

**United States Department of Agriculture  
Animal and Plant Health Inspection Service  
Wildlife Services**

140-C Locust Grove Rd.  
Pittstown, NJ 08867  
(908) 735-5654 / Fax (908) 735-0821



The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, disability, political beliefs, sexual orientation, or marital or family status.

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*Fact Sheet*  
**MANAGING CANADA GOOSE DAMAGE**

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January 2003

**Identification**

Canada geese are one of the most readily recognized and observable birds in New Jersey. Its large size (2'-3' tall, 10-12 lbs.), black head, and white cheek patch distinguish it from other waterfowl. Males and females are similar in appearance, with a black neck, dark brown back, tan front, and white undersides.

**Legal Status**

Canada geese are migratory game birds that are afforded Federal and State protection. Goose populations are managed by the U.S. Fish and Wildlife Service (FWS) and the NJ Division of Fish and Wildlife (Division) pursuant to the Migratory Bird Treaty Act (16 USCS 703-712), Federal Regulations (50 CFR 10, 13, 20 & 21), NJ Statutes Annotated Title 23, the NJ Game Code, and other Federal and State laws, regulations, policies, and court rulings. Procedures, such as handling nests and eggs, capturing and relocating birds, capturing and euthanizing birds, and shooting birds to reduce damage,

and any other activity that includes handling birds, their parts, and/or their nest and eggs requires a depredation permit. The permit application is available from USDA APHIS Wildlife Services (WS) or the FWS (413-253-8643), and is submitted to the FWS Regional Office in Hadley, MA. Permit application processing time may range from four to six weeks.

**Population Status**

The Canada goose is the most widely distributed goose in North America. There are two behaviorally-distinct types of Canada goose populations in New Jersey: resident and migratory.

1. Resident Canada Geese in NJ Resident Canada geese are those that nest in the state. In the winter, resident geese may move south during cold spells. Additionally, resident geese from states further north may move into NJ at these times. Resident geese are found throughout NJ, and number approximately 96,800 (2002). There are approximately 1.1 million resident Canada

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geese in the Atlantic Flyway. In the Northeastern U.S., the resident goose population increased 3-fold between 1990 and 1999.

## 2. Migratory Canada Geese in NJ

Migratory geese pass through or remain in NJ from October through March.

Mid-winter waterfowl surveys conducted by the Division indicate that for the period 1996-2000, the mid-winter goose population in NJ averaged approximately 190,000 birds.

Migratory Canada geese which occur in NJ during the winter belong to the North Atlantic Population and the Atlantic Population, both of which nest north of the Canadian border.

### Damage

The majority of Canada goose damage complaints in NJ involve accumulations of feces on lawns and walkways at private residences, schools, hospitals, corporate campuses, and public parks. Goose feces damage property, compromise overall quality of life, and have the potential to pose serious health threats due to the presence of disease-causing organisms. Other damage types associated with geese are overgrazing of lawns and recreational fields, and goose aggression and human injury during the nesting season.

Agricultural damage caused by Canada geese includes crop depredation to sweet and field corn, soybeans, winter wheat, rye, clover, sod, vegetables, and other crops. This damage reduces yield and may increase erosion.

Natural resources such as native wetland habitats (wild rice) and wetland restoration sites (moist-soil impoundments) may also be

damaged by goose grazing activities that remove and trample vegetation.

Waterfowl such as Canada geese may pose serious flight safety hazards at airports. Due to their large body size, flocking behaviors, and relative abundance in urban/suburban areas, geese have the potential to be involved in damaging bird-aircraft strikes that have resulted in loss of human lives, injuries, and substantial financial losses.

### Damage Control Methods

Management of problems associated with Canada geese requires development of an integrated damage management program that includes a variety of safe, practical, effective and legal techniques and approaches. It is the responsibility of the landowner to develop and implement the control program, although certain aspects of the program may be conducted by USDA WS, private contractors, or others. Commercial sources of materials and supplies are listed at the end of this leaflet. USDA APHIS Wildlife Services does not endorse particular companies or products.

1. Do Not Feed Geese Geese attracted to an area by food handouts from people cannot be induced to leave, despite application of time-consuming and expensive control techniques. Cessation of feeding is the most important first step in resolving a damage problem. Passage of municipal ordinances and association policies and regulations are sometimes necessary to accomplish this objective. Geese that are fed by people are difficult or impossible to harass away, will accumulate in great number, have a higher incidence of disease transmission (duck viral enteritis and botulism), and may

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suffer from deformities and poor health due to nutritional deficiencies.

## 2. Remove Domestic Ducks and Geese

Domestic ducks and geese serve as decoys to wild waterfowl, since geese may learn to locate food resources by watching the behavior of other birds. Removal of domestic waterfowl may reduce the extent to which wild waterfowl are attracted to an area, and make enforcement of No Feeding ordinances easier to accomplish. No Federal or State permit is necessary to remove domestic waterfowl, but county and municipal laws and regulations must be adhered to. Removal techniques must comply with all applicable laws, regulations, and policies.

## 3. Habitat Management

Habitat modifications to deter geese include alteration of vegetation and bodies of water to remove their habitat value for geese. Habitat management to control geese may also adversely affect the usefulness of the property for its intended purpose.

A. Vegetation. Geese are grazers, and prefer to feed on short grass in areas that are open and within sight of a body of water. Replacement of lawns with pachysandra, English ivy, vetch, wildflowers or other ground cover will remove the food value provided by the lawn. Long grass management, which entails maintaining grass to approximately 10" may deter geese. However, geese have been observed in tall vegetation if there are seedheads present. For this reason, cut the grass back prior to seed development.

B. Water. Geese prefer to land on water and to graze on grassy areas within sight of a

body of water. Additionally, geese may concentrate nesting and brood rearing activities near water. Water management to deter geese includes removing and/or modifying (covering) retention basins, installing grid wires over ponds, installing perimeter fencing around ponds and lakes, and other activities that remove the water as an attractant. These activities prohibit goose access to water, and/or remove the water from the birds' view. Eliminating wetlands to reduce goose damage is not generally recommended or desirable since it may adversely impact protected wildlife and could be in violation of State and Federal laws. Guidance from Federal and State agencies should be sought and adhered to prior to wetland modification. Mitigation measures such as wetland restoration at alternate sites may cost more than \$100,000 per acre.

C. Fencing. When geese have goslings and will not fly away, and when they are molting and cannot fly, fencing and other barriers can limit their access to certain areas. Perimeter fencing around ponds, lakes, playgrounds, picnic areas, and other sensitive sites can be used during May-July to exclude geese. Fences should be sturdy, firmly affixed to the ground, and completely encircle the protected area. They can be constructed of chicken wire, snow fencing, dense hedges, other vegetation, or other commercially-available materials. Fences should be 3-5 feet tall, and installed during February-March to deter geese from the area prior to nesting and molting. Single and double-wire string fences made out of rope, string, wire, monofilament or other thin line have been used, but with unpredictable success. They tend to be invisible to people and pets, and can cause injury.

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D. Mylar Tape. Mylar is a thin reflective tape that is usually silver on one side and red on the other. It is available in various widths, but is most commonly applied in suburban goose control situations as a perimeter fence using the 1/2" width stapled to stakes around the boundary of the protected area. Tape should be twisted and somewhat slack to permit movement. Tape is stapled to wooden stakes which are pushed into the ground so the tape is approximately 2' above the surface of the ground. Wider widths (6") are more typically used on farms, golf course, and other large acreage areas. With both widths, reinforce the ends and attachment points with strapping tape to reduce shredding and tearing. Effectiveness of mylar tape varies greatly, and may be most effective when it is strung as a single line fence to guide geese towards alternate loafing and feeding areas. If no such areas exist nearby, mylar tape may be ineffective in deterring geese.

E. Flagging. Flags, constructed of plastic trash bags or other material (2'x3') stapled or nailed to wooden stakes have been effective in reducing goose presence on agricultural fields, and other large acreage areas. Flags should be placed in the ground at an angle so they move with the slightest breeze, and they should be moved to new locations in the field every few days. Flags can be placed in the yard or along the water's edge (1 per 25' of frontage).

F. Balloons. Installation of large, helium-filled balloons with decals resembling eyes have been used with limited success in deterring geese from small areas. Geese may be reluctant to remain beneath an object

hovering above them, and may move to an area without this disturbance. Balloons should be hung or tethered so they float about 40-50 feet in the air.

G. Repellents. Two chemical formulations are registered with the U.S. EPA as Canada goose taste repellents: methyl anthranilate (MA) and anthraquinone. Anthraquinone is the active ingredient in the product, Flight Control®. Little published data is available about the efficacy of this product. MA is a non-toxic taste aversion agent that renders food (grass) unpalatable to geese. MA is a grape flavor food additive approved by the FDA for human consumption, is generally recognized as safe, and poses no harm to people or pets. MA is the active ingredient present in ReJeX-iT®, which is available in three formulations: 1. AG-36, an aqueous slurry that is mixed with water and applied to turf, 2. AP-50, a free-flowing wettable powder used on temporary pools of water on landfills and airports, and 3. TP-40, a liquid formulation used in nonfishbearing bodies of water at landfills, tailings ponds, and commercial/industrial impoundments. The cost of the material (approximately \$150/acre of grass) may be cost-prohibitive for widespread use on private lawns, but applications on smaller, high-priority areas (around picnic tables, parking lots, driveways, and swingsets) may provide some relief. Prior to using MA products, confer with the manufacturer to determine appropriate mowing, watering, and application scheduling.

4. Harassment Harassment of geese with pyrotechnics, propane cannons, trained dogs, vehicles, horns, distress calls, and other devices can be effective in deterring geese.

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Success depends on the technique, nature of the goose problem, number and habits of geese present, and the timing and diligence with which harassment is conducted. No Federal or State permit is required to harass geese, as long as they are not handled, harmed or killed. In agricultural settings, a State permit is required to operate a propane cannon. Contact the Division (908-735-8793) to obtain a propane cannon use permit. In general, the best results are obtained when harassment is initiated as soon as the problem is detected, early in the season or as soon in the day as the geese arrive. Discontinue use of harassment techniques after geese have left. Vary the location of devices and use more than one harassment device each day. Migratory geese may be more responsive to harassment than resident geese. Another factor influencing the success of harassment techniques is the availability of alternate loafing and feeding sites. Effectiveness of harassment may be limited where many property owners are scaring geese, and birds simply fly from property to property in the neighborhood or community.

Confer with your municipal Police Department and comply with all use restrictions, regulations, and permit requirements they identify. Inform your neighbors of your intention to use harassment devices, since they make considerable noise, and may be mistaken for gunshots.

Harassment of geese associated with damage at one site may result in increased goose presence and damage at adjacent areas; it has seldom resulted in the permanent and large-scale reduction of goose presence. However, harassment with legal and

effective techniques may be an important aspect of your integrated goose damage management plan.

A. Pyrotechnics. Pyrotechnics are noise-making devices shot out of a starter pistol (screamer shells, bird bombs, bangers) or a 12-gauge shotgun (shell crackers). Refer to the accompanying leaflet entitled, Pyrotechnics For Bird Control, for technical advice and safety instructions on the use of pyrotechnics.

**Prior to using pyrotechnics, confer with your Police Department and comply with their direction pertaining to this equipment.**

**A general safety rule to adhere to is that pyrotechnic devices should be treated with respect and handled as if they were live ammunition, with the potential to cause injury and death.**

Screamers and bangers shot from the starter pistol have a range of approximately 30-80 yards, and are most suited for suburban areas with ample buffer area to prohibit devices from entering neighboring properties and causing harm to people and/or property. Shell crackers, used with a break action 12-gauge shotgun, have a range of up to 100 yards, and are typically used on large areas such as agricultural land, airports, county parks, estates, corporate properties and schools. Comply with all state and local firearm discharge, use, possession, and transport laws, regulations, and policies.

Discharge of pyrotechnics may be inappropriate or prohibited in some areas, since they may start fires, ricochet off buildings, pose traffic hazards, cause dogs to bark incessantly, and may injure or irritate

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some people. Comply with requirements identified by your municipal Police Department regarding use of pyrotechnics on your property.

B. Propane Cannons. Propane cannons are machines that ignite propane gas to produce loud explosions at timed or random intervals. They should be located in areas of high use by geese, and moved around the field or location every 2-4 days. The noise is extremely loud, and may not be appropriate or permitted in suburban or urban areas. A State permit is required to operate a propane cannon to protect agriculture from goose damage.

C. Trained Dogs. The use of trained dogs, usually Border Collies or Labradors, to harass geese away from damage situations is an increasingly popular technique. Dogs may be purchased or the service may be provided by a handler/dog team or company. Companies that provide the service may be located in the yellow pages and/or on the Internet. It may be advisable to obtain a demonstration to determine the potential for the technique to be effective on your site. Harassing geese with trained dogs appears to be most effective in areas with no water bodies, or with single, small (less than 2 acres) water bodies, since geese will be forced to go elsewhere to find refuge. As with all harassment approaches, the use of dogs usually requires an ongoing program that is augmented with other control techniques. Although no Federal/State permit is required to use dogs to harass geese, the dog's handler is responsible for maintaining control of the dog. If the dog inadvertently harms or kills a goose, the handler is liable for violations of Federal and State laws.

D. Other Harassment Devices. The use of vehicles, horns, distress calls, and electronic sound generating devices, and other noise-making devices have mixed success in harassing geese away from problem situations. Mute swans are not effective in preventing Canada geese from using and nesting on a pond or lake. Additionally, they are an exotic species which may become involved in damage problems themselves. Mute swans may also serve as decoys to attract additional geese and ducks to the area.

#### 5. Population Management.

A. Reproductive Control. No contraceptive drugs are registered with the FDA for use in managing Canada geese. Reproduction control can be accomplished through other activities **authorized in a Federal/State permit**. The permit application is available from USDA APHIS WS or the FWS. Depending on the exact problem situation, goose nests and eggs are either removed and destroyed (buried) or treated and returned to the nest. Removal of nests and eggs is typically done when nests are located on doorsteps, entryways, decks, patios or on airports. Removal of nests is intended to deter the geese from nesting in the same area again. It may need to be done repeatedly throughout the nesting season, and over several years. Treatment of eggs to arrest their development will eliminate hatching and production of goslings. Treated eggs are returned to the nest and the adult geese remain attached to the nest site. Treatment of eggs is typically done where the current number of geese is tolerable, but additional birds would not be.

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Apply for the Federal/State permit in January to ensure its receipt by March. Once you receive your permit, you will receive an informational leaflet explaining nest search and egg treatment techniques. Adhere to all permit conditions and carry your permit with you during control work. Treatment or removal of eggs will not reduce the overall goose population, but may slow its growth and make adult geese (not attached to goslings) more responsive to harassment. Additionally, fewer geese will be associated with your property throughout the spring/summer.

**B. Regulated Sport Hunting.** Although most research indicates that regulated sport hunting will not reduce resident Canada goose populations, sport hunting may reduce or redistribute goose damage to tolerable levels. This probably occurs since legally hunted geese may be more responsive to pyrotechnics and other harassment techniques. In NJ, geese can be hunted during three seasons: 1. September Season, open statewide during the entire month (5 daily, 10 possession), 2. Regular Season, open in three statewide zones with differing dates (generally 1 week in late November and 1 or 2 weeks in late December-early January) (1 daily, 2 possession), and 3. Special Winter Season, open in two separate hunt areas during mid-January through mid-February (5 daily, 10 possession). Contact the NJ Division of Fish and Wildlife (Bureau of Wildlife) office in Trenton (609-292-6685) for more information about goose hunting seasons. Waterfowl hunters are required to possess a New Jersey Hunting License, a Federal Migratory Bird Hunting and Conservation Stamp, a New Jersey Waterfowl Stamp, a NJ Firearms Purchaser Identification Card, and a

HIP (Harvest Information Program) number (available by calling 1-800-WETLAND). Consult and comply with all regulations contained in the current New Jersey Fish and Game Digest. Additionally, check and comply with State, county and municipal ordinances that control access onto private property, possession and use of firearms, hunting, and creation of noise.

**C. Shooting Geese Pursuant to a Depredation Permit.** Shooting a few geese a day may improve the effectiveness of harassment with pyrotechnics. A Federal/State permit is required, and must be carried with you during conduct of permitted activities. This technique is typically employed on agricultural areas, airports, golf courses, and other areas with large expanses of land away from houses and residential development. Shooting may be impractical and/or prohibited in most urban/suburban goose damage situations, due to safety concerns, local noise and discharge ordinances, and adjacent land uses. Consult with your neighbors and municipal offices to determine if shooting could be implemented on your site. Permit applications are available from USDA APHIS WS and the FWS. Use only approved nontoxic shot while shooting geese.

**D. Capture and Remove Geese.** Reduction of the local goose population could be accomplished by capturing and removing geese, pursuant to authorities listed in a Federal/State permit. Federal and State regulations may permit the capture and removal of resident Canada geese during the period March 21- August 31. However, geese are most easily captured during the molting period when they are flightless (mid-late June through early-July). Geese

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can be captured with netted panel traps during the molt, or at other times with swim-in traps, decoy traps, dip nets, and by hand. Once they are captured, geese would be placed into poultry crates, euthanized and buried, incinerated, or donated as a food source to charitable organizations. Euthanization of captured geese would be conducted by trained individuals, and carcasses could be processed and donated according to State guidelines. This approach may be somewhat controversial, and should be preceded by application of most of the above mentioned techniques as well as community involvement in the decision-making process. Refer to the leaflet entitled, A Community-Based Approach to Dealing With Canada Goose Problems, for additional guidance in developing a meaningful integrated goose management plan for your community. Relocation of geese from one property to another is not generally permitted since relocated geese could cause damage and/or disease problems at the new site. In a few cases, such as on golf courses and in picnic areas, moving molted geese to another location on the same property provides short-term relief from goose damage.

### **Sources of Supply**

**Bird Barrier**  
300 Calvert Ave.  
Alexandria, VA 22301  
1-800-662-4737

Balloons, reflective tape, perimeter fencing, gridding systems, twine, netting, sound system, dead bird decoys, pyrotechnics, propane canons, and lasers

**Bird-X, Inc.**  
300 North Elizabeth St.  
Chicago, IL 60607  
1-800-662-5021

Balloons, reflective holographic tape, distress call sound system, Goose Chase™ (MA repellent)

**LESCO, Inc.**  
20005 Lake Rd.  
Rocky River, OH 44116  
1-800-321-5325  
Flight Control™ (Arthraquinone repellent)

**Margo Supplies, Ltd.**  
Site 20, Box 11, RR #6  
Calgary, Alberta, Canada T2M-4L5  
(403) 285-9731  
Balloons, reflective tape, traps, distress call sound systems, pyrotechnics

**Nixalite of America, Inc.**  
P.O. Box 727  
East Moline, IL 61244  
1-800-624-1189  
Balloons, reflective tape, netting systems, ReJeX-iT® (MA repellent)

**OESCO, Inc.**  
P.O. Box 540  
Conway, MA 01341  
(413) 369-4335  
Balloons, reflective tape, netting systems, propane cannons

**Reed-Joseph International Co.**  
P.O. Box 894  
Greenville, MS 38702-0894  
1-800-647-5554  
Balloons, reflective tape, pyrotechnics, propane cannons

**Becker-Underwood**  
P.O. Box 667  
Ames, IA 50010  
1-800-423-2473  
ReJeX-iT® (MA repellent)

**Sutton Agricultural Enterprises, Inc.**  
746 Vertin Ave.  
Salinas, CA 93901  
(831) 422-9693  
Balloons, reflective tape, pyrotechnics, propane cannons, netting systems, distress call sound systems

**Wildlife Control Technology, Inc.**  
2501 N. Sunnyside Ave.  
Fresno, CA 93727  
1-800-235-0262  
Balloons, reflective tape, pyrotechnics, propane cannons

**Special Note:**  
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