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Coping with Canada Geese: Conflict Management and Damage Prevention Strategies

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Ohio residents are quite familiar with the distinctive “honking” voices from above as a flock of Canada geese fly by in v-formation overhead. To some, Canada geese represent one of nature’s more pleasing visual sights, while pond owners, golf club managers, and park district employees often view them as problematic. Prior to the 1960s, Canada geese were present in Ohio only during spring and fall migration, and they rarely nested. A successful re-introduction of a generally non-migratory race has allowed for Canada geese to nest on many water bodies in all 88 Ohio counties. This explosion in geese abundance has led to the inevitable conflicts that can occur when a wildlife species increases dramatically in numbers. However, knowledge of their biology and the various strategies to prevent visitation and damage can provide a basis for a goose management plan that minimizes conflicts and the problems created by those conflicts.



Adult Canada goose.

Photo courtesy of Ronald Laubenstein/USFWS.

Potential Conflicts

A variety of landowner conflicts can occur with Canada geese, with the severity often being related to the numbers of geese involved. Below is a list of conflicts arranged in order of importance based on frequency of phone calls received by Extension personnel. However, large congregations of the birds can cause simultaneous conflicts.

Accumulation of Feces

Canada geese deposit feces anywhere the urge strikes them. Often, these are high-use areas by humans such as swimming beaches, parks, golf courses, sports fields, lawns, docks, and even patios. Accumulations can reach levels that reduce human use of these areas, most of which are recreationally important.

Degraded Water Quality

Large accumulations of feces near water can degrade water quality as rains wash the material into the water. Goose feces are high in phosphorus and nitrogen, nutrients that in excess can cause nuisance blooms of algae and aquatic plants in ponds and lakes. An excess of algae and submerged plants can lead to oxygen depletion at night due to plant respiration, and can cause a fish kill.

In addition, goose feces can contain a variety of pathogens such as *Giardia* and *Coliform* bacteria, which can cause illness in humans. Large numbers of geese can elevate concentrations of these pathogens in pond and lake water, and accidental ingestion of such water can cause illness.

Property Damage

Geese readily eat turfgrass, sometimes causing grass cover to be reduced down to barren earth. This can cause erosion problems. Damage to landscaping can also occur. Repair and replacement of grasses and ornamental plantings can be expensive.

Attacking Humans

Adult geese with goslings or eggs in a nest are very defensive and will nip or hit people who venture too close. Particularly vulnerable to attacks are small children.

Car Collisions

Many municipalities reported an increase in car collisions as goose populations increased. The birds often walk between ponds, feeding areas, etc., which necessitates crossing roads. Their large size can cause damage to a vehicle when they are hit.

Agricultural Damage

Canada geese have benefited from agriculture more than any other waterfowl species. Damage is caused by grazing on plants as well as by trampling emerging seedlings. Virtually all agriculture grain crops can be eaten.

History and Current Populations

When the numbers in which Canada geese exist today are considered, it is surprising to learn that there once was a time when little to no Canada geese were nesting in Ohio. During the nineteenth century, a combination of hunting pressures on wintering grounds and migration routes, unrestricted egg harvesting, and draining of wetlands for crop production led to a serious decline in their populations. Even before these declines, geese were considered an uncommon species, and their populations in Ohio were nowhere near what they are today. By the turn of the twentieth century, wildlife managers around the country realized something needed to be done to aid the declining goose populations.

Canada geese recovery in Ohio began in 1956 when the Ohio Division of Wildlife initiated a reintroduction program. Ten breeding pairs of Canada geese were introduced to each of three state-owned wetlands. Along with an increase in federal and state protection and the adaptive nature of the Canada goose, populations rebounded dramatically. New wildlife refuges were created along migration routes, federal and state laws were enacted to protect migrating birds and restrict harvesting, and the geese themselves adapted quickly to the Ohio landscape. By 1979, Canada geese were successfully nesting in half of Ohio's counties. Today, they can be found breeding in all 88 counties. Clearly, the combined efforts of wildlife managers across the country were tremendously successful. Populations of Canada geese in Ohio are currently estimated at around 100,000 individuals.

Biology

There are roughly 12 different races, or sub-species, of Canada geese, which differ in size and color. In general, the Canada goose is easily recognized by its large gray body, long black neck, and black head with a contrasting white chin strap. In Ohio, there are several races that migrate through the state in the early spring and late fall, but the giant Canada goose is the race that commonly nests and breeds in Ohio. True to its name, the giant Canada goose is the largest of all the races; a full grown adult averages 11–13 pounds. These local geese are often referred to as “resident geese” and have limited to no migration patterns. These resident geese populations are mostly responsible for the conflicts and problems associated with geese today.

So why are they such a problem? Canada geese have two main habitat requirements. The first is a permanent body of freshwater on which to land, rest, escape, and have ample nesting cover nearby. The second is an open area where they can land, have a good view of their surroundings, and where there is an abundance of lush, green vegetation for feeding. The Ohio landscape has changed over the years as land use and development has created lots of open space with well manicured lawns dotted with ponds or lakes. It is, essentially, ideal goose habitat. The highly adaptable Canada goose will quickly colonize any area with a combination of permanent water and open, green vegetation; this includes golf courses, city parks, housing developments, and corporate office campuses.

Each year, Canada geese are among the first waterfowl species to begin their breeding season. They choose mates and establish nesting territories from late February to early March. This is an important time frame, as many strategies to alleviate goose problems are best employed *before* geese build a nest. Nests average five to six eggs, which are laid from mid-March to mid-April. The female will begin incubation of the eggs as soon as they are all laid. During this time, it is the male’s job to defend the nest and the female from threats. Canada geese are very protective of their nests, and it is at this time when they are most aggressive.

The young goslings will be 10 weeks old before they can fly. A lot of damage can occur during this flightless period because males and females will stay with their goslings that are unable to fly to other food sources. In addition, when the goslings are half-grown, the adults undergo a molt in which they lose all of their flight feathers for a period of about three weeks. This typically occurs around the end of June, and is another period where extensive damage can occur.

The following year, the reproductive cycle will begin all over again, as Canada geese are known for returning to the same breeding site year after year. In urban and suburban areas where geese can be a major problem, there are few to no natural predators; some management strategies, such as hunting, are also limited or restricted. This, coupled with the rather long lifespan of the Canada goose (up to 20 years), compounds the problems they can cause, and adds to the challenge of reducing conflict.



Canada geese with goslings.

Photo courtesy of Chris Evans, River to River CWMA, Bugwood.org.

Migratory Bird Act

Prior to any discussion of strategies to minimize conflicts with and damage caused by Canada geese, it is relevant to review the Federal Migratory Bird Treaty Act as it pertains to this subject. All migratory birds, including Canada geese, are protected by this act and Ohio Law. The Federal Law was enacted in 1918 in

response to declining populations of migratory birds, due to unrestricted harvesting of eggs, unregulated market hunting, and collection of feathers. To summarize the Act, it is illegal for any person, agency, or organization to pursue, hunt, shoot, wound, kill, or capture any bird, nest, or egg outside of the federally approved hunting seasons or without a permit. In June of 1999, the U.S. Fish and Wildlife Service (who administers the Act) ruled to give the states the authority to administer a special Canada goose permit designed to help manage nuisance goose populations. In Ohio, the Division of Wildlife administers the special permit program. Anyone seeking to obtain such a permit should contact their county Wildlife Officer for direction.

Conflict Management and Damage Prevention

A number of strategies have been used successfully to minimize human–Canada goose conflicts, and can be grouped into the following categories: human activities, habitat manipulation, harassment techniques, predator decoys, special permits, and removal of domestic waterfowl. The highest likelihood of success is generally realized by using several strategies simultaneously and rotating the use of a variety of strategies. Relying on only one strategy may provide short-term success, but it rarely yields long-term prevention of damage and conflicts. Two additional tools important in resolving conflicts are persistence and commitment. Most strategies will require consistent, repetitive action and long-term commitment to achieve success. The key in developing a plan is to make the affected property less attractive to Canada geese and to scare them away immediately upon arrival.

Human Activities

Feeding

When people feed Canada geese, it is a major cause of human-Canada goose conflicts in parks and residential developments. Canada geese, like many wildlife species, quickly adapt to handouts and become very reluctant to leave areas where food is provided on a regular basis. Feeding geese human food such as bread, popcorn, or shelled corn does not provide

a balanced diet and is the equivalent of feeding them junk food. In addition, geese that are fed will eventually lose their fear of humans, which can lead to nesting close to human residences. This in turn can lead to more aggression during the breeding season. Cessation of any feeding that may be occurring is crucial to reducing conflicts and damage. Creation and enforcement of no-feeding ordinances are highly recommended.

Hunting

Allowing hunters to harvest Canada geese is probably the single best strategy to reducing if not eliminating conflicts with geese. Geese that are shot at become very wary of the locale where the event occurred. Hunting increases the success of subsequently used hazing strategies that also discourage goose visitation.

Hunting is a regulated activity and may only occur during the federally-approved goose hunting season. Hunting geese requires the hunter to obtain both a Federal and State Waterfowl Stamp in addition to a state hunting license. Hunting near population centers is not always possible, so checking with city and village regulations is prudent.

In Ohio, there are two seasons for hunting geese. The first is known as “early goose season” and occurs in early September. The intent of this early season is to increase the harvest of non-migratory, resident birds that are the primary cause of conflicts. Unfortunately, most geese are still concentrated around urban centers (where hunting is often not allowed) during September because agricultural fields are typically not yet harvested. A later season is provided when the large migratory flocks arrive from Canada, although resident Canada geese still make up a significant portion of this late-season harvest. Bag limits are more generous in the early goose season than the late-geese season.

Habitat Manipulation

Vegetative Buffers

Canada geese are grazers and are particularly fond of cool-season grasses grown adjacent to water bodies. Water bodies surrounded by large expanses of mown, cool-season grasses right down to the water’s edge will

at some point be visited by geese. A key to limiting these visitations is to alter the shoreline vegetation. Geese do not like water bodies where their visual line of sight between the water and the adjacent grass area is broken. A good conflict-prevention strategy is to allow the shorelines to grow with a diversity of tall, wetland and terrestrial plants such as cattails, sedges, rushes, and warm-season grasses. The wider this zone of tall vegetation, the more effective it will be at deterring geese. Geese are uncomfortable not knowing what is on the other side of the tall shoreline vegetation, whether they are sitting on the water or up on the grass. A good strategy is to aim for a vegetation height of at least 24 inches and a zone width of at least 10 feet.

Barrier Fencing

Many water bodies are located in residential areas, corporate complexes, and on golf courses where managers are reluctant to allow tall shoreline vegetation. Excluding geese from the water is still possible with the use of a barrier. The most commonly used technique has been to surround the water body with a taught wire or string about 18 inches above the ground. While this has provided some success, eventually the geese learn to duck under the barrier line and proceed to the water. A better design is to place a barrier that has at least two lines, one about six inches above the ground and the other 18 inches high. This two-line barrier prevents geese from ducking under the higher line or stepping over a lower line. There are a number of commercial barriers available, or an innovative manager or landowner can devise his or her own. While a mesh barrier such as a snow fence is the most effective, it is somewhat unsightly and therefore, rarely considered.

Repellents

There are currently two types of goose repellents registered with the U.S. Environmental Protection Agency: methyl anthranilate (MA) and anthraquinone (AQ). Both are naturally occurring chemicals that, upon degradation, leave no dangerous chemical residue. The product labels provide the applicator with instructions on applying these compounds to the grass. MA products, when sprayed on grass, make the grass unpalatable to geese. AQ products cause a

slight stomach discomfort to the birds; this causes the birds to avoid the area where AQ products were encountered. Both MA and AQ products remain after rain, but mowing does reduce the amount of product available. Repellents tend to be expensive, especially since the entire grass area needs to be treated. Otherwise, the geese will simply find the untreated areas. The use of repellents can be enhanced by the simultaneous use of other harassment activities. Typing the words *goose repellents* into an Internet search engine will provide the reader with web sites selling the various products.

Harassment Techniques

The hazing techniques described below are an effective way to deter goose visitation, particularly when used in conjunction with hunting. The key to success is that harassment should be done quickly after geese arrive and must be a continually employed strategy. A manager or landowner can legally harass geese as much as he or she wants. However, harassment is not effective at all times of the year, and success will vary depending on nesting and time of molt.

Harassing nesting pairs of geese and adults with goslings is not effective. Once eggs are in the nest or adults are tending to young, geese are oblivious to most harassment techniques and will defend the nest or goslings vigorously. Adults with goslings can be herded off the property, and fencing and repellents used to prevent their return. A key to harassing away adult pairs is to chase them away prior to nest construction, which can occur from late February through April in Ohio. Adult flocks break up in mid-winter with each pair looking for a breeding location. Do not let them build a nest and lay eggs!

Harassing flocks of Canada geese is an effective technique year-round except during the molting process. Flocks seen during the nesting period are immature birds or adults who were not able to successfully nest. Molting occurs in June and July, and the only recourse to cope with flocks at this time is to remove them from the affected property. The geese will likely return unless a barrier is erected to prevent them or a repellent is applied to make the grass unpalatable.

Dogs

The key to a successful harassment plan is the continual use of the chosen technique. Most people do not have the stamina or time to constantly chase away goose pairs or large flocks. Any breed of obedient dog can be an effective tool in chasing geese away, and they have far more energy than most people to do the job. Border collies are often the breed of choice because of their nature to herd animals. Dogs represent a natural predator that geese are uncomfortable with. Also, geese do not like to be constantly herded and moved around, and will eventually leave the area. Here are some keys to successfully using dogs:

- Allow the dog immediate access to the geese as soon as they arrive.
- For flocks showing tolerance, allow the dog continual access to the flock or at the very least, harass the flock 4–6 times per day.
- Do an evening harassment walk at dusk when geese often arrive to spend the night.
- Provide frequent words of encouragement and occasional rewards for a job well done.

Swans

Mute swans occasionally repel Canada geese due to their pugnacious attitude and lack of tolerance toward other waterfowl nearby. They are *not* recommended by many state management agencies because they (1) are a non-native species that can escape and cause problems with migratory waterfowl populations in adjacent public waters; (2) are extremely aggressive toward humans while nesting; (3) tolerate Canada geese more than originally thought; and (4) must be pinioned (the removal or binding of flight feathers) to prevent flight and escape, which necessitates feeding them and maintaining open water for them during winter. The feeding and presence of open water will attract Canada geese during the winter, a time when mute swans are least aggressive.

Noise Makers

Sudden, unexpected, loud noises will scare geese and often cause them to move on. They work most effectively when geese first show up and in conjunction with other strategies. Geese will become accustomed to any noise maker if it is overused, and they will eventually ignore the noise if no additional threat is perceived. Also, noise makers do not work

well if geese are on the nest or tending to goslings. Prior to using any noise maker, it is prudent to check local noise ordinances and consult the appropriate officials (especially law enforcement). Notification allows them to answer any questions from neighbors that may arise from your activities.

There are three general types of noise makers: ordinary devices found around the home or farm or that can easily be purchased, pyrotechnics, and distress calls. Examples of ordinary devices include ATVs, lawn mowers, leaf blowers, and air horns. Rotating the use of these devices over time is recommended. If ATVs and riding lawn mowers are used, occasionally take out an air horn and use it to add an unpredictable element to your behavior.

Pyrotechnics are specialized forms of fireworks and are often referred to as bangers, screamers, or shell crackers. They are fired out of a shotgun or starter's pistol and thus, the user should exercise all caution and safety recommendations associated with the use of firearms. Pyrotechnic devices should be treated with respect and handled as if they are live ammunition with the potential to cause serious injury or death. Consult your local law enforcement agencies before using pyrotechnics, and comply with their directions for use. Safety glasses and hearing protection are a must! Read all the procedural information so as to use them correctly and not cause damage to the shotgun or starter's pistol. Pyrotechnics can produce smoldering debris, so be aware of weather conditions as well as dryness of vegetation to prevent fires.

Pyrotechnics are very effective on individual pairs of geese or flocks when used soon after their arrival. When used on geese that have been present for several weeks or more, patience is the key. It may take several days to weeks of random use of pyrotechnics to convince the geese to leave and not return. As is the case with nearly all harassment techniques, pyrotechnics do not work on nesting geese or geese with goslings.

One specialized noise maker that can be effective is a propane cannon, but it is expensive and generally not practical for most residential conflicts. It has been used with success in parks, golf courses, and agricultural fields where an occasional sudden, loud noise may not be as much of an issue.

Finally, recorded goose distress calls are another form of harassment. They are virtually ineffective when used alone. Therefore, it is recommended that they be used in conjunction with another type of harassment such as a visual deterrent or predator decoy. Distress calls tend to be species specific, so only Canada goose calls will be effective. Typing *goose distress calls* into an Internet search engine will provide the reader with various options.

Visual Deterrents

Balloons, scarecrows, flags, and Mylar tape are forms of visual deterrents that can prevent geese from making an initial visitation. For best results, visual deterrents should be used in conjunction with other strategies, particularly with noise makers. One visual deterrent is rarely effective. Rather, 2–3 deterrents (preferably of different types) should be used per acre of field or water, and they should be regularly moved on almost a daily basis. As is the case for most conflict strategies, installing them after geese have begun nesting or are tending to goslings will not work.

Balloons should be 12–18 inches in diameter, should be of a bright color, and should have large eyespots on them. Single balloons are less effective than bundles of 2–3 balloons. Balloons should be 8–12 feet above the field or water. Scarecrows should be at least 5 feet tall, wear brightly colored clothing, have large eyes, and have a design that allows for movement of arms and legs in the wind. Flags should be located where geese can easily see them, should have dimensions of about 6–12 inches wide by 24–36 inches long, should be on a pole at least 5–6 feet tall, and should be bright in color. The most effective flags are either made of Mylar, or have a large amount of Mylar on the flag. Mylar flagging can also be used alone when 4–5, 36-inch long strips are bundled together on a 6 foot tall pole. Why this material works to deter geese is not well understood. Mylar may work due to the reflection of sunlight, the noise it makes in the wind, the movement of the material, or any combination of these factors.

Predator Decoys

Life-like predators are a special type of visual deterrent. Examples include decoy alligator heads, owls, eagles, and coyotes. By themselves, decoys generally

do not work for more than a week. The *keys* to using any of these predator decoys successfully are to move them around daily and to make sure they are visible from all directions. A decoy that sits in the same place continually will soon lose its ability to instill fear in geese. Decoy alligator heads seem to lose their effectiveness quickly. Antidotal evidence indicates coyote decoys are very effective and are very easy to move on a daily basis. Work by The Ohio State University's Wildlife Faculty has demonstrated coyotes may be the one potential egg and gosling predator that adult geese cannot fend off.

Special Permits

On occasion, the Ohio Division of Wildlife, acting on behalf of the U.S. Fish and Wildlife Service, will issue a special permit allowing a land manager or landowner to dissuade goose visitation by killing the eggs or by hunting geese out of normal goose hunting seasons. You must have a signed permit on your person prior to conducting any activity allowed under the granted permit. If granted an egg-kill permit, the county wildlife enforcement officer will provide specifics on how to kill the eggs. Once treated, each egg is returned to the nest. The female will sit on the eggs, not knowing they are no longer viable. By the time she realizes the eggs are not going to hatch, her body hormones have changed and she is unable to re-nest that year. The pair will eventually abandon the nest, and often will leave the area. If not, harassment will encourage them to leave.

Hunting out-of-season provides for the same goal as hunting during the regular season: scaring the birds away. County wildlife enforcement officers will most assuredly require you to document the failure of other strategies prior to issuing a permit. If you have not tried other strategies, they will work with you on selecting several strategies and will guide you on how best to use them. Out-of-season hunting permits are rarely issued, and they are generally reserved for severe conflicts—particularly where economic damage is evident.

Removal of Domestic Waterfowl

Housing and feeding domestic ducks and geese is a popular activity in many locations, especially in city parks. However, domestic waterfowl act as live

decoys, attracting Canada geese by signaling a safe place with an abundance of food resources. Removing domestic waterfowl reduces the chances of attracting large numbers of Canada geese. No state or federal permits are needed to remove domestic waterfowl, but remember, a Canada goose is never considered a domestic waterfowl even if it is acting like one. Removing domestic waterfowl from public areas could be unpopular with citizens, so an educational program should be designed and implemented before removal occurs.

Summary

Canada geese have greatly increased in abundance in the last 40 years, leading to inevitable conflicts with human activity. Accumulation of feces and degraded water quality are the most frequent motivators for land managers and landowners to try deterrence strategies to minimize visitation. Fortunately, persistence can pay off, and in most cases, Canada geese can be encouraged to abandon the pond, yard, golf course,

etc. The caveat to this is that once geese have nests with eggs or have goslings, virtually no strategy works until goslings have fledged and adult geese have replaced their flight feathers. Following are the keys to eliminating conflicts with geese: incorporate as many strategies as possible, rotate strategies regularly, and implement strategies before geese visit and conflicts arise. January through March is a critical period to implement a plan, as goose flocks begin to break up and pairs start searching for nesting sites during this time. Additional guidance can be obtained by contacting your county wildlife enforcement officer, who has the latitude to issue special control permits in extreme conflict situations.

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