

USDA APHIS WS

3430 Constitution Drive

Suite 121

Springfield, Illinois 62711

WS HOTLINE

1- 866-4USDAWS (487-3297)

Managing Conflicts in Illinois Created by Canada Geese

A guide to available management strategies



Figure 1. Goose strike to aircraft.

Introduction:

Canada geese are large magnificent birds that migrate between their traditional nesting grounds in Canada to their wintering grounds in the southern regions of the United States. However, populations of giant Canada geese are foregoing this traditional pattern and not migrating between different wintering and nesting grounds. While geese are an important component of our environment, significant conflicts can be encountered in many of our urban areas in Illinois. These conflicts include threats to aviation safety (Figure 1), consumption of field crops, feeding upon golf course greens and lawns, and threats to public safety from attacks while they defend their nests or the accumulation of their droppings on lawns, athletic fields, and in parks. Damage caused by geese in Illinois has become significant, requiring new management strategies by State and Federal agencies to provide assistance in resolving the problems. Although Canada geese are protected by state and federal laws, there are many effective management methods that can be used to minimize or eliminate conflicts with these birds. While some methods may require permits to implement, many only require knowledge and persistence of those experiencing the conflict.

General Biology:

The giant Canada Goose (*B. c. maxima*) is responsible for most of the conflicts with geese in urban areas of Illinois throughout the year. The Mississippi Valley Population of Canada geese consist of migrating birds which inhabit Illinois during the spring and fall migration periods, as well as throughout the winter months. These populations can add to damage caused by the giant Canada Goose.

Adult giant Canada geese weight approximately 11-122 pounds. They have a wing span of approximately 6 feet, making them one of the largest flying birds in the world. Giant Canada geese generally winter close to their breeding grounds as opposed to other subspecies of Canada geese in Illinois which breed in Canada. In many locations giant Canada geese are remaining in the same area only to migrate south if local sources of water completely freeze over.

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Giant Canada geese may become sexually mature at 2-3 years of age, while other subspecies generally become mature at age 3-4. They mate for life with a single partner, but will re-mate if their partner dies. In February geese begin to establish nesting territories where they will remain through the nesting season in April. They will usually establish nests near water and on islands, but more frequently geese are selecting unusual nest sites such as roof tops, parking lot islands, and large plant pots near building entrances. Each pair of geese will produce a single clutch of eggs during this season. However, they may produce a second clutch if the first is destroyed (e.g. by predators). Generally, the female Canada goose will lay one egg every 1-12 days until the clutch is complete with 5-8 eggs. She will then remain with the nest, incubating the eggs for 28 days, after which time they will hatch. Within 24 hours both adult geese will lead their young from the nest to a water source shortly after hatching.

Young geese grow quickly and can usually fly within 75 days of hatching. Young geese become 'imprinted' to the general area where they learn to fly and are likely to stay in the vicinity until they eventually produce young of their own. Under natural conditions, 60-70% of the young survive to adulthood. In urban areas, where they are provided added protection from predators and hunting, their survival rate is likely to be higher and Geese can approach an age of twenty. A recent study in the greater Chicago area has found that coyote predation on eggs/nests may be helping to limit giant Canada goose populations in our state's most urbanized region.

Canada geese are grazers, feeding primarily upon grass and crops (e.g., soybeans, corn, and wheat). During the summer months they are attracted to the succulent new shoots of grass growing on golf courses, lawns, athletic fields, and sprouting crops where they may cause significant damage. An adult Canada goose can produce as much as 3 pounds of feces daily. Fecal contamination of lawns and recreational areas is the most frequent type of conflict people experience with Canada geese in Illinois. In addition to nuisance concerns, the accumulation of feces in public swimming areas can drastically raise the level of fecal coliform bacteria in the water, causing swimming to be banned.

In general, Canada geese are attracted to areas because a water source (which serves to provide protection from predators) and/or food is available to them. Water sources which have gentle sloping shorelines with manicured lawns provide the greatest attractant because they have easy access to food and protection from other animals, including people. The area becomes even more attractive if other waterfowl are present because that indicates there is no immediate threat in the area.

One of the greatest attractants of an area is the presence of people that feed the geese. This provides an artificially created food supply and will concentrate the geese in unnatural numbers as the food supply is enhanced by well-meaning, but misguided individuals. Artificial feeding, typically with bread, does not provide the geese with the proper nutrients they require. It is also likely to cause the birds to inflict greater damage to the vegetation and ornamental plants when the food is not regularly supplied.

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Legal Status:

Canada geese, their nests, and eggs are protected by the Migratory Bird Treaty Act (16 USC 703-711) and by Illinois State Law (520 ILCS 5/2.1). The combination of Federal and State laws prohibit the taking (i.e., capturing and/or killing) of Canada geese in Illinois outside of the legal hunting seasons. It is currently Illinois Department of Natural Resources (IDNR) policy not to permit the capture and relocation of Canada geese to another site within Illinois. State permits can be obtained to destroy nests and eggs.

Damage Prevention:

Management programs used to minimize or eliminate conflicts with Canada geese should employ an integrated pest management (IPM) approach. IPM, simply stated, is utilizing many management methods together to solve the problem rather than relying on a single method. An example of an IPM approach to reduce goose damage at a golf course might include using border collies to harass the birds loafing and grazing on the greens and fairways, installing an overhead grid system on the water hazards to keep the geese off the water, using a repellent to prevent feeding on the grass, increasing the shore grade along the water hazards to make them unsuitable for the geese, and obtaining a permit to destroy the eggs and nests of Canada geese found on the course. This example demonstrates the employment of the five basic strategies of management:

1. harassment;
2. exclusion;
3. repellents;
4. habitat alteration; and
5. lethal management.

The *integration* of multiple management techniques from these strategies into your management program will produce much more effective results than any strategy can produce by itself. Brief descriptions of some of the more effective techniques, from these strategies, are described below.

Harassment

Canada geese seek areas where they can go about their daily activities in peace. If someone or something bothers them enough, they will usually find another area where they will not be disturbed. However, they are able to habituate to some harassment techniques when they figure out that there is no real threat to their well-being.

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Harassment techniques are most useful when you are trying to prevent damage from occurring rather than trying to stop damage that is already occurring. Once Canada geese have become accustomed to using an area, it will be more difficult to encourage them to move elsewhere.

It is also important to note that each year Canada geese have a flightless period during June through July when they molt and grow new flight feathers. This coincides with the period of time that goslings have not yet gained the ability to fly. During this time harassment may have little beneficial effect given the birds can not efficiently vacate the area.

Pyrotechnics

Pyrotechnics are specially designed fireworks that are used to frighten wildlife. There are several different types of pyrotechnics available (Figure 2), including: *screamers* and *bangers*, which are large bottle rocket-type devices fired from a 15-mm starter's pistol and whistle loudly or explode; and *shellcrackers*, which are specialized fireworks fired from a 12-gauge shotgun. Each pyrotechnic has a specific range of effectiveness. The distance a particular pyrotechnic device will travel varies greatly by manufacturer and type. They may range from fifty to several hundred yards.

[NOTE: Check with local authorities before using these devices for possible ordinances restricting their use.]



Figure 2. Pyrotechnics.

Propane Cannons

Propane cannons are popular dispersal tools in use at hundreds of airports around the country. Farmers have also used cannons with limited success. They operate completely by the pressure of a standard propane tank (Figure 3). On a timed basis, a small amount of propane is ignited, producing a very loud report that can be heard as much as a mile away. The simplest models explode every 15 seconds - 30 minutes, based on the setting. More sophisticated models use computer chips to control the detonation more randomly, on a particular schedule, or by remote control. Unfortunately, geese have demonstrated the ability to quickly adapt to the report of a propane cannon and do not respond afterwards. In addition, the repetitive noise produced by cannons can be disruptive to people in suburban and urban areas.

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Figure 3. Propane exploders.

Dogs

Using dogs to harass geese (Figure 4) from an area has become one of the most popular methods to reduce the presence of geese in a particular area. While many nuisance animal businesses use highly trained border collies to chase geese, just about any athletic, medium-large dog capable of obeying commands can be used. Control of the dog is vital to this technique because they must not be allowed to catch, injure, or kill a Canada goose. The geese are likely to seek refuge from the dog in a nearby body of water and simply wait for the dog to leave. To produce more effective results in these circumstances, the geese should be excluded from the water (described below) or also harassed with pyrotechnics.



Figure 4. Use of a dog to harass geese.

Swans

Another recent popular management technique to harass geese is the use of swans. The premise of this technique is that swans tend to be very aggressive in defense of their territory, especially during the breeding season, excluding other waterfowl from the area. As wild trumpeter swans are protected and cannot be employed for this purpose, nonnative mute swans are commonly used instead. (Note: Possession, sale, release, or use of mute swans in Illinois requires appropriate IDNR permits.) Unfortunately, mute swans only defend a territory from other birds during the short spring breeding season and they are much more tolerant of other waterfowl and may only defend the immediate area around their own nest. It is not uncommon to find situations where mute swans and Canada geese are

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sharing the habitat (Figure 5), adding to any manure problem that may already exist. Mute swans can even attract Canada geese to water sources. They may also have negative impacts on other native wildlife and their foraging upon vegetation may be more destructive than that actually caused by geese alone. Therefore, the use of mute swans to deter Canada geese is not recommended.



Figure 5. Mute Swans and Canada Geese.

Lasers

Lasers can be used to successfully harass Canada Geese without physically harming the birds. As with all other harassment techniques, other techniques should also be used to avoid the birds from becoming habituated to the laser. While lasers do not physically harm geese, they should be used with caution in accordance with the manufacture's safety instructions. There are several different types of lasers available for use to disperse geese including the specially designed Avian Dissuader (red laser) (Figure 6) to general, less expensive, green and/or red laser pens. Since the strength of laser devices varies, the effective dispersal range varies dependent on the device used. All lasers perform best to disperse geese during low light conditions in the early morning and late evening hours.



Figure 6. Laser used to harass geese.

Plastic Scare Devices

Plastic swans, alligators, owls, snakes, coyotes and dead goose decoys have not consistently demonstrated an effectiveness in dispersing Canada geese. If you decide to employ these static devices, they must be moved to new locations frequently and must be used in conjunction with other forms goose abatement. use of these devices is not recommended.

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Other Harassment Techniques

There are numerous other harassment techniques which can be used to effectively resolve conflicts with Canada geese. Some of these include; high pressure water sprayers, air horns, beating pots and pans together, physically chasing the birds, and even shooting over the geese with live ammunition in areas where this is allowed. These can all be used to disperse Canada geese, especially if they are used in conjunction with other techniques. The key to success is to remain more persistent than the geese. As long as a Canada Goose is not physically harmed, the harassment technique should be legal. If there is a question about the legality of a particular technique, contact USDA-APHIS-Wildlife Services office in Springfield at (217) 241-6700 prior to using the technique.

Exclusion

Exclusion can be a very effective method used to limit goose access to a specific area. Exclusion methods range from simple and inexpensive techniques to those that are very complex and expensive. Exclusion can be very effective when employed correctly and in conjunction with other management techniques.

Overhead Grid Systems

One of the most effective methods of exclusion is the installation of a grid system over the water surface which geese use. Grids work on a simple principle: Canada geese are large birds which require a long glide-slope to take off and land. By installing a grid system of cables above the surface of the water (Figure 6), the geese will view the grid as a barrier over the water. Grids are most economical on small bodies of water (<200 feet across), but can be used on larger bodies.

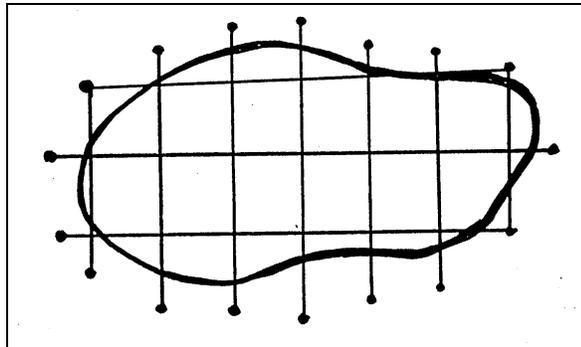


Figure 6. Diagram of overhead grid system.

Nearly any type of cord can be used to construct a grid line, from high tensile braided fishing line to plastic-coated Kevlar cord. Anchor points for the grid lines can be trees, wooden stakes, or U channel fence posts. While grid system specifications vary, spacing the lines 20 feet apart at least 3 feet above the surface of the water provides an effective goose barrier. Modifications can be made if water levels change or if geese penetrate the system. For example, geese may land on the shore and walk into the water under the grid. One solution could

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include constructing a 'drift fence' of poultry wire or decorative fencing around the perimeter of the water to impede terrestrial access. It must be noted that a grid constructed as recommended here will not exclude ducks, gulls, or other smaller birds.

Bird Balls

The use of Bird Balls to prevent goose use of a body of water is one of the more unique methods available. The 4 inch diameter balls are placed in the water in sufficient numbers to completely cover the basin's surface. The balls are usually employed at airports or industrial sites to eliminate all bird use of a basin. Bird Balls not only exclude all wildlife from the surface of the water, but they prevent sunlight from penetrating to any aquatic plants, eliminating potential food sources for waterfowl as well.

Fencing

Fencing can be used to exclude geese from sensitive areas or to keep them separated from pedestrian traffic. Fencing material can include conventional woven wire or chicken wire; snow, chain link, or picket fences; single or dual strands of cord/wire; or even dense shrubbery. Another example of a fence that can be installed is a drift fence placed along a stream or pond edge. A single strand of electric fence is also another form of exclusion (Figure 7).

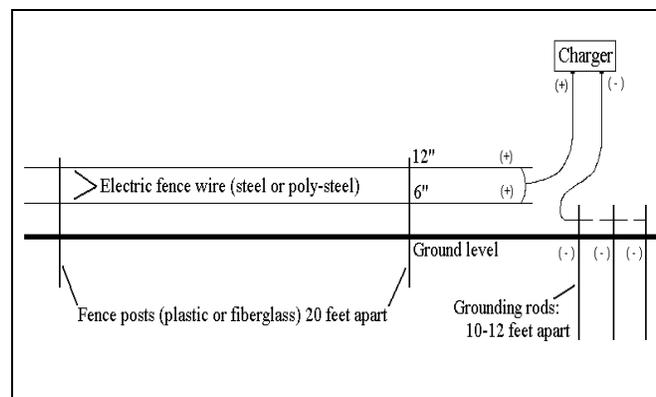


Figure 7. Diagram of fence exclusion.

The wire for the electric fence should be between 6" and 8" above the ground. The amperage required to exclude Canada Geese is minimal and will not harm them. **(Note: To avoid accidentally shocking pedestrians, electric fences should be well marked and not used in areas of public use.)**

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Fencing alone may not exclude geese from an area because they may still fly into the site. Therefore, other measures will need to be taken to exclude the birds from most locations. However, fencing may be very successful as a barrier between the birds and pedestrians during the goose nesting season; thus allowing geese to incubate eggs while allowing pedestrian traffic to pass nearby.

Habitat Modification

Habitat modification involves physically altering your property to make it less attractive to Canada geese. Before you can modify the habitat, you need to identify what features of your property are attracting the geese. As described earlier, geese are typically attracted to a location due to the presence of food or water. Therefore, modifications made to your property should focus on eliminating or reducing these attractants.

Eliminate all artificial feeding

Feeding geese should be prohibited/eliminated. Signs may need to be posted in public areas which read, Do Not Feed the Animals. Individuals feeding waterfowl must be educated about their role in creating conflicts with geese. Hand feeding geese concentrates the birds making them more aggressive toward people because they are expecting to be fed and making them more susceptible to diseases, such as avian botulism and avian cholera. Moreover, artificial feeding rarely provides the proper nutrients that geese require. In communities experiencing conflicts with large numbers of geese, “No Feeding” policies or ordinances may need to be created and enforced as a first step toward reducing problems.

Remove domestic waterfowl

Domestic waterfowl function as ‘decoys’ for flying Canada geese. Waterfowl decoys are commonly used by hunters to attract geese into huntable locations. Live waterfowl cannot be used by hunters as decoys because they are so attractive they provide an unfair advantage to hunters. Conversely, you should not allow domestic waterfowl to inhabit your water to attract wild geese if you are already experiencing conflicts with the birds.

Steepen Pond/Creek Banks

As stated before, Canada geese prefer a gentle, grassy slope coming out of the water which enables them to easily walk into and out of the water to feed or loaf. Creating a steep bank along the shoreline will not allow them to do this. They will need to find alternative areas to raise their young. Steepening the shoreline can be done by building a vertical seawall three feet above the surface of the water or by creating a 200% earthen slope (i.e., 63E angles) from the waters edge (Figure 8). Allowing vegetation to grow tall along this slope will help to protect it from erosion and also serve to keep the geese from walking up the slope.

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Rip-rap may be ineffective on gentle slopes, but could be more effective on these steeper slopes. **(Note: Be aware that steep rip-rap lined banks and seawalls may prevent other animals from accessing the water as well.)**



Figure 8. Earthen slope.

Allow Water to Freeze in winter

One reason geese have become resident in this northern climate is the aeration of ponds to prevent complete surface freezing during the winter. Geese do not prefer to remain on a pond during the winter once it is frozen over, and thus they seek alternative areas to loaf and roost.

Plant Vegetation Less Attractive to Geese

Canada geese are grazers, consuming mostly grasses and other vegetation. In order to make the area less attractive to geese, plant vegetation that is less palatable. Geese are attracted to short, lush vegetation that is high in protein and low in fiber. By allowing grasses to grow longer, geese are less attracted to it as a food source. Also, certain types of grasses, such as tall fescue (*Festuca arundinacea*), can form dense monocultures and prevent other more desirable plants from establishing. Some varieties of tall fescue (and other grasses) are infected with the endophytic fungus *Neotyphodium coenophialum* which acts as a feeding deterrent by causing post-ingestion distress in animals that consume the plant. To discourage goose grazing, fescue cultivars with at least 70% endophyte infection rate should be planted. Check with your local grass supplier to find out if endophyte-infected fescue is available and appropriate for your specific area.

Plant Native Vegetation Barriers

Some entities recommend planting tall, native prairie grass stands along shorelines to discourage goose use. The premise of this technique is that predators may inhabit the tall grass which geese cannot see over/through as they walk and thus, geese do not feel secure under these conditions. In addition, most species of native grass are less palatable to the geese than turf grass. Giant Canada Geese can adapt to this technique, reducing its effectiveness significantly. Effectiveness may be improved by widening the stand to 30 or more feet.

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Vegetation and Rock Barriers

Canada geese typically prefer to use a route from a body of water that affords a clear view of the surroundings. By planting large, dense shrubs or placing large rocks (two feet in diameter or more) along a shoreline, you may create a barrier that geese will be less likely to attempt to penetrate due to the lack of visibility of potential hazards (i.e., predators). However, as with native grass barriers, giant Canada geese have demonstrated the ability to adapt to rock and dense vegetative barriers.

Chemical Repellents

One of the more common requests of people who are incurring Canada goose damage is for something to spray to repel the geese from the area. Although there are many home remedies for repelling wild animals, there are few legal over-the-counter products because of the strict registration requirements imposed to protect the environment. Repellents are registered for specific applications and are therefore not suitable for all situations. Repellents must be shown to have little or no adverse environmental impact while demonstrating they can perform as the manufacturer claims. Even so, the use of these products is not guaranteed to be successful and they should be used as part of an integrated management plan. Registration of a product with the Environmental Protection Agency is very costly and thus, few goose foraging repellents are available for use. Products currently registered are discussed below.

Methyl Anthranilate

There are several products which use the active ingredient methyl anthranilate (an extract of concord grapes) to protect turf from grazing by geese. ReJeX-it Migrate and GooseChase are two such products that can be sprayed on the grass to make it less palatable to geese, encouraging them not to feed. These products are not designed to *repel* the geese from a specific area, just to prevent them from feeding upon the grass. Therefore, conflicts with the presence of geese in a locality will likely not be resolved with the use of these products alone. Methyl anthranilate 'area' applications through the use of fogging products such as ReJeX-it Fog Force (Figure 9) can encourage geese to vacate a specific area. Methyl anthranilate turf applications biodegrade and must be reapplied after rainfall and/or mowing. **[NOTE: Do not use other grape-flavored products as a cheap substitute. Substitute products are not registered for use in dispersing geese. Their use in this manner is not effective and would be a violation of federal and State laws.]**



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Anthraquinone

Flight Control™ is a non-lethal repellent currently registered for use on geese. It has shown effectiveness as a foraging repellent against Canada goose grazing on turf. Anthraquinone is a naturally occurring chemical found in many plant species and in some invertebrates as a natural predator defense mechanism. It is a secondary repellent and affects birds by causing post-intestinal distress. Anthraquinone is not a taste repellent or contact irritant, as the birds do not hesitate to eat treated turf, and they exhibit no sign that treated turf is unpalatable to them. However, once the birds experience the adverse consequences they learn to avoid the protected turf. Flight Control will not biodegrade or wash off after a rain, but needs to be reapplied after mowing.

Live Capture

Capture & Relocation

Capture and relocation of the animals causing a particular conflict is commonly requested. This is not a viable solution to conflicts with Canada geese because goose populations in Illinois have reached sufficient levels to occupy virtually all suitable habitat. Research in Illinois evaluating attempts to relocate geese causing conflicts revealed that relocation to other areas did not resolve goose conflicts and may result in increased conflicts near the release site. In addition, goose relocation has the potential to move diseases from one population to another. Furthermore, geese have strong homing instincts, frequently returning to nest in the area where they learned to fly. Therefore, geese often return to their original capture site. For these reasons, Wildlife Services and the Illinois Department of Natural Resources (IDNR) do not subscribe to this practice in Illinois.

Capture & Euthanization

Some states have implemented programs involving the capture and euthanization of Canada geese. In the States where 'charity harvests' are implemented, localized goose populations are captured during the summer molting season and processed for meat donation to charitable organizations. While effective at managing local goose conflicts, this strategy is often criticized by some organizations who philosophically disagree with the management approach. As of the printing of this information, the charity harvest management technique is being reviewed as a possible management strategy, but implementing procedures have not been developed to employ it in Illinois.

Hunting

Hunting is an important tool used to manage many wildlife populations. Hunting can be a very effective technique to help minimize conflicts with Canada geese in locations in Illinois where it is legal. In Illinois, an early fall Canada goose hunting season is often established in specific counties. This season occurs prior to the southward migration of geese which breed in northern regions, thus focusing the harvest on giant Canada geese which cause conflicts with humans in the spring, summer, and fall.

Hunting is one of the most recommended management methods available where

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possible. Hunting helps to reduce the number of geese in an area, provides a strong repellent effect for the geese not taken, and re-enforces the use of other nonlethal techniques, such as pyrotechnics. Unfortunately, hunting is not a legal option in many urban and suburban areas (e.g. Cook and DuPage Counties) where Canada goose damage occurs. Other strategies will be necessary in these areas.

Toxicants

There are no toxicants registered with the Environmental Protection Agency for managing Canada geese in the United States.

Nest & Egg Destruction

Preventing goose eggs from hatching has become the most commonly used method to manage conflicts with giant Canada geese in urban areas in Illinois. It aids in decreasing the rapid growth of local goose populations. When left unchecked, a pair of Canada geese can generate a flock of more than 50 individuals in as little as five years. Nest destruction can also eliminate aggressive goose behavior, such as attacking people in an attempt to defend a viable nest. A free permit must be attained from the IDNR to manage goose nests.

Prior to implementing goose nest management activities, several nonlethal techniques should be attempted to prevent the geese from nesting in the area. This will help reduce the number of nests which need to be managed. If the geese are successful at nesting and you wish to destroy the nest and eggs, proper permits from the IDNR must be obtained (contact the IDNR or Wildlife Services office for assistance - phone numbers and addresses are provided on the last page). You should have all nests identified prior to requesting your permit as the number of nests to be destroyed will be needed. Locating nests may not be easy as geese frequently hide their nest on islands, in ornamental vegetation, along shorelines, and even on roof-tops.

After you obtain a permit, the incubation stage of the eggs must be determined. Feel the eggs. If they are cool, then incubation has not begun (probably because the female is not finished laying the entire clutch). If the eggs are warm, take one egg and place it in a pail of water (Figure 10).

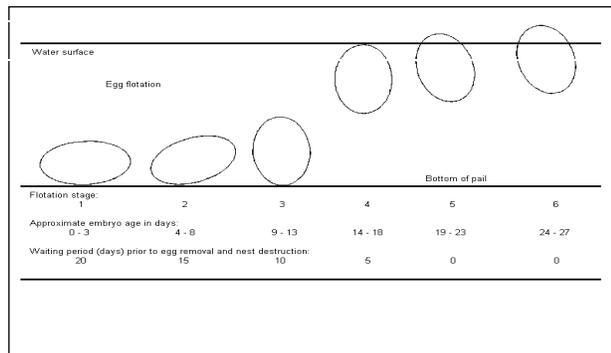


Figure 10. Egg flotation aging chart.

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If it sinks to the bottom of the pail (which signifies that the eggs have been incubating for 18 days or less), then remove it and spray the entire clutch with food-grade corn oil (approximately 3-6 ml per egg). Replace the eggs in the nest and wait two to three weeks before returning to remove the eggs. If the egg floats to the surface of the water (which signifies that the eggs have been incubating at least 14 - 18 days), the nest and eggs can be immediately removed and destroyed. If the eggs and nest are destroyed too soon (e.g. within 14 to 18 days of incubation), the adult geese will likely attempt to produce another clutch of eggs. Waiting until after the 18th day of incubation (i.e., when the eggs float) the adults will most likely have lost the nesting instinct and not attempt to make another nest. Before removing each egg, be sure that a chick is not pipping a hole through the eggshell. If one chick in a nest has begun pipping, then the nest and other eggs should be left alone and work should be concentrated on other nests that are not as advanced.

If you oiled the eggs and return in 2-3 weeks to remove them from the nest, make sure to be extremely careful during handling because they will be spoiled and emit a distinct odor if broken.

Be advised that Canada geese tenaciously defend their nests. A second person or dog (Figure 12) is recommended to help fend off goose attacks while the eggs are handled and managed.



Figure 12. Use of a dog to fend off nesting geese.

Reproductive Inhibitors

Wildlife Services' National Wildlife Research Center was instrumental in the development of a new product (nicarbazin/OvoControl-G™), which is an infertility agent for Canada geese in urban areas. In some situations the use of baits containing nicarbazin allow the numbers of small to moderate sized groups of Canada geese to be managed by reducing the hatchability of eggs laid by treated birds without requiring the location of each individual nest to be determined (as is the case for egg oiling/addling/destruction). However, Illinois law currently does not permit the use of nicarbazin in the state.

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Remember, a State permit must be obtained before any activity is conducted that involves the handling of Canada geese or their eggs. For assistance with obtaining these permits, you may contact the Illinois Department of Natural Resources or the USDA-APHIS-Wildlife Services office listed below.

IDNR
Urban Waterfowl Program Manager
2050 W. Stearns Rd.
Bartlett, IL 60103
847 608-3100 (office)
Press 1 for DNR, ext. 32031

USDA-APHIS-WS
3430 Constitution Drive
Suite 121
Springfield, IL 62711
217 241-6700 (office)

Supply Sources can be located at:

<http://web.extension.uiuc.edu/wildlife/>