribute about a half pound of phosphorus to the lake each year. If you have 20 resident geese on your lake, that is the same as dumping a 100-pound bag of fertilizer with a "10" phosphorus number into the lake each year!

The problems of year-round resident Canada geese exist on a national scale. Any real control effort will need to be approached regionally or nationally to be effective.



However, that does not mean that there is no recourse to your local goose problems. But, it does mean that anything you accomplish is likely to be only temporary. If you move a flock of geese off your pond or lake, there are always more geese out there looking for a new home.

It is important to know that all Canada geese are protected by the federal Migratory Bird Treaty Act, whether they migrate or not. This means there are limits to what you can do to control Canada geese. You cannot physically harm the geese or their eggs without a permit. Killing geese outside of hunting season, or outside of designated areas during hunting season, is a federal crime and may violate state and local laws as well. With these restrictions in mind, there are still several approaches you can take to control your local Canada goose population.

Habitat changes caused by people have encouraged the geese to remain year-round. The most effective way of reducing these permanent populations is to change the habitat, at least to the extent possible. There are three changes that can be easily accomplished on most lakes: 1) Don't feed the geese!, 2) modify the shoreline vegetation, and 3) allow the lake to freeze over in winter, if possible.

■ **Don't Feed the Geese:** It sounds simple but it can be very difficult to accomplish on a lake-wide basis. This is mostly an educational campaign. People aren't feeding the geese in order to cause trouble. On the contrary, they think they are doing a good thing for wildlife. However, it really isn't good for the geese. Geese gain very little nutrition out of bread, crackers, and other processed grain products. While feeding with corn or other grains is better nutritionally for the geese, it will quickly make them dependent on the handouts and unable to forage for themselves. Feeding also creates overcrowding, making it more likely that the geese will transmit diseases to one another and to people. People who feed Canada geese in their yard quickly learn the drawbacks of having a flock of geese living with them. It is harder to convince people feeding geese in a public area, like a park or beach, that their actions are having a negative effect since they leave the consequences behind when they leave the park. A ban on waterfowl feeding is the first step in any campaign to control problem goose populations.

■ **Modify Your Shoreline:** Canada geese don't like to nest in or walk through tall grasses, plants, or shrubs. They would prefer to be able to see around themselves at all times, to watch for predators. One good method for discouraging geese from your yard is to keep your turfgrass from going all the way to the lake edge. Establishing a buffer strip between your yard and the lake has many advantages (see the "Shoreline Buffer Strips" publication in this *Lake Notes* series). One advantage is inconveniencing geese to the point that they avoid your yard as an entry/exit point to the lake. Putting a buffer strip around the whole lake will make the entire lake less desirable as Canada

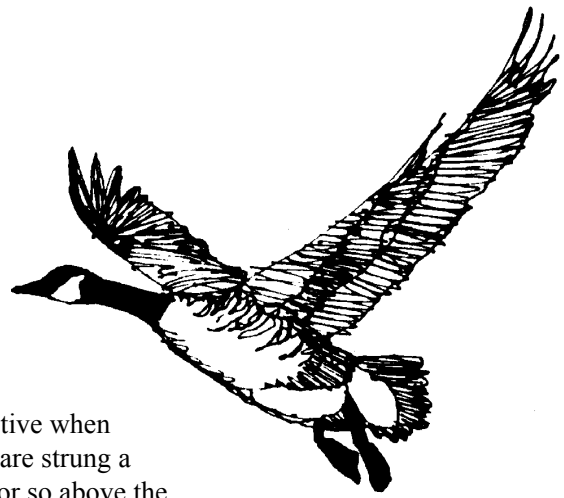
goose habitat. If your pond or lake is small enough, you can impair the flight paths into and out of your waterbody by planting trees along the shore (as well as on any islands within the lake). The idea is to make the approach to the water too steep to be comfortably negotiated by the geese. Unfortunately, this requires rather tall trees and thus will not provide results until the planted trees mature.

■ **Allow Your Lake to Freeze:** For various reasons, many people maintain an ice-free area of their lake or pond throughout the winter. This, in turn, entices Canada geese to remain on the lake throughout the winter. If the lake was allowed to ice over, the geese would move on. However, shallow lakes and ponds can have winter fishkills if allowed to ice-over and conditions occur that cause low dissolved oxygen concentrations in the underlying water. If you are not concerned about winterkills degrading the fishery in your lake or your lake is not susceptible to winterkills, there is no need to keep it ice-free all winter, thus making ice cover a potential Canada goose control strategy. Consultation with a lake expert can help you determine if you need to maintain open water during the winter. In most cases, the lake can be allowed to ice-over in early winter (forcing the geese to move on), and then opened up later in the winter.

In addition to these habitat changes, there are several other methods of Canada goose control available at varying levels of cost, practicality, and success. These control methods fall into three classes: 1) physical barriers, 2) repellents, and 3) scare tactics.

■ **Physical Barriers:** Physical barriers fall into two general categories: fences and grids. A common design for a goose fence has two strands of either poly-twine wire (a type of temporary fence wire), polyurethane bailing twine, heavy monofilament fishing line, nylon cord, or even ordinary string strung between short posts. The first strand is placed about 6 inches above the ground, while the second is placed at about 12 inches. Another design uses five strands spaced at 6, 8, 12, 18, and 24 inches above the ground. These barriers are not impossible for geese to cross, but it is inconvenient—and Canada geese dislike being inconvenienced. This type of barrier works best when strung at the water's edge or around an area that you want to exclude geese. To be effective, the geese should not be able to walk around the fence. If your pond is surrounded by turfgrass, then the fence will have to be strung all the way around the pond.

Grids are made from the same materials as the fences, but strung in a grid pattern over the pond or area from which you wish to exclude geese. The grid pattern should be set up with 20-foot spacing between the lines. Grids are



most effective when they are strung a foot or so above the surface of the water, although they can be set higher if access to the area is required. In order to keep the geese from landing nearby and walking into the pond, a fence also will be needed around the perimeter. Grids need to be visible to overflying geese, so bright objects or streamers (e.g., aluminum foil, pie pans, Mylar tape) should be attached to the lines.

■ **Repellents:** There is only one repellent currently licensed for use against Canada geese: methyl anthranilate. Methyl anthranilate is a substance found in Concord grapes and used as flavoring in grape bubblegum. Birds, including Canada geese, dislike the taste and will avoid eating material that has been treated with it. Methyl anthranilate is commercially available in spray form.

■ **Scare Tactics:** Scaring is a traditional method for controlling nuisance bird populations. Scare tactics usually involve loud noises, or real or imitation threats to the birds. However, the effectiveness of most scaring techniques on giant Canada geese generally has been disappointing. They seem to be able to adjust to the noise and quickly see through imitation predators. The best option is to be prepared to change methods often and keep the geese from becoming adjusted to any one method. The following is a partial list of possible scare tactics; there are many more and new ones show up every year:

- swans (mated pairs of swans are very territorial and tend to chase off Canada geese, although it is not uncommon for a few geese to remain),
- trained dogs, especially herding dogs like collies (Canada geese don't like to be herded),
- plastic swans and goslings,
- plastic owls,
- "warning eye" balloons,
- inflatable alligators,
- recorded Canada goose distress calls,
- exploding shotgun shells,
- automatic report "cannons" (automatic explosions of acetylene or propane), and
- "stalkers" pretending to be hunters sneaking up on the flock.

It appears that the ultimate method for giant Canada goose

control is population reduction. On a wider scale, this may be the only real solution to Canada goose over-population in urban environments, but no systematic program has been agreed upon. Hunting may be an option in some areas, especially on larger bodies of water or in less densely populated areas. Even if there are laws currently prohibiting hunting in your area, it might be worthwhile to talk to state and local officials about an exception. Another option is rounding up the geese and transporting them to a different area. This is a major operation, however, and it would require the cooperation of federal and state agencies as well as a willing recipient for the geese.

The growth of local Canada goose populations can be effectively slowed by destroying nests and eggs. Eggs are made non-productive by shaking them vigorously as soon as possible after a full clutch is laid and incubation

begins. After the eggs are shaken, they are returned to the nest and the geese allowed to incubate them for at least three weeks. Because the eggs are returned to the nest seemingly unharmed, the geese are tricked into thinking nothing is different (if the eggs were removed entirely, the female would promptly lay more eggs). After three weeks of incubating their eggs, geese will usually not try to re-nest. Removal and disposal of the nest and eggs can then be done. This discourages continuation of nesting effort and defense of the nest territory.

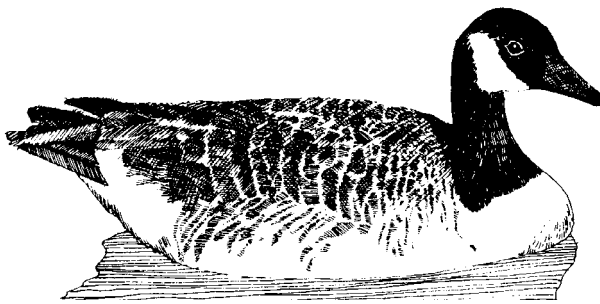
Egg shaking and nest destruction requires a permit from the U.S. Fish and Wildlife Service (USFWS), which also can be obtained from the U.S. Department of Agriculture (USDA) (see addresses below). It is important to note that if the eggs have begun to hatch they may not be disturbed, even if you have a permit for egg shaking. Detailed guidelines are available from USDA and USFWS.

For further information...

U.S. Department of Agriculture
Animal Damage Control
2869 Via Verde Drive
Springfield, IL 62703-4325
(217) 492-4308

U.S. Fish and Wildlife Service
Chicago Field Office
1000 Hart Road
Barrington, IL 60010
(847) 381-2253

U.S. Fish and Wildlife Service
Rock Island Field Office
4469 48th Avenue Court
Rock Island, IL 61201
(309) 793-5800



Lake Notes is a series of publications produced by the Illinois Environmental Protection Agency about issues confronting Illinois' lake resources. The objective of these publications is to provide lake and watershed residents with a greater understanding of environmental cause-and-effect relationships, and actions we all can take to protect our lakes.

References included U.S. Fish & Wildlife Service and U.S. Department of Agriculture—Animal Damage Control publications. Appreciation is extended to the U.S. Fish & Wildlife Service for use of their Canada goose illustrations.

This *Lake Notes* publication was prepared by Michael Murphy and Holly Hudson of the Northeastern Illinois Planning Commission, Chicago, Illinois.

For more information about other publications in this series and to request copies, please contact: Illinois Environmental Protection Agency, DWPC-Lake and Watershed Unit, P.O. Box 19276, Springfield, Illinois, 62794-9276; 217/782-3362.



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