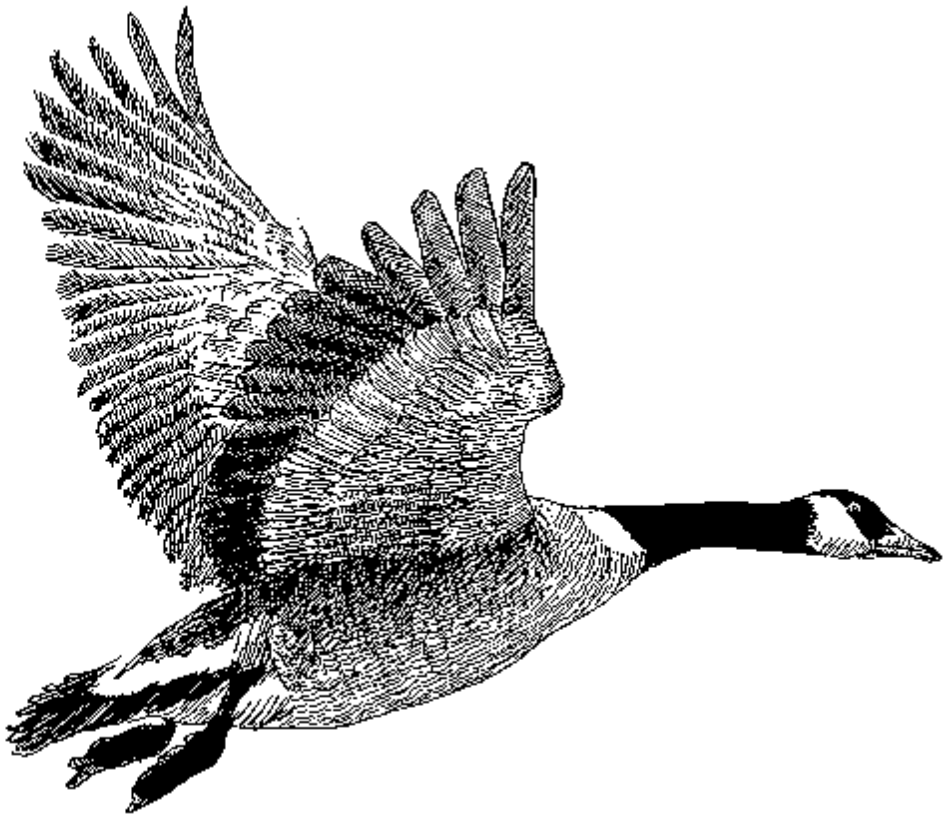
IOWA
CANADA GOOSE
MANAGEMENT PLAN



October 1, 2002
Rev. March, 2014

IOWA DEPARTMENT OF NATURAL RESOURCES
Conservation and Recreation Division

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FOREWORD

Nearly two centuries ago, governing bodies in a young United States established the principles that wildlife resources belonged to the public at large, rather than to the king or his nobility, and that the government was ultimately responsible for protecting these resources. Hunting regulations were developed at local and state levels that protected some wildlife species from over-exploitation while encouraging the eradication of others. Thus began the long and controversial history of wildlife management in the United States.

Although our understanding of the biology and habitat requirements of many wildlife species has come a long way since those early days, the basic principle that wildlife is held in trust by the government for the benefit of the public at large remains steadfast. In Iowa, the Department of Natural Resources (DNR) is the government agency responsible for the stewardship of the indigenous and migratory wildlife species found in the state. For migratory birds, this responsibility is shared with the U. S. Department of the Interior's Fish and Wildlife Service (Service). The Service has ultimate authority for the conservation of migratory birds in the U.S. by virtue of the Migratory Bird Treaty Act of 1918.

The process of managing migratory birds requires conservation agencies to work in a larger arena than is necessary for the management of resident wildlife. Migratory bird resources are not just shared by the public within a state, but are shared among publics in different states and different countries. One of the major roles of the Service is to ensure sound, long-term management of migratory resources among states and countries that have different goals, perspectives and traditional uses. Under their leadership, migratory birds are cooperatively managed in a sustainable manner. This management process is one of the best examples of cooperative wildlife resource management in the world.

Long-range planning, cooperation, coordination and communication are essential elements for successful management of migratory resources. These elements have been used extensively in the Mississippi Flyway for more than 50 years to manage several populations of white-cheeked geese. Interior Canada geese (*Branta canadensis interior*) such as the Eastern Prairie Population (EPP) and the Mississippi Valley Population (MVP) of Canada geese, cackling geese such as Richardson's geese (*B. hutchinsii*), also referred to as the Tall Grass Prairie Population (TGPP), and giant Canada geese (*B. c. maxima*) are all found in Iowa during the spring and fall, but only geese of the giant subspecies nest in Iowa. Even the giant Canada geese that nest in Iowa, however, cannot be managed as resident wildlife because many migrate out of the state at some time during the year, most notably during the winter. Giant Canada geese, like other migratory birds, do not recognize political boundaries. Canada geese produced in Iowa provide aesthetic and economic benefits to people in other states. These benefits must be given consideration when developing population management strategies for giant Canada geese that nest in Iowa.

This plan focuses on giant Canada goose management within Iowa. Strategies to manage these geese may, however, be constrained by the goals and objectives cooperatively developed for other Canada goose populations by the 14 states (MN, WI, MI, OH, IN, IL, IA, MO, AR, KY, TN, LA, MS & AL), three provinces (ON, MB, & SK) and two federal conservation agencies (U.S. Fish and Wildlife Service and Canadian Wildlife Service) that comprise the Mississippi Flyway Council (MFC). Only through such cooperative and coordinated management programs can we ensure sustainable use of migratory waterfowl resources in the future.

PURPOSE

This plan outlines basic principles and strategies to guide the management of giant Canada geese in Iowa within the context of management strategies for other goose populations in the Mississippi Flyway. It is not intended to dictate management policies or procedures, but to assist in guiding decision-making processes. Objectives and strategies are provided as management guidelines to allow for adjustment depending upon the status of the various Canada goose populations in the Flyway, their biology, migration patterns, harvest rates, habitats, injurious activities, the DNR's management resources, and public input.

GOAL

To manage the population of giant Canada geese in Iowa at a sustainable level that provides maximum recreational opportunities consistent with social acceptability.

HISTORY, BIOLOGY, STATUS AND DISTRIBUTION

Giant Canada geese were the most widely distributed of the 11 subspecies of Canada geese found in North America at the time of European settlement. Their historical nesting range covered most of the central part of the continent (Cooke 1906, Hanson 1965) (Fig. 1). Even this bird's widespread distribution and adaptability, however, was no match for the unregulated subsistence hunting, egg gathering and wetland destruction that accompanied 19th century settlement of mid-America. By 1900, numbers of giant Canada geese nesting south of central Iowa were few (Cooke 1906). Extirpation progressed northward until these birds had all but disappeared from the lower 48 states by the 1930's (Hanson 1965).

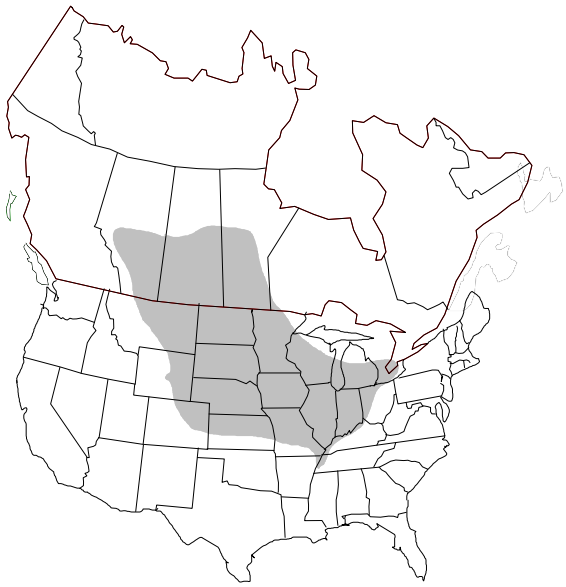

Fig. 1. Breeding range (shaded area) of giant Canada geese prior to European settlement (Hanson 1965).

The Iowa Conservation Commission, now part of the Iowa Department of Natural Resources (DNR), initiated a program in 1964 to restore giant Canada geese to their former nesting range throughout Iowa (Bishop and Howing 1972). The restoration project began at the Ingham Lake Wildlife Management Area (WMA) (Fig. 2) with 16 pairs of pinioned giant Canada geese whose origins could be traced to geese that had been taken from the wild in northern Iowa, southern Minnesota and South Dakota (Bishop and Howing 1972). The young geese produced by the

penned adults were permitted to fly and explore the surrounding habitats. To enhance the survival of these free-flying young, all public and private lands in a 120-mi.^{2} area around Ingham Lake were closed to Canada goose hunting in 1967 (Table 1). As a result of this program, the first nest of a free-flying giant Canada goose that was initiated in Iowa in the 20th century was found on a marsh 1 mile north of East Slough near Ingham Lake in 1967 (Bishop and Howing 1972).

Similar procedures were used to restore viable populations of giant Canada geese to the Ruthven (Smith Slough), Spirit Lake (Hogsback) and Rice Lake areas beginning in 1971-72 (Bishop 1978) and to the Rathbun Reservoir, Bays Branch and Lake Icaria areas in 1977-79 (Fig. 2). Additional core restoration flocks were initiated throughout Iowa (Red Rock Reservoir, Badger Lake, Green Island, Big Marsh, Sweet Marsh, Lake Sugema, 3-mile Lake, Forney Lake) between 1981 and 1996 by releasing flightless goslings on WMA's rather than establishing and caring for penned flocks (Zenner and LaGrange 1998a).

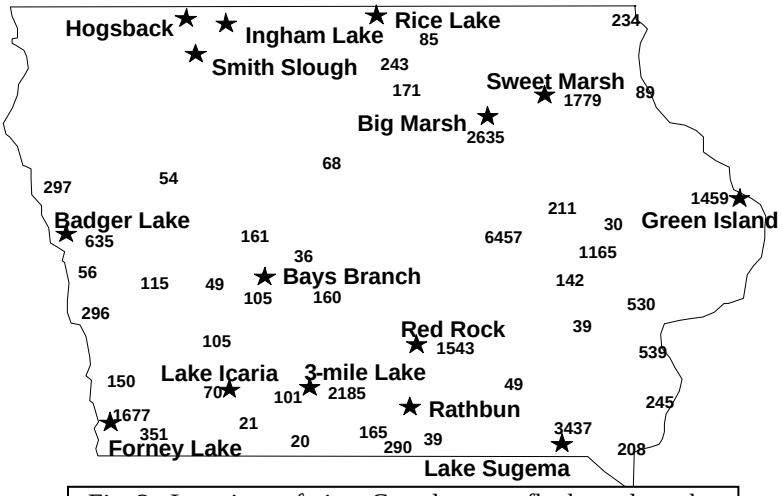

Fig. 2. Locations of giant Canada goose flocks and numbers of translocated geese by release site, 1964-2001.

In all cases, large areas were closed to Canada goose hunting around the penned flocks or the release sites (Table 1). In 2014, 13 such areas remain closed to Canada goose hunting. In most cases, the size of the area that is currently closed to Canada goose hunting is only a fraction of its original size. Closed Canada goose hunting areas were critical elements of Iowa's giant Canada goose restoration program and remain an important element in Iowa's management of Canada geese. Giant Canada geese can be vulnerable to over-harvest on their natal areas. During 1991-2010, 78% of the direct recoveries of Canada geese banded in Iowa were shot by hunters in Iowa. (Direct recoveries are banded birds that are shot and reported in the same year they are banded.) Providing geese with a refuge area that allows them to feed and roost without direct hunting pressure reduces the likelihood of over-harvesting local birds and also attracts and holds migrants.

Table 1. Initial and present size (mi.^{2}) of areas closed to Canada goose hunting around restoration sites, 1967-2013.

Restoration Site	Year Estab.[1]	Size	
		Initial	Present
Ingham Lake	1967	120	18
Smith Slough	1971	63	20
Hogsback	1971	57	16
Rice Lake	1972	113	19
Rathbun	1980	54	4
Bays Branch	1978	150	26
Lake Icaria	1979	88	17
Red Rock	1991	235	0
Badger Lake	1991	213	44
Green Island	1990	39	18
Lake Sugema	1992	322	30
Big Marsh	1994	68	21
Sweet Marsh	1994	130	36
Three-mile Lake	1995	69	16
Forney Lake	1996	66	0

[1]Year the closed area was established.
[2]No longer closed to goose hunting.

To accelerate the expansion of nesting Canada geese into unoccupied habitat in other parts of Iowa, the DNR translocated over 20,000 geese to 38 sites

during 1983-2001 (Fig. 2). Geese were not released in urban areas despite requests by the public to do so. Neck-collar observations of marked translocated geese confirmed that successful nesting occurred within 3 years at many of these release sites. The translocation project was highly successful, and in 1975 giant Canada geese nested in 8 counties in northern Iowa. By 1985, they nested in 55 of Iowa's 99 counties. In 1993, at least 1 pair of Canada geese had been observed nesting in every county in Iowa (Zenner and LaGrange 1998a).

Estimates of the size of Iowa's giant Canada goose population have been made annually since the restoration program was initiated. DNR personnel, with aid of county conservation board staff and private individuals, estimate numbers of Canada geese in their wildlife units during May and June each year. These estimates indicate that Iowa's giant Canada goose population initially grew at average annual rates of 22%, 14%, and 15% during 1971-80, 1981-90 and 1991-2000, respectively. In recent years (2001-2010) the population growth has moderated to 3.4%. While this is a decline in the annual growth rate, it should be noted that when applied to a large population this still represents a significant numerical increase each year.

During 1970-95, the highest densities of nesting giant Canada geese were found in the prairie pothole region of northwest and north-central Iowa. These regions were not only home to the first restoration flocks, but they also contain the most highly productive Canada goose nesting habitat in Iowa - prairie wetlands. In recent years, however, numbers of Canada geese in other parts of Iowa have contributed substantially to the overall growth of the state's population. For example, in 1975 98% of Iowa's giant Canada goose population was produced in the PPR, by 2000 this had diminished to 35% and has stabilized at 32% in recent years (2005-2010).

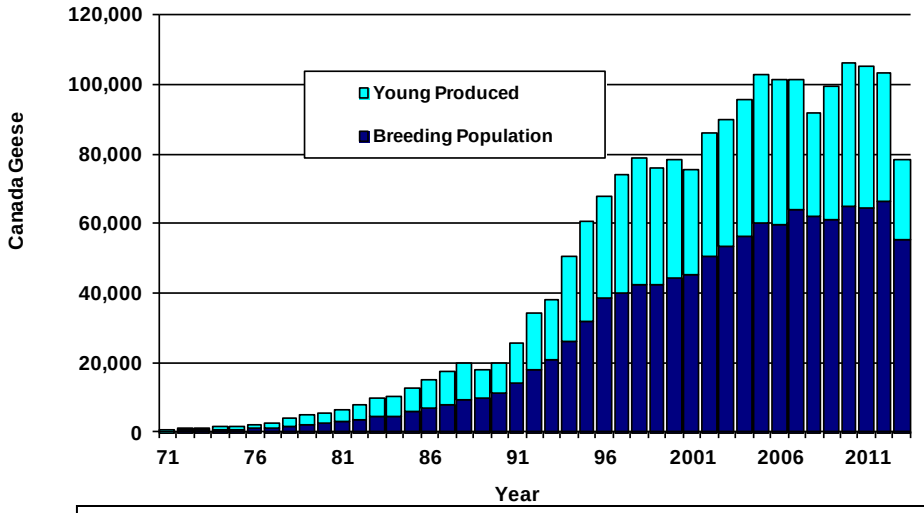

Fig. 3. Estimates of the giant Canada goose population in Iowa 1971-2013

There are still large areas in Iowa, especially in eastern and southern Iowa, where suitable habitat is only sparsely populated with Canada geese. Densities of nesting geese (i.e., geese/wetland acre) in these areas are much lower than in north-central and northwestern Iowa. In north-central and northwestern Iowa, prairie marshes usually contain numerous high-quality insular nest sites in the form of muskrat houses. These high quality nest sites result in high goose nesting densities and excellent nest success. Marshes are a less common landscape feature in other parts of the state. Consequently, geese nesting outside the Prairie Pothole Region must often use less optimum nest sites. Most wetlands found outside the Prairie Pothole Region are located in river bottoms where periodic flooding can substantially reduce nest success. Lower quality nest sites, coupled with an apparent higher rate of nest and gosling predation, generally result in slower growth rates for Canada goose populations outside the Prairie Pothole Region.

Iowa's Canada goose population is probably nearing its full sociological carrying capacity. The population may never fully utilize all suitable habitat in the state. Ultimately, however, the population's size will be limited by the amount of wetland habitat in the state. Only one quarter of the state's 56,275 mi^2 contain suitable Canada goose nesting habitat and, in most cases, only a fraction of each of these sections is classified as wetland habitat. Ideally, it would be nice to have the geese uniformly distributed across the state. This, however, will not occur because geese are tied to wetland habitats and wetlands are themselves not evenly distributed across the landscape. Consequently, there will always be regions of the state with an abundance of geese and regions with few.

Biology and Behavior

Like other geese, giant Canada geese are long-lived birds with low reproductive rates and high survival rates. Of the white-cheeked geese found in Iowa, giant Canada geese have both the highest reproductive rate and highest adult survival rate (Table 2). Unlike cackling and subarctic-nesting geese (e.g., EPP or MVP), whose annual production is greatly influenced by the weather on their breeding grounds, giant Canada geese inhabit temperate regions with relatively stable breeding conditions. Giant Canada geese also tolerate human disturbance, have adapted to contemporary landscapes and will nest in close proximity to each other (Klopman 1958, Ewaschuk and Boag 1972, Zenner and LaGrange 1998b). When combined with their willingness to use a variety of wetland habitats, these factors result in more consistent annual production from giant Canada geese than from arctic and subarctic-nesting geese.

Table 2. A comparison of biological and population aspects of giant Canada geese, interior Canada geese and cackling geese in the Mississippi Flyway.

	Canada geese		Cackling geese
Population Trait	Large Geese *B. c. Maxima*	Medium Geese *B. c. interior*	Small Geese *B. hutchinsii*
Weight (pounds)	9-11	7-9	4-7
Nesting area	S. of latitude 54	Latitude 50-60	N. of latitude 60
Age at first nesting	2-3 years	2-5 years	2-5 years
Clutch size	5-7 eggs	3-5 eggs	3-5 eggs
Reproductive success	High, variable	Medium, fluctuates	Low, boom-bust
Migration distance	Short	Medium	Long
Wintering areas	Latitude 37-45	Latitude 35-43	S. of Latitude 35
Exposure to hunting	107-145**	160 days*	160 days*
Adult survival	0.9	0.7-0.9	0.7
Population trend	Increasing	Fluctuating	Fluctuating

*plus subsistence hunting
** includes special September season

Giant Canada geese usually start nesting when 3 years old, although some may start when only two (Hanson 1965). Average clutch size is about 5 eggs and usually 3 goslings achieve flight (Bellrose 1976, Nigus and Dinsmore 1980). Nonbreeding geese and failed breeders often migrate north in late May or June to molt, some as far north as northern Manitoba. When they

reach breeding age, female geese, accompanied by their mates, usually return to the area where they first learned to fly, thereby perpetuating a nesting population (Hanson 1965). This behavior, which is called homing, contributed substantially to the success of Canada goose restoration programs in the Midwest. Homing, however, can also result in high densities of nesting geese in some locations, a situation that can perpetuate chronic conflicts between geese and people. Adults and goslings have strong ties to natal areas and often remain near these areas until winter weather forces them to leave. Compared to interior and small Canada geese, most giant Canada geese migrate relatively short distances, which helps improve their overall survival.

Giant Canada geese are primarily grazers, preferring the new growth of grasses, sedges and forbs. They select grazing sites that are open and with good visibility so predators can be easily detected, especially when their young are flightless. During fall and winter, they feed extensively on waste grains in harvested crop fields. Their adaptable feeding and nesting behavior, as well as tolerance for human disturbance, has enabled them to successfully exploit many contemporary habitats.

Most of the Canada geese harvested by Iowa hunters during the first three-quarters of the 20th century came from arctic and subarctic-nesting populations of white-cheeked geese (e.g., EPP, MVP, or TGPP). Annual Canada goose harvests ranged from 4,500-13,000 and averaged 9,500 during 1961-80 (source: USFWS harvest surveys) (Fig. 4). Canada goose harvests were widely distributed across the state during the 1961-70 period (Fig. 5) and opportunities to take geese were dependent upon the timing and duration of the migrations of arctic and subarctic nesting geese.

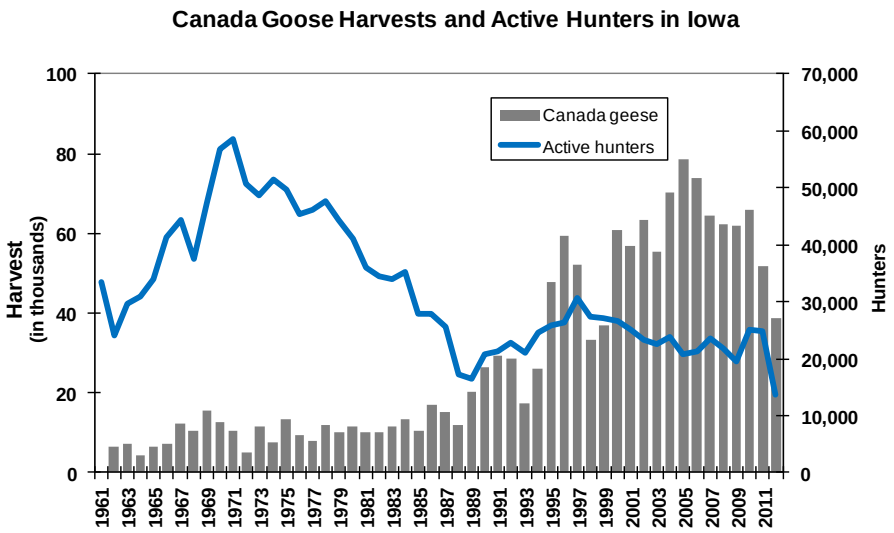

Fig. 4. Canada goose harvest and active waterfowl hunters in Iowa 1961-2013. (Source: USFWS harvest surveys)

During the 1980's, Canada goose harvests increased in Iowa to an average of nearly 15,000. During that same period, the proportion of Canada geese that Iowa hunters were taking from the EPP, as indicated by band recoveries, appeared to be decreasing (LaGrange and Zenner 1998).

Beginning in 1996 an early September two day goose season was offered in the North Zone to take advantage of Iowa's growing Canada goose population. The season was popular and harvest was high. Approximately 25-30% of the annual harvest occurred during those two days in that zone. The number of Canada geese breeding pairs, which had been stable in this region prior to 1996, precipitously dropped following the opening of this season. As a result, the early September Canada goose hunt was no longer offered beginning in 2001. The number of breeding pairs began to increase again in 2003, once the young hatched in 2001 were able to begin to breed. This is a clear indication that local goose populations are susceptible to over-

harvest early in the season when they are still dispersed on their natal habitat and there are no migrant birds to buffer the harvest.

From 2000-2010, the annual Canada goose harvest has averaged 65,300 birds, most of which is directly or indirectly attributable to increased numbers of giant Canada geese in Iowa. Iowa hunters continue to harvest more Iowa-grown giant Canada geese with each passing year. The average seasonal Canada goose harvest/active hunter has increased from 0.2 Canada geese per season during the 1960's to 2.9 geese per season during the 2000's. Canada goose harvest opportunities are also more consistent and widespread across the state as illustrated by the increase in the average annual harvest by county for the 1991-97 period (Fig. 5).

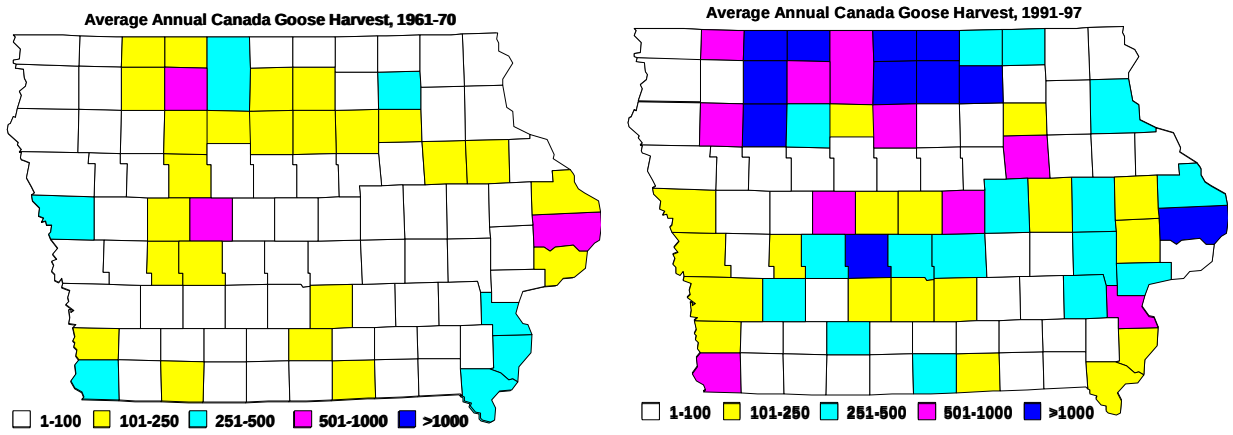

Fig. 5. Average annual Canada goose harvests within counties during 1961-70 and 1991-97. (Source USFWS harvest surveys)

Increasing numbers of giant geese in Iowa also appear to be enticing more migrant Canada geese to stop during the fall. This can be observed in the growth of the peak numbers of Canada geese using surveyed areas in Iowa during the fall in recent years. During the early 1970's, numbers of Canada geese using refuges throughout the state during the fall migration peaked at about 5,000 birds. That peak number is now exceeded during the second week of September, weeks before significant numbers of migrant Canada geese begin to move into the state (Fig. 6). As the fall season progresses, numbers of Canada geese using surveyed areas throughout Iowa continue to increase, usually peaking sometime in November or early December, depending upon the weather. During 1995-98, Canada goose use days on surveyed areas averaged over 5.8 million during September through December.

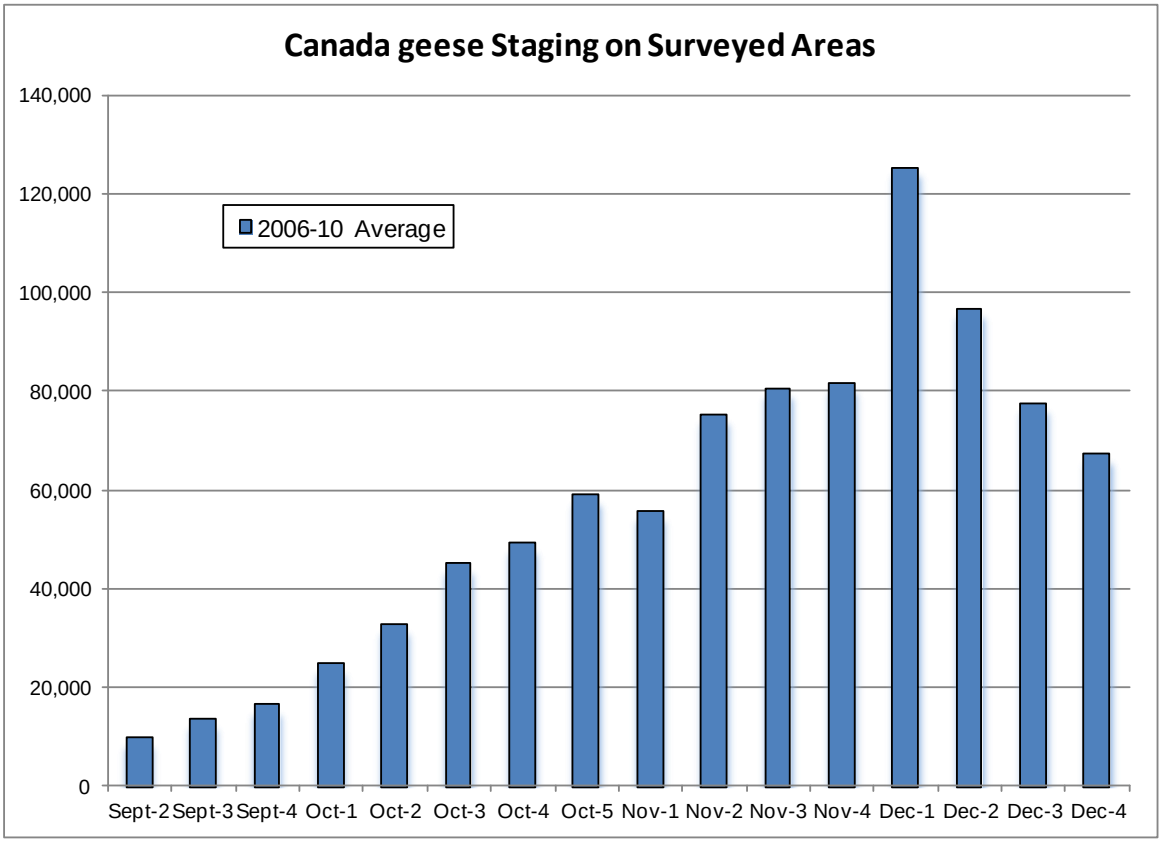

Fig. 6. Average numbers of Canada geese using surveyed areas in Iowa during 2006-10.

GIANT CANADA GOOSE POPULATION MANAGEMENT

OBJECTIVE 1

Manage Iowa's giant Canada goose population at a level that will improve recreational opportunities, both consumptive and nonconsumptive, encourage population growth in areas with underutilized habitat, and permit a sustainable annual harvest of approximately 60,000 Canada geese from the population.

Rationale:

The restoration of the giant Canada goose population in Iowa was a major accomplishment of 20th century wildlife management and has significantly increased recreational opportunities, both consumptive and nonconsumptive, across the state. Although inherently valuable as a component of Iowa's native fauna, giant Canada geese also provide significant economic benefits to Iowa through revenues generated by outdoor enthusiasts, especially hunters. Giant Canada geese currently occupy most of the available nesting habitat in north-central and northwestern Iowa, although the population size has varied over time due to changes in harvest rates and the amount and condition of the wetland habitat. In other parts of the state, wetland habitats are often not fully utilized by breeding geese. A spring population of 100,000 geese should be capable of sustaining an annual harvest of about 60,000 geese. For example, the total Canada goose harvest in Iowa during 1995-97 (all subspecies combined) averaged 53,000. Harvest derivation analyses for that period suggested that about 15% of these birds were EPP geese, 10% were small Canada geese, 20% were giant Canada geese from surrounding states and 55% (about 30,000) were Canada geese from Iowa. During that same period, Iowa's giant Canada goose spring population ranged from 40-45,000. A harvest of 60,000 Iowa giant Canada geese should therefore be sustainable by a spring population of about 100,000 geese.

Canada goose hunters and the viewing public have become accustomed to high levels of recreational opportunities and have requested improved opportunities in much of the state. Iowa outdoor enthusiasts cannot rely on subarctic and arctic-nesting geese to provide these opportunities. Populations of subarctic and arctic-nesting geese fluctuate substantially with the arctic weather, frequently resulting in population declines and harvest restrictions. In recent years, many of these migrant geese (EPP, MVP) have also lingered longer north of Iowa, further reducing harvest opportunities in Iowa. Iowa's giant Canada goose population can supply the majority of the desired recreational opportunities within the state. When the goose population reaches the desired level, harvest regulations can be liberalized to slow or stabilize its growth.

Strategies

1. ***Annually monitor changes in regional populations of giant Canada geese in Iowa through breeding pair and gosling surveys.***

   DNR wildlife staff should continue to estimate spring breeding populations and gosling production to monitor changes in the size and distribution of giant Canada goose population in the state. A statistically valid aerial survey should be conducted at least once every 2 years to check and correct the wildlife staff's estimates.

2. ***Annually monitor numbers and distribution of Canada geese staging in Iowa during the fall.***

Waterfowl surveys should continue to be conducted weekly from September to January on major waterfowl staging areas. The DNR should continue to maintain long-term databases of Canada goose fall and winter counts (the mid-December goose survey and Mid-Winter Waterfowl Survey) provided those data are useful at biological and management levels.

3. ***Monitor the magnitude as well as the temporal and geographical distributions of Canada goose harvests in Iowa.***

Canada goose harvests were historically monitored through the Service's Waterfowl Harvest Survey. The Harvest Information Program (HIP) provides Canada goose harvest estimates at both the state and Flyway levels. Canada geese should continue to be banded annually to provide information on harvest rates as well as the geographical and temporal distributions of the harvest. Because arctic and sub-arctic nesting geese are harvested in Iowa, the DNR must continue to support MFC research and banding programs for these populations. Information on these geese is essential to developing effective harvest regulation for giant Canada geese that do not negatively impact other goose populations.

4. ***Manage areas where Canada goose hunting seasons remain closed (closed areas) to maintain self-sustaining regional giant Canada goose populations, distribute geese and associated recreational opportunities across the state, and attract migrating Canada geese so that Canada goose use days annually exceed 10 million during the October-December period.***

Much of the success of the giant Canada goose restoration program in Iowa was due to the policy of keeping large areas closed to Canada goose hunting around restoration sites. Closed areas not only protect local goose populations from over-harvest, but also provide essential resting and staging areas for migrating geese, thereby enhancing overall goose harvest opportunities in their vicinity. Maintaining effective closed areas is essential to the long-term sustainability of regional giant Canada goose populations as well as the subarctic and arctic-nesting Canada geese that migrate through Iowa.

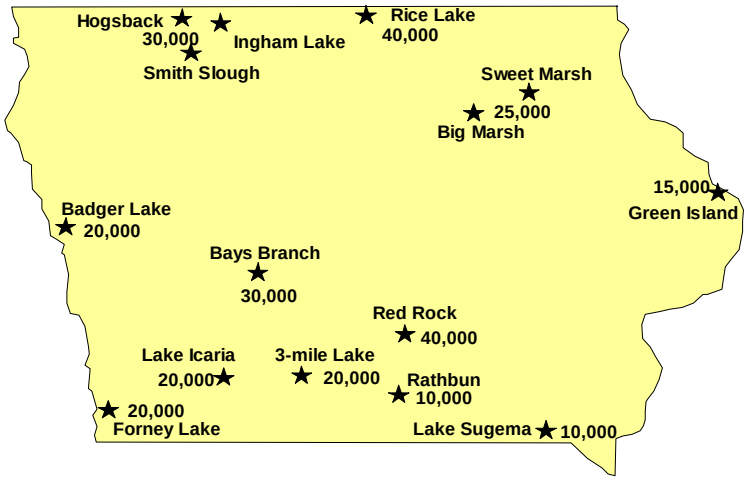

Fig. 7. Objectives for peak numbers of Canada geese (all species combined) using closed areas during the fall.

Canada geese are long-lived birds with low reproductive rates, and traditional migration patterns as a result their populations can be suppressed through traditional and special hunting seasons. Before the size of a closed area is reduced, careful consideration must be given to the potential long-term impacts that may occur on the regional giant Canada goose population, fall goose use goals for the closed area (Fig. 7), and migrant Canada goose

use, especially migrant geese that are below population objectives established by the MFC. Reducing the size of a closed area has historically increased harvests of local giant Canada geese as well as migrant Canada geese (i.e., EPP, TGPP or MVP) (LaGrange and Zenner 1998). These impacts, however, are not fully predictable. Closed areas must be carefully and gradually reduced in size over a period of years to avoid over-harvest and long-term loss of recreational opportunity.

Canada goose numbers do not have to simultaneously reach the objective levels on all the closed areas illustrated in Fig. 7 to annually achieve 10-million goose use days. In fact, such an event is unlikely because goose use of northern areas usually peaks weeks before it does on southern areas. Ten million goose use days can be achieved if the closed areas host 100,000 Canada geese during October, 200,000 during November and 100,000 for the first half of December. An important feature of this strategy is the intent to distribute the geese across the state so they provide widespread recreational opportunities and associated economic benefits. This strategy also reduces the chances of a catastrophic waterfowl disease event from a contagion such as avian cholera.

5. ***Develop and implement harvest regulations that will maintain viable regional populations of giant Canada geese in Iowa and provide optimal recreational opportunities within the constraints of the management objectives for other Canada goose populations in the Mississippi Flyway.***

States and provinces in the Mississippi Flyway cooperatively develop annual recommendations for Canada goose seasons in the Flyway. The Service reviews these recommendations and makes the final decisions on hunting regulations. This process provides a set of checks and balances to prevent any single state or province from implementing regulations that could severely impact our shared migratory resources. Harvest regulations developed for Iowa are constrained by the Service's regulations/policies and must consider potential impacts on Canada geese from other jurisdictions as well as impacts on recreational opportunities in other parts of the Flyway.

6. ***Provide landowners an opportunity to hunt resident giant Canada geese on their properties within closed areas when regional population and fall goose use objectives have been achieved***.

Department rules were promulgated in 1995 to permit controlled hunting of Canada geese in closed areas by landowners and members of their families. Experimental hunts were initiated within the closed area near Ruthven during 1995-97 and subsequently expanded to the closed areas at Spirit Lake, Ingham Lake and Rice Lake in 1998. In all cases, these closed areas had been reduced to the minimum size that DNR biologists' felt was necessary to sustain viable local/regional populations of breeding geese as well as goose use during the fall and early winter. Beginning in 2012 limited landowner hunting was allowed within all closed areas. Hunting activities and harvests within the closed areas should continue to be closely monitored to ensure that they do not compromise this plan's regional population and goose use objectives, or the objectives for other Canada goose populations in the Mississippi Flyway.

OBJECTIVE 2

To improve coexistence and reduce conflicts between people and giant Canada geese by assisting the public in managing injurious goose activities and/or controlling goose populations in special circumstances.

Rationale:

The DNR's goal is to maintain and increase the public's appreciation and value of Canada geese. A self-sustaining population of giant Canada geese that meets the demand for recreation but also has minimal negative impacts on the general public will advance this goal. It is not the DNR's intention to eliminate all injurious goose activities; this could not be done without eradicating the species. DNR staff will assist the public in developing and implementing effective management strategies to help minimize conflicts with geese. It must be remembered, however, that any policies or strategies developed to address Canada goose activities or population levels in Iowa may be constrained by Service regulations governing migratory bird management as well as Canada goose management plans and objectives developed cooperatively by MFC.

Strategies

1. ***Monitor Canada geese in Iowa as specified in Strategies 1 and 2 under Objective 1 of this document.***

   To develop and implement effective plans to control injurious goose activities, it is essential to monitor changes in goose population levels and distributions. Depredation and population control permits issued by the Service require an estimate of the size of goose populations that will be affected. Regional and local population estimates are necessary to gauge the long-term effectiveness of population or depredation control programs.

2. ***DNR staff will assist the public in dealing with injurious goose activities in a consistent manner using the policies and procedures outlined in Appendix A (Policy And Procedures For Addressing Injurious Canada Goose Activities) and Appendix B (Guidelines for Controlling Canada Goose Populations and Injurious Canada Goose Activities) as basic guidelines.***

   The basic techniques used to address injurious goose activities include population management through regulated hunting, habitat management, technical assistance, education, translocation, and lethal control in special circumstances. The level of assistance DNR staff will provide, as well as the techniques used, will vary with the situation under which the injurious goose activities occur. In all cases, however, the DNR will adhere to the principles that giant Canada geese are a valuable, shared resource and some level of coexistence and participation will be necessary by the public requesting assistance.

3. ***Monitor the magnitude and distribution of injurious goose activities as well as the staff time and costs associated with assisting the public in controlling these activities.***

   It is important to measure the extent and impact of injurious goose activities as well as the costs to control them, not only to determine the direct and indirect costs to the public, but to determine the cost-effectiveness of the measures taken to control goose activities or populations. These data have become increasingly important in recent years as animal rights groups have filed lawsuits to curtail the use of certain techniques to control injurious goose

activities or populations. They are also important in understanding the overall value and costs of coexisting with Canada geese relative to the impacts of other factors.

4. ***Periodically review policies and procedures for addressing injurious Canada goose activities and revise as necessary.***

This document should be periodically reviewed to ensure that it effectively addresses the needs of the public and provides sound guidance for management of the giant Canada goose population in Iowa.

INFORMATION NEEDS

- A harvest derivation and human dimensions evaluation are needed to update the population and harvest objectives.

- The influence of Areas Closed to Canada Goose Hunting on goose migration and harvest needs to be investigated.

- Regional and habitat-specific production data (nesting pair densities, nesting success and gosling survival for various habitats) is needed to develop accurate population models to estimate future population growth and expansion.

- Population and harvest models are needed to predict population growth under different habitat and weather scenarios as well as harvest rates for given sets of regulations, population sizes, and levels of production.

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Appendix A

POLICY AND PROCEDURES

FOR ADDRESSING

INJURIOUS CANADA GOOSE ACTIVITIES

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FOR ADDRESSING

INJURIOUS CANADA GOOSE ACTIVITIES

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INTRODUCTION

Conflicts between people and wildlife date back to the dawn of humankind, although in those early years it was more of an eat-or-be-eaten relationship. Today, people have shaped much of the natural environment to their will, subjugating many wildlife species to remnants of habitat at the periphery of the modern landscape. As long as people and wildlife coexist, however, conflicts will occur because both are competing for the use of limited space and resources on the landscape.

People have a wide range of appreciation and tolerance for wildlife. Some are extremely intolerant of wildlife, some accept and adapt to high levels of wildlife activity, and others spend their time and money improving habitat on their property so wildlife populations can thrive. Some individuals that experience conflicts feel that wildlife's activities should be controlled or the animals eliminated. Others, including some that have conflicts, appreciate and want abundant wildlife populations. The mission of the Iowa Department of Natural Resources (DNR) is to conserve and enhance our natural resources in cooperation with individuals and organizations to improve the quality of life for Iowans and ensure a legacy for future generations. The challenge in wildlife management is to balance the varied public interests with this mission. The policies and procedures presented in this document are guidelines to help resolve conflicts between people and giant Canada geese in a manner that is consistent, effective and economical, and is in keeping with the DNR's overall mission.

The restoration of the giant Canada goose population in Iowa was a major accomplishment of modern wildlife management. Giant Canada geese were a conspicuous part of Iowa's original wildlife community (Dinsmore 1994) and the restoration of this extirpated native species has enhanced the state's biodiversity and the quality of life for all Iowans. As Iowa's giant Canada goose population has grown, however, conflicts have developed between people and Canada geese. Initially, the majority of complaints of injurious goose activities in Iowa have involved flightless geese (usually goslings with adults) grazing on newly germinated crops (Zenner and LaGrange 1998a). To address these concerns, an informal depredation control program was initiated in 1982 to assist landowners in controlling injurious goose activities near restoration flocks. In addition to technical assistance, DNR staff used permanent fences, temporary fences, lure crops, scare devices, land acquisition, translocation, and increased hunting opportunities to control goose activities and, in the process, gained significant experience in the use of these tools to minimize damage from goose activities. Complaints of injurious goose activities also occur in urban environments. The Iowa DNR now has wildlife depredation staff to assist with these issues.

A major management challenge for the DNR in the future will be to provide the recreational opportunities that the public demands and simultaneously manage goose populations to minimize conflicts between people and geese. Recreational opportunities created through the Canada goose restoration program have provided a substantial economic benefit in some areas, which further complicates management of this subspecies. Finally, because these geese migrate, Iowa's Canada goose management strategies will be constrained by federal migratory bird regulations and must consider impacts beyond the state's borders.

POLICY FOR ADDRESSING INJURIOUS GOOSE ACTIVITIES

In keeping with the DNR's mission to conserve and enhance Iowa's natural resources, the DNR's goal in managing Canada geese is to maintain a self-sustaining population at a level that meets the demand for recreational uses, both consumptive and nonconsumptive, while assisting the public in minimizing negative impacts when conflicts between geese and people arise. The DNR believes giant Canada geese are a valuable recreational and economical resource and any solutions proposed to control injurious goose activities must be balanced with these considerations. It is not the DNR's intention to eliminate all injurious Canada goose activities as this could not be accomplished without eradicating the species. DNR staff will promptly assist landowners in addressing complaints of injurious Canada goose activities. DNR staff will also follow up on such complaints by periodically contacting landowners to monitor the effectiveness of control techniques. The primary techniques to be used include population management through regulated hunting, habitat management, technical assistance, education, translocation, and lethal control outside hunting seasons.

It must be remembered that strategies and procedures used to control injurious goose activities in Iowa are constrained by policies and regulations established by the U.S. Fish and Wildlife Service (Service) for the management of migratory birds in the U.S. They may further be constrained by management plans developed for other Canada goose populations by the 14 state, three provincial and two federal conservation agencies that comprise the Mississippi Flyway Council (MFC).

It is permissible to harass Canada geese without a federal or state permit, provided the geese are not nesting or that the harassment does not result in birds being hurt or handled by a person. Any activity involving the capturing, handling, or harming of migratory birds requires both federal and state permits. Actions that result in harming migratory birds or their nests could be subject to legal action by the federal government. The MFC also reviews all large-scale lethal control programs to ensure they do not negatively impact the Flyway's long-standing, cooperative Canada goose management programs.

DEFINITIONS

Population Management Through Regulated Hunting

Hunting is generally recognized as the primary cause of mortality for Canada geese and harvest control is fundamental to regulating goose populations. Wherever practical, hunting during approved seasons should be the primary method used to control growth of the local goose population. It cannot be overemphasized, however, that Canada goose hunting must be controlled to prevent over-harvest of local geese, to minimize harvests of Canada goose populations of concern in the Flyway, e.g., Eastern Prairie Population (EPP) Canada geese, and to achieve the state's and Flyway's Canada goose management goals. Because many of Iowa's giant Canada geese migrate to other states and provide economic and recreational benefits outside Iowa, the DNR (with guidance from the USFWS and MFC) must consider the impacts of in-state harvest management strategies beyond Iowa's borders.

The public must also recognize that reducing numbers of local Canada geese will not necessarily eliminate undesirable goose activities. Conflicts between geese and people

that involve very few geese have and will continue to occur because of varying site-specific conditions and human tolerances. Reducing numbers of local geese by harvesting more geese may only reduce the severity of goose activities, not necessarily eliminate them. A multi-faceted approach that combines increased harvests, land management changes, and use of abatement techniques may be necessary to minimize injurious goose activities.

Habitat Management

Habitat on public or private land can often be managed to encourage or discourage Canada goose use, especially when geese are flightless. Modifying feeding or loafing sites, or access to those sites, through vegetation management can alter goose use. U.S. Dept. of Agriculture farm programs often contain provisions that can be used to reduce crop depredations at minimal costs. Within the constraints of providing quality habitat for a wide diversity of wildlife on Iowa's public lands, management of wildlife management areas (WMA) can be adjusted to encourage goose use and reduce use of adjacent lands. In many cases, however, management options on public lands are severely limited by the amount or manageability of the uplands. Many public wetlands and sovereign lakes have little or no state-owned uplands around them. In these cases, acquiring adjacent lands from willing sellers to reduce the frequency and magnitude of depredations is a high priority. In some cases, leasing or acquiring easements on adjacent lands may be a reasonable alternative to acquisition.

Technical Assistance

Technical assistance is providing advice, written materials, training and demonstrations of practices that may be used to minimize injurious goose activities. In many cases, injurious Canada goose activities can be minimized by using non-lethal abatement techniques such as scare devices (propane cannons, scarecrows, dogs, Mylar tape, balloons, cracker shells) or fences. Fences can be very effective long-term solutions for reducing flightless goose activities at specific sites. The DNR will disseminate information on effective abatement techniques, as well as possible suppliers of abatement materials, upon request.

Education

The DNR will distribute educational materials to increase the public's understanding and tolerance of Canada geese as well as inform people of what can be done to modify goose behavior and minimize damage from goose activities. The DNR will also record complaints of injurious goose activities to better understand and define the magnitude of this issue.

Translocation

Translocating geese (capturing geese at one site and releasing them at another), has generally been ineffective at reducing goose populations or permanently resolving conflicts with goose activities. In situations where geese are not vulnerable to hunters, e.g., large metropolitan areas, translocating goslings has slowed population growth, even suppressed it when nearly all goslings were removed annually for an extended period of time. Translocation projects are expensive and time consuming to implement, require

long-term commitments of funds and manpower, and have limited long-term applicability. Because adult geese using metropolitan areas have high survival rates, often living 10+ years, goslings must be removed for a decade or more to effectively suppress a population. If geese are produced on areas around the removal area, birds pioneering into the vacated habitat may offset the effects of the translocation program. Adult geese have strong homing instincts, making adult translocations ineffective. Because translocation is generally an ineffective long-term solution, the DNR will only allow translocation when immediate action is needed to provide relief while other control measures are implemented. In the extreme case where immediate removal of birds is deemed necessary, the adult birds will be euthanized. See Lethal Control below. In these instances, goslings that are trapped will be moved to suitable sites designated by the DNR.

Lethal Control

While hunting can be used to suppress local goose populations in most situations, there are areas, such as municipalities, where Canada geese are virtually protected from harvest during hunting seasons. Increasing adult goose mortality, however, is a prerequisite for reducing goose populations in a timely manner. The DNR realizes that harvest management via hunting will never completely address these situations and other lethal control practices may be necessary. Lethal control programs will only be permitted in special situations where geese are not vulnerable to harvest or where goose activities pose a serious threat to human health or safety. Any form of lethal control in a municipal setting will require public input. The costs of lethal control programs will be borne by the agency, group or individual desiring to reduce the goose population. Lethal control will only be authorized after other non-lethal means of eliminating the injurious activities have been shown to be ineffective or unfeasible and that no other wildlife will be impacted by the action. Methods of take may include firearms, traps, egg and nest manipulation or destruction, and other techniques consistent with accepted wildlife-damage management programs. Canada geese killed in control programs must be properly disposed of or utilized, e.g., distributed to charities or public institutions for human consumption, buried or incinerated. Only agents designated by the DNR will be authorized to carry out lethal control programs.

Special Canada Goose Control Permit

The Iowa DNR, through the Nuisance Wildlife Control Operator, can issue Special Canada Goose Control Permits. These permits allow an entity to operate as an agent of the Iowa DNR in fulfilling DNR authorized management plans once they have fulfilled required training. This, as well as more detailed procedures, are outlined in the guidance document “Guidelines For Controlling Canada Goose Populations And Injurious Canada Goose Activities”. (See Appendix B)

PROCEDURES FOR ADDRESSING INJURIOUS GOOSE ACTIVITIES

It is the intent of the DNR to promptly respond to requests from landowners for assistance in minimizing injurious activities of Canada geese. The responsibility for inspecting properties for goose activity and notifying DNR staff lies with the landowner, manager or tenant. After initial contact with the landowner, an on-site inspection will be made, in most cases, with the complainant to confirm and quantify the extent of the injurious activity. Except in special situations (see Part II. Special Situations), the person legally responsible for the land on which the damage is occurring will be responsible for implementing and maintaining abatement or exclusion practices. On lands owned or controlled by multiple parties, such as homeowners associations or planned unit developments, a consensus of the members must be reached prior to actions occurring. Local governments (municipal, township and county) have primary responsibility for implementing goose activity control practices on land they administer (parks, roads, property within city limits).

I. Standard Actions

The following actions can be used by landowners in most situations to minimize injurious Canada goose activities.

1. Increase the legal harvest of Canada geese on the property where the injurious activity is occurring as well as on adjacent properties. Landowners should permit hunters to harvest geese on their property, especially early in the season when local geese are most vulnerable, and encourage hunting on neighboring properties. In cases where local ordinances contribute to the problem by prohibiting hunting, local governments should consider changing local ordinances or assist affected landowners in implementing other actions to control injurious goose activities within their jurisdiction.

2. Manage vegetation to discourage goose use. Alter landscape maintenance practices or crop rotations to reduce the attractiveness of the site to geese. Where applicable, use USDA farm programs that take affected acres out of production, create less attractive habitats or develop vegetative barriers or buffers along rivers or wetlands, to inhibit goose access to adjacent land.

3. Use scare devices (propane cannons, scarecrows, dogs, mylar tape, balloons, and cracker shells) or aversive agents to discourage goose use. When available, the DNR may supply propane cannons, and Mylar tape to help control injurious goose activities.

4. Exclude flightless geese from entering the property by constructing temporary or permanent fences.

II. Special Situations

A. Properties Adjacent to State-Owned Wildlife Areas or Lakes

On private lands adjacent to state-managed wildlife areas or lakes where the property owner or tenant has already attempted to increase harvest and manage vegetation to reduce injurious goose activities (Actions 1 and 2, Part I), the DNR will offer the following additional assistance to control injurious goose activities:

1. Scare devices such as propane cannons, Mylar tape, and plans for scarecrows will be supplied by the DNR to be used and maintained by the property owner or manager.

2. The DNR will consider acquiring, through fee title or easement, all or portions of the property rights on acres chronically impacted by geese and manage this land to minimize future damage in the area.

3. Management of state-owned wildlife areas will be adjusted to help reduce goose use of private lands where appropriate state-managed uplands are available and goose management does not seriously compromise the primary management objectives for the area.

4. Where agricultural crops are being damaged by geese, the DNR will provide materials and labor to erect temporary fences between state-managed wildlife areas and private lands to reduce the accessibility of private land to flightless geese for up to 3 years. The landowner will be required to check and maintain the fence the first 3 years, and install and maintain the fence thereafter if a temporary fence is desired.

5. In accordance with fencing common law, the DNR will construct its half of a permanent fence (the right hand half of the fence when faced from the property) capable of excluding flightless geese on the boundary between the state-owned land and the affected private property, provided the adjacent landowner agrees to construct the other half of the fence in a similar manner. The landowner must also agree to maintain his/her half of the fence. A fence agreement will be prepared by the DNR, signed by both parties, and recorded with the landowner's property deed before construction begins. Where environmental conditions significantly increase the difficulty or cost of constructing or maintaining a fence, the portion of the fence to be constructed by one party may be more or less than half the length of the boundary to compensate for this additional cost.

6. Where environmental conditions make it difficult or impossible to construct or maintain a boundary fence, such as along the shore of a meandered lake, a fencing agreement may be used to establish and record a permanent convenience fence. The agreement, which will be recorded as an attachment to the property deed, should state that the line on which the fence is established is not the boundary between the two properties, that the fencing materials are the property of the DNR on that portion that is the state's half, and that the landowner agrees to maintain the fence.

7. In cases where there is an existing barbed-wire boundary fence between state-managed wildlife areas and private lands, the DNR will provide materials and labor to make the fence a more effective barrier to flightless geese. The adjacent landowner or manager will be responsible for checking and maintaining his/her half of the fence after installation.

B. Properties in Areas Not Open to Canada Goose Hunting (closed areas) by DNR Rule.

On private lands in areas not open to Canada goose hunting by DNR rule, the DNR will offer the following assistance in addition to the previously described actions:

1. Scare devices such as propane cannons, Mylar tape, balloons and scarecrows will be supplied and maintained by the DNR. Landowners or tenants will be required to inspect their property, locate specific goose damage, inform DNR staff of such damage, and assist in operating and maintaining scare devices.

2. Where agricultural crops are being damaged by geese, the DNR will provide materials and labor to install and maintain temporary fences, even when the property is not adjacent to state-managed land. The landowner or tenant will monitor the temporary fences to ensure they are functioning and will advise DNR staff when and where repairs are necessary.

3. The DNR will provide materials and labor for construction of permanent boundary fences adjacent to state-managed wildlife areas that will exclude flightless geese from agricultural crop land. Where environmental conditions make it difficult or impossible to construct or maintain a boundary fence, such as along the shore of a meandered lake, a fencing agreement may be used to establish and record a permanent convenience fence. The agreement, which will be signed and recorded as an attachment to the property deed before construction begins, should state that the line on which the fence is established is not the boundary between the two properties and that the fencing materials are the property of the DNR. In this situation, fence maintenance and inspection are negotiable.

C. Areas Within Municipalities

Within municipalities, DNR staff will provide advice to individual landowners, organizations or agencies on appropriate techniques to use to minimize the impacts of injurious goose activities. In addition to the techniques described under Part I, the following practices can also be used to control goose populations and activities in these areas.

1. Municipalities should adopt ordinances prohibiting waterfowl feeding, installing and maintaining goose nesting structures, or engaging in any activities that encourage geese to use areas where goose activities conflict with people or geese create a hazard.

2. DNR staff will assist municipalities in formulating guidelines for developing and maintaining landscapes that are unattractive to geese.

3. Municipal authorities should modify ordinances or regulations, where appropriate, to permit hunters to harvest Canada geese during regular hunting seasons in areas where chronic injurious goose activities occur or where geese pose a hazard. Increasing the goose harvest in and around the municipality, when combined with standard abatement practices, can help minimize the impacts of injurious goose activities and reduce numbers of complaints.

4. In cases where a municipality's standard control techniques, including increased harvest, have proven unsuccessful or unfeasible, and that the Canada goose population within their jurisdiction is higher than the established goal or the geese pose a significant threat to human health or safety, the Director can authorize permits to translocate geese from the municipality to reduce the population to a level that allows the standard techniques to work. The adult geese will be euthanized and goslings relocated to an appropriate site. All approved translocation projects must be coordinated with the DNR's district depredation biologist before any geese are captured. The biologist will keep the local conservation officer apprised of all permits issued to capture geese.

5. When all other means of controlling the Canada goose population and associated injurious goose activities have proven ineffective or unfeasible, or it is determined that the geese pose a significant threat to human health or safety, the Director can authorize lethal methods (outside the regular hunting season) to reduce the goose population within municipal boundaries. Lethal methods will initially be limited to egg shaking or oiling and nest manipulation or destruction unless the threat to human health or safety requires more expedient population reduction actions, such as immediate removal of geese to lower the risk. When possible, adult geese will be transported to a locker and the meat distributed to charities or public institutions for human consumption. This processing will be at the expense of the requesting party. Birds not being processed for food must be disposed of by burying (Paragraph 567 IAC 100.4(2)"b") or incinerating (Rule 567 IAC 100.4(455B)) in accordance with Iowa code. Landfilling is an approved method of burial. The governing body proposing the population reduction must determine, in consultation with the DNR and the public, an appropriate level for the municipality's goose population. The governing body must submit a request at least 4 months in advance of any proposed action unless it is determined that the threat to human health or safety requires more expedient action. The provided information should address current goose population levels, quantify injurious/hazardous activities, list threats to human health or safety, and/or economic impacts, and clearly state proposed actions and anticipated outcomes. Costs of lethal control programs will be borne by the agency or group desiring to reduce the goose population. DNR staff will assist in planning and training. Only agents designated by the DNR will be authorized to carry out lethal control programs. Implementation of approved lethal control programs must be closely coordinated with the DNR's district depredation biologist and conservation officer.

D. Airports and areas within the Vicinity

On airport and adjacent properties, DNR staff will provide advice to individual landowners, organizations or agencies on appropriate techniques to use to minimize the impacts of injurious goose activities. In addition to the techniques described under Part I, the following practices can also be used to control goose populations and activities in these areas. **A buffer adjacent to the airport boundary should be considered for these practices.**

1. Airport management administrators, in cooperation with adjoining landowners should adopt rules prohibiting waterfowl feeding, installing and maintaining goose nesting structures, or engaging in any activities that encourage geese to use areas in the vicinity of airport property.

2. DNR staff will assist airport management personnel in formulating guidelines for developing and maintaining landscapes that are unattractive to geese.

3. Airport management should work with city administrators to modify ordinances or regulations, where appropriate, to permit hunters to harvest Canada geese during regular seasons in areas where chronic injurious goose activities occur or where geese pose a hazard. Increasing the goose harvest in and around the airport, when combined with standard abatement practices, can help minimize the impacts of injurious goose activities and reduce numbers.

4. In cases where the Canada goose population at an airport and within the adjacent buffer poses a significant threat to human health or safety, and standard control techniques, including increased harvest, have proven unsuccessful or unfeasible, the Director can authorize lethal methods to reduce the goose population within and adjacent to airport boundaries. Lethal methods may include egg shaking or oiling and nest manipulation or destruction unless the threat to human health or safety requires more expedient population reduction actions, such as immediate removal of geese to lower the risk. The airport proposing the population reduction must determine, in consultation with the DNR and the public, an appropriate level for the airport's goose population. In the event of immediate removal of geese, permits to trap and euthanize geese from the airport property may be authorized. When possible, adult geese will be transported to a locker and the meat distributed to charities or public institutions for human consumption. This processing will be at the expense of the requesting party. Birds not being processed for food must be disposed of by burying (Paragraph 567 IAC 100.4(2)"b") or incinerating (Rule 567 IAC 100.4(455B)) in accordance with Iowa code. Landfilling is an approved method of burial. Goslings will be relocated to a site deemed suitable by DNR staff. All approved translocation projects must be coordinated with the DNR's district depredation wildlife biologist before any geese are captured. The biologist will keep the local conservation officer apprised of all permits issued to capture geese.

Appendix B

Guidelines

for

Controlling Canada Goose Populations

and

Injurious Canada Goose Activities

Iowa Department of Natural Resources

Guidelines

For

Controlling Canada Goose Populations

And

Injurious Canada Goose Activities

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INTRODUCTION

Canada geese, like most wildlife species, elicit a wide range of responses from the public. Some people love to see them and willing spend their time and money to improve their habitats. Others see them as unwanted pests that should be controlled or, better yet, eliminated. The later opinion usually arises where geese and people are both trying to use the same area. Conflicts with geese can take many forms: geese eating crops, geese defecating on beaches and golf course, geese over-grazing lawns, geese chasing people, etc. These conflicts can occur anywhere, but are most frequently found in urban areas where geese and people live in close proximity and compete for the use of limited green space. Unlike their rural cousins, geese that live in urban areas have very high survival and reproductive rates because they are protected from both natural predators and hunters. Consequently, urban goose populations can grow very rapidly. Regulated hunting seasons can control goose populations in much of Iowa. In urban areas, however, where hunting is often not allowed, special Canada goose population control practices may be necessary to keep geese from becoming overabundant.

This document describes the Iowa Department of Natural Resource's (DNR) Canada goose management philosophy and provides specific procedures for implementing practices to control Canada goose populations where geese are considered overabundant and/or their activities pose a risk to human health or safety. These procedures will help ensure that Canada goose population control activities are implemented in a uniform, responsible, and humane manner throughout Iowa.

CANADA GOOSE POPULATION MANAGEMENT

The goal of Canada goose management in Iowa is to maintain the population of giant Canada geese at a sustainable level that provides maximum recreational opportunities consistent with social acceptability.

The objectives to achieve this goal are:

1) To manage Iowa's giant Canada goose population at a level that will improve recreational opportunities, both consumptive and non-consumptive, encourage population growth in areas with underutilized habitat, and permit a sustainable annual harvest of approximately 60,000 Canada geese from Iowa's goose population.
2) To improve coexistence and reduce conflicts between people and Canada geese by assisting the public in managing injurious goose activities and/or controlling goose populations in special circumstances.

Any actions to control Canada goose populations or injurious activities should be guided by the following principles:

- Canada geese are native to Iowa and are a valuable natural resource benefiting all Iowans, both recreationally and economically.
- Resident giant Canada geese are distinct from the other subspecies of Canada geese that migrate through Iowa during the spring and fall.
- As migratory birds, giant Canada geese have recreational, economic, and aesthetic values beyond Iowa's borders.
- Population management strategies that include lethal control or capture and relocation are constrained by U.S. Fish and Wildlife Service regulations per authority of the Migratory Bird Treaty Act (1918).
- Giant Canada goose population management in Iowa may be constrained by Mississippi Flyway Council management plans for other subspecies of Canada geese and cackling geese. (The Mississippi Flyway Council consists of 14 state, 3 Canadian provincial, and 2 federal conservation agencies. These agencies cooperatively manage shared migratory bird resources in the central U.S.)
- The resident giant Canada goose population in Iowa can be maintained at a level capable of achieving plan objectives without substantial numbers of Canada geese residing in urban environments or in areas where they may create a threat to human health or safety.
- Municipalities or area managers, such as park rangers, will be primarily responsible for implementing management strategies to achieve desired Canada goose population levels within their jurisdictions.

RESIDENT CANADA GOOSE CONTROL ACTIVITIES

Problems associated with over-abundant geese are usually best resolved by using a variety of standard abatement techniques and population control methods. Most problems require the application of multiple techniques to be satisfactorily resolved; there is often no quick fix or single answer to resolving many human-goose conflicts. It must be explicitly recognized, however, that it is not possible to eliminate all injurious Canada goose activities without eradicating the species; some level of compatibility between goose and human-use of most areas will need to be attained.

Step 1: Evaluate the Problem

Each landowner or community will have a different level of tolerance for Canada geese. That level of tolerance will influence the landowner's or community's desire for specific goose population control strategies. DNR staff will provide advice and guidance to groups and individuals to help them determine how best to balance Canada goose population levels with other property uses or concerns.

Important things to consider when evaluating the problem include:

- The nature and extent of the problem (e.g., human safety, nuisance, etc.),
- The number of geese involved and when and where they occur,
- The number of geese nesting in the area and the number of young they produce,
- The number of geese using nearby surrounding habitats,
- The number of geese desired in the area by the various parties involved,
- The economic impact of the local goose population, both positive and negative,
- The control activities that could be used to alleviate the problem or achieve the desired population level,
- The best times for implementing specific control activities,
- Federal, state and local regulations that may govern the use of specific control activities,

Step 2: Modify Habitats or Goose Behavior to Reduce Conflicts

In many cases, a combination of small changes can go a long way towards resolving conflicts between geese and people. One of the simplest measures that can be taken to curtail goose use of some areas, particularly parks, is to terminate all supplemental feeding. Many people enjoy feeding wildlife, but it can unnecessarily concentrate birds in parks, on lakes, etc. This activity also makes geese less wary of people, which can lead to aggressive behavior during the breeding season. Concentrating birds can lead to overcrowding and also increase the likelihood of disease outbreaks.

Another easy way to discourage goose use of an area is to alter the environment so that it is less attractive to geese. Geese like large, open grassy areas with easy access to water. Reducing the attractiveness of an area to geese should be one of the first considerations when trying to alleviate injurious goose activities or prevent them from occurring. Designing an area that is unattractive to geese is far easier than reducing goose use after the fact. Things to consider include:

- Eliminating permanent water sources,
- Eliminating aerators that keep water open during the winter,
- Reducing the area that is mowed or the frequency it is mowed, particularly areas adjacent to water,
- Planting buffers as physical and visual barriers between shorelines and lawns,
- Breaking up large areas of lawn with shrub plantings,
- Erecting fences to preclude geese from walking from ponds to lawns,
- Eliminating waterfowl nesting structures that geese might use,
- Eliminating islands in ponds (islands are preferred nesting sites for geese),
- Placing large activity fields, such as soccer fields, away from any ponds,
- Developing specific areas for geese to use and keeping them attractive to geese,
- Rip-rapping pond shorelines with large rocks.

Step 3: Harass Geese to Resolve Conflicts

It is permissible to harass Canada geese without a federal or state permit, provided the geese are not nesting and the harassment does not result in birds being hurt or handled by a person or an agent of a person, such as a dog.

- Trained dogs may be used to chase and harass geese but NOT catch or injure them.
- Noise making devices like propane cannons or cracker shells can provide immediate, albeit short-term, relief from injurious goose activities.
- Temporary fences can be used as barriers to stop geese from accessing specific areas, particularly when the adults are flightless or have goslings.
- Mylar tape, balloons, and scare crows can also be used to effectively keep unwanted geese from accessing areas.
- Lasers may be used to discourage geese from using nighttime roosting areas.

Step 4. Implement Actions to Reduce Goose Populations

If geese are chronically over-abundant in an area or pose a threat to human health or safety, a long-term population control program may be the only realistic solution to reduce the population and the resulting human-goose conflicts. Increasing the mortality rate of adult geese and/or reducing reproduction are necessary to suppress a goose population. The most cost-effective way to increase the mortality of adult geese is to allow the birds to be hunted during regular seasons. Municipalities that have large expanses of agricultural land within their boundaries should adopt a "hunting policy" for geese, where it can be safely done, to increase the harvest of the local geese and thereby increase mortality on the birds. Many communities have already established such policies to help reduce local goose populations.

Capturing and translocating geese and lethal control activities, such as oiling eggs or destroying nests, can only be done by DNR staff or licensed Nuisance Wildlife Control Operators with approval by the DNR. Any activity involving the capturing, handling, or euthanization of migratory birds requires both federal and state permits.

Guidelines for destroying goose nests or capturing and translocating geese are provided in the following chapters. NOTE: ALL NEST DESTRUCTION OR TRANSLOCATION PROGRAMS MUST BE APPROVED BY THE LOCAL DNR WILDLIFE BIOLOGIST PRIOR TO BEING INITIATED.

CANADA GOOSE POPULATION CONTROL METHODS

Resident Canada geese flourish in urban environments where they have few natural predators and are protected from hunting. The only way to reduce populations of resident Canada geese is to substantially reduce the reproductive rate or increase the adult mortality rate, or a combination of the two.

Reducing reproductive rates with sterilization products, like Nicarbazin, has not been scientifically proven effective. Addling eggs, however, is a proven method for reducing the egg-hatching rate and thus production. Young-of-the-year geese can also be captured annually and moved to under-populated areas to reduce production, a process commonly referred to as translocation. (Canada geese imprint on the area where they learn to fly; when they reach reproductive age they return to the release site to nest.). Translocation programs, however, require a long-term commitment (at least 10 years) to substantially reduce a population unless they are coupled with methods to increase adult mortality.

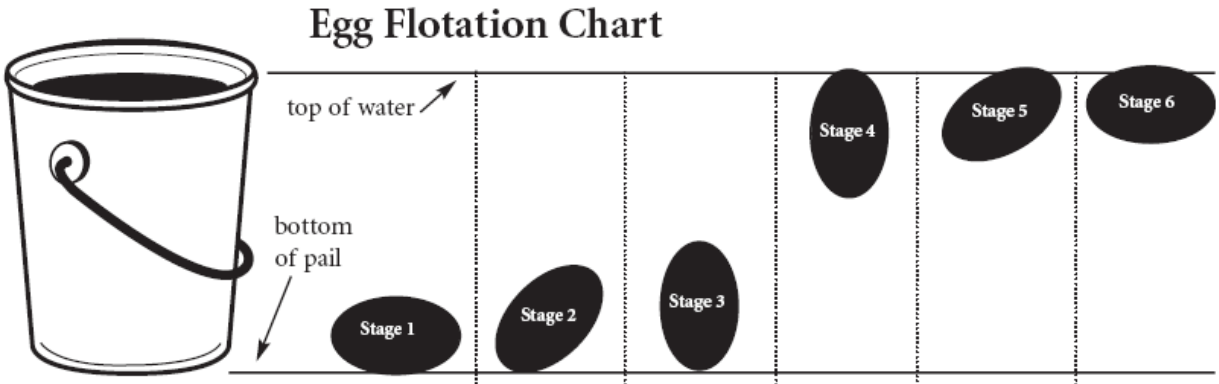
Capturing and moving adult Canada geese is only a temporary fix to overabundant goose problems. Unless adult geese are moved more than 100 miles and subjected to additional mortality, they will return to the capture site soon after regaining their flight feathers. Removing adult geese via translocate programs can eventually reduce a local goose population IF the removal program is implemented annually for 10 or more years and additional geese do not immigrate into the area to use the vacated habitat. For this reason the Iowa DNR does not support the translocation of adult Canada geese. In situations where the geese pose a threat to human health or safety and immediate population reduction is deemed necessary, lethal control of adults through euthanasia may be necessary. If such a program is required, DNR Wildlife staff will implement it.

Manipulating Canada Goose Nests

Manipulating nests is an effective way to control Canada goose populations in localized areas. Eggs must be addled or replaced with dummy eggs, however, so that the goose continues to incubate and does not abandon the nest site to renest somewhere else. Most geese will not attempt to renest after they have been incubating for 18-21 days because their egg follicles have started to dry up. Egg addling renders eggs inviable, thereby stopping development and subsequent hatching.

General Requirements for Nest Manipulation

- When implementing a nest manipulation program, NWCOs or their assistants must have their approved *Resident Canada Goose Nest Manipulation Application and Report Form* with them, indicating the number of nests and eggs that can be destroyed at each project site (see Appendix B). This application can only be approved by a DNR Wildlife Biologist.
- Nests must be flagged and recorded on a map of the treatment area. Flagging the nests insures they can be relocated on return visits.
- The incubation stage of the eggs must be determined and recorded (see nest destruction form in Appendix B). This is done by "floating" the eggs, using the attached chart (Fig. 1) to determine the incubation stage. In the rare instances when the first day of incubation is known (the day the last egg is laid in the nest is the first day of incubation), the incubation stage can be determined using a calendar.
- A follow up visit is required at each nest to gather the eggs for proper disposal, thereby forcing the goose to abandon the nest site.



Approximate embryo age	0-3 days	4-8 days	9-13 days	14-18 days	19-23 days	24-27 days
Days to wait before removing eggs and destroying nest	20	15	10	5	0	0

Source: Missouri DOC

Figure 1. Incubation Stage Determination Using the Egg Floatation Method

Egg Addling, Replacement, and Nest Termination

Egg Oiling
Anyone oiling eggs must carry and follow the APHIS Tech Note "Egg Oil: An Avian Population Control Tool" (Appendix A) to ensure proper handling and use of the oil. Only 100% corn oil may be used. Eggs may be oiled during development stages 1 through 4. Eggs at stages 5 and 6 that do not show signs of hatching may be removed and disposed of properly.

Egg Shaking
Eggs at stages 2 and 3 can be addled by shaking. Vigorous shaking (until sloshing sounds can be heard in the egg) detaches and mixes the yolk and albumen, thereby destroying the embryo. This process takes several seconds for each egg. Nests with eggs at stage 1 should be revisited in 3 days to a week, at which time the eggs can be successfully shaken. Nests with eggs at stage 4 should be left as is for 4 days to a week until they reach stage 5. Eggs at stages 5 and 6 that do not show signs of hatching may be removed and disposed of properly.

Egg Piercing
Egg piercing or puncturing is done by pushing a thin, strong pin or needle through the shell and the inner membrane at the bottom (large end) of the egg. This introduces bacteria into the egg. The pin can also be rotated or stirred to insure destruction of the embryo inside the egg. If the hole is large enough to allow fluid to escape, it must be sealed with tape. Leaking eggs will smell and attract predators that may destroy the nest, thereby causing the pair to abandon the site and renest. Egg piercing can be carried out during stages 1 through 4. Eggs at stages 5 and 6 that do not show signs of hatching may be removed and disposed of properly.

Egg Replacement
Eggs can be removed from a nest at any time during incubation up until they show signs of hatching. During stages 1 though 4, eggs need to be replaced with dummy eggs to prevent the goose from renesting. Two dummy eggs may be sufficient, but 3 or more will reduce the chances the goose will lay additional viable eggs in the nest. Dummy eggs can be made of wood or plastic, or can be real eggs that are infertile or hard-boiled. Eggs at stages 5 and 6 that do not show signs of hatching may be removed and disposed of properly.

Termination of Nests
Once the eggs are at stage 5 or 6, and do not show signs of hatching, or they have been addled and the goose has been incubating for at least 3 weeks, the nest may be terminated by removing the eggs and properly disposing of

them. Addled eggs should be handled carefully because they may contain gas and could explode. All eggs in the nest must be removed from the site and disposed of properly. The nest material should be removed or scattered on site to ensure the goose will discontinue her nesting attempt. Eggs must be disposed of according to Iowa rule, either by burial {567 IAC 100.4(2)"b"} or landfilling {567 IAC 100.4(455B)}. If taking eggs to a landfill, contact the landfill ahead of time to ensure they will accept the eggs.

Nest Manipulation Program Example:
The following procedure may result in terminating some nests that are less than 3 weeks into incubation, which could result in the goose attempting to renest. Recent research, however, indicates that few geese will attempt to renest after incubating 14-18 days and the success of those renests will be minimal.

Procedure: First, conduct a float test of the eggs. Terminate nests that contain eggs that float. If the eggs do not float, dry and replace the eggs in the nest and spray the eggs with oil as described in the APHIS Tech Note on egg oiling (Appendix A). Flag the nest and recheck it in two weeks to remove the eggs. Repeat this procedure for any new nests that have been initiated or for nests that have had eggs added to them.

Capturing and Moving Canada Geese

Capture and removal of resident Canada geese, also referred to as translocating geese, is a short-term solution to over-abundance goose problems that will only significantly impact the population if carried out annually for 10 or more years. To increase the effectiveness of this operation, adults should be separated from young-of-the-year and released at different sites. Young-of-the-year geese should only be released at sites where their return at breeding age will not create additional overabundant goose issues. Adults must be transported at least 100 miles from the capture site so that they will be subjected to additional hunting pressure before they can return to the capture site. For this reason the Iowa DNR does not support the translocation of adult Canada geese.

General Requirements for Removal of Resident Canada Geese

- When implementing a translocation project, the Nuisance Wildlife Control Operator must carry a copy of their NWCO permit and an approved copy of the *Resident Canada Goose Translocation Application and Report Form* (Appendix B) specifying the capture site, the number of geese to be moved, and the release site.
- Prior to initiating the operation, all capture and transport equipment must be approved by the area wildlife biologist or technician.
- All persons assisting with the capture and translocation operation must be listed on the *Resident Canada Geese Translocation Application and Report Form*.
- Every effort should be made to minimize stress when capturing and translocating Canada geese.
- Translocation operations should only be implemented when weather conditions are appropriate (see Weather Considerations below).

Capture and Transport Methods

Public Relations
Prior to implementing any translocation program, permission must be obtained to access all the land on which the goose drive will take place. Identify any landowners that disagree with the removal of the geese and any other potential conflict situations. Any objections to the translocation project should be handled by the group, municipality, or agency requesting the removal of the geese. A representative from the requesting group, municipality, or agency should be on hand when the geese are captured to address objections to the translocation program. If a conflict arises, the NWCO should stop the project, avoid confrontations, and contact the appropriate authorities.

Capture Pen Design
Capture pens should be large enough to handle all the geese that can potentially be captured, without crowding them excessively, but not so large that it becomes difficult for the handlers to grab the birds once inside the pen. It is important that the pen be designed so that it doesn't injure the birds.

Capturing and Transporting Geese

Whenever possible, place the capture pen in a shady a location that can be easily accessed by the transport vehicle. This will help reduce stress on the birds when they are handled. If the geese are to be driven out of a pond or lake, locate the capture pen on a gentle slope so the birds can be easily driven into it. Once the geese are in the pen, placing an extra person or two outside the back of the pen will help keep the geese from bunching up against the fencing in one spot. The geese should be removed from the pen according to size, with the smallest removed first. The transporting truck or trailer should be partitioned so that smaller geese can be kept in separate compartments from adults. Compartments for adult geese should contain at least 1 square foot per bird and no more than 60 birds should be put into a compartment. Compartments for smaller geese can be sized so that they have less than 1 square foot per bird, but more than a half a square foot per bird. When transporting large numbers of geese or moving the birds long distances, the young geese should be further sorted so the birds in each compartment are close to the same size. A large dog kennel works well for transporting extremely young geese. The sides of the transport trailer or truck must have ample openings to allow for air flow, but the front needs to be solid to protect the birds from wind during transport. If the birds are unprotected from the wind during transport, they will bunch up at the back of the compartment. When transporting birds during midday in the direct sunlight, an overhead cover, such as a tarp, should be used to provide shade.

Handling Geese

The usual handling technique is to grasp the goose or gosling by both wings and hold the wings together near and over the back of the body by the humerus bones. With the wings held in this position, the goose can be safely lifted from the ground. Very young goslings, with poorly developed wings, should be picked up by grasping the entire body with one or two hands depending on the size of the bird. Waterfowl studies indicated that handling birds in this manner has no measurable negative impact on their flight capabilities.

When birds need to be carried for long distances, or the handlers have difficulties controlling the geese, it is best to "cradle carry" the birds. Tuck the head under a wing to calm the bird. Pick the bird up by the body with its back to your chest and in an upright position. Wrap both arms around the breast of the bird letting its legs hang down. When you place the bird in the transport vehicle, carefully help the goose get its head out from under its wing.

Determining Age

In most cases, it will be obvious whether a goose is a young-of-the-year or adult bird. As summer progresses, however, some of the geese hatched early in the spring will begin to look like adult birds. Cheek patches and tail feathers can be used to determine age. The feathers of the cheek patch on young birds will be grey while those on the adults will be white. The tail feathers of the young-of-the-year geese will have a v-notch at the tip where a small part of the feather is missing. One such feather is all that is necessary to identify a bird as a young-of-the-year goose. The tail feathers of adults will have smooth edges all the way to their pointed tips.

Weather Considerations

One of the biggest concerns when capturing and translocating geese in the summer is heat stress. To minimize heat stress, translocation operations should start early in the morning. Where long transport times are anticipated, capture operations can be conducted in the late evening so the birds can be transported during the cooler hours after sunset. Use the following guidelines to determine if it is suitable to conduct capture and transport operations.

Transport Standards Relative to the Heat Index

Knowing the Heat Index (HI) is important when deciding if a translocation program should be conducted. The HI is determined by the temperature and relative humidity and can usually be found on most Internet weather sites. The HI can be high even when temperature is relatively cool. For example, a HI of 100 can occur when the temperature is 85º F and the relative humidity is 90% as well as when the temperature is 100º F and the relative humidity is 20%. A HI of 90 occurs when the temperature is 90º F and the relative humidity is 30%, as well as when the temperature is 80º F and the relative humidity is 90%.

- Geese should not be transported if the HI is expected to be 100 or higher.
- When the HI is 90-100, geese should be transported only if the total confinement time (capture + transport time) is less than or equal to 6 hours.
- When the HI is less than 90, geese can be shipped anywhere in the state unless the birds are excessively muddy or capture and handling times are extraordinary long.

Disease

Whenever animals are confined in close quarters under stressful conditions, the spread of disease is a concern. To minimize the chances of spreading diseases during translocation programs, the transport equipment must be cleaned of waste and disinfected on a daily basis. This can be accomplished with a pressure washer and a good detergent soap or bleach mixture.

Euthanization of sick or injured birds

Birds that are obviously sick (have difficulty walking or maintaining head control) or are injured (have broken wings, legs, or large open wounds) should be euthanized on site with discretion. Birds must be euthanized in a humane manner according to current AVMA guidelines.

Disposal of dead birds

Birds not being processed for food must be disposed of by burying (Paragraph 567 IAC 100.4(2)"b") or incinerating (Rule 567 IAC 100.4(455B)) in accordance with Iowa code. Landfilling is an approved method of burial. Be sure to check with the landfill first to see if they will accept dead birds.

Processing for food banks

When birds are processed for food, they must be delivered live to the processor. The processor is responsible for the method of euthanization and disposal of the remains in accordance with state and federal laws.

Band reporting

All birds with bands or other markers need to be reported on the back of the *Resident Canada Geese Translocation Application and Report Form*.

Other Sources of Information for Managing Injurious Canada Goose Activities

Managing Canada Geese in Urban Environments, A Technical Guide
http://dspace.library.cornell.edu/retrieve/61/

AVMA Guidelines for the Euthanasia of Animals: 2013 Edition
https://www.avma.org/KB/Policies/Documents/euthanasia.pdf

Field Manual of Wildlife Diseases: General Field Procedures and Diseases of Birds
http://www.nwhc.usgs.gov/publications/field_manual/index.jsp

Contact information

Depredation Biologists
http://www.iowadnr.gov/portals/idnr/uploads/Hunting/depredation_contact.pdf?amp;tabid=1225

Wildlife Management Biologists
http://www.iowadnr.gov/Portals/idnr/uploads/contacts/wildlife_management.pdf

State Waterfowl Biologist
http://www.iowadnr.gov/InsideDNR/DNRStaffOffices/WildlifeResearchStaff.aspx

Appendix A

APHIS Tech Note

Egg Oil: An Avian Population Control Tool

This Tech Note must be carried by individuals engaged in egg oiling as an addling technique.

TECH NOTE
Wildlife Services
APHIS

United States Department of Agriculture

Animal and Plant Health Inspection Service

Date 1 April 2001

Egg Oil: An Avian Population Control Tool

The Animal and Plant Health Inspection Service's Wildlife Services (WS) program uses many methods to manage populations of gulls, waterfowl, and other birds in areas where they create problems. Methods include trapping and relocation, surgical sterilization, mechanical scare devices, repellents, and hunting. However, these methods, and others that reduce or prevent eggs from hatching-such as shaking, freezing, addling, nest destruction, and egg removal-are labor intensive and may not be effective in operational programs.

The application of various oils (of mineral and vegetable origin) to eggs during the nesting season to prevent hatching is less labor intensive. In addition, this method has an advantage over nest destruction or egg removal because nesting birds are encouraged to continue incubation, often well beyond the normal time for hatching. With nest destruction or egg removal, birds often renest.

On March 6, 1996, the U.S. Environmental Protection Agency (EPA) published in the Federal Register a notice exempting certain materials from regulation under Section 25(b) of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended. This notice allowed corn oil to be used without EPA regulation as long as the uses met certain qualifications: they were not related to public health, efficacy data were available, and certain labeling requirements were met.

This tech note addresses the requirements of the March 6,1996, EPA notice so that corn oil (hereafter referred to as "egg oil") can be used to treat the eggs of nesting gulls, waterfowl, and other birds. Egg oil will reduce reproductive success and, therefore, reduce the populations of birds that are causing problems. Laboratory and field studies conducted by WS's National Wildlife Research Center show that egg oil is 95- to 100-percent effective in preventing the hatching of treated eggs. The active ingredient is 100-percent food-grade corn oil.

Endangered Species Considerations

Before using egg oil, consult with appropriate wildlife authorities to ensure that the use of this product presents no hazard to threatened or endangered species.

It may be necessary to obtain a permit from the U.S. Department of the Interior's U.S. Fish and Wildlife Service and/or the applicable State or local wildlife agency before egg oil can be used. Also, contact the appropriate State regulatory agency to assure that egg oil can be used in the State under a FIFRA Section 25(b) exemption. Obtaining all required permits and licenses is the responsibility of the applicator.

General Information

Egg oil must be used as described in this tech note to conform to the FIFRA Section 25(b) exemption requirements specified by EPA. A copy of this tech note must be in the possession of any individual applying egg oil. Egg oil is natural, food-grade corn oil. When applied to incubating eggs, it blocks the pores in the eggshells and asphyxiates the developing embryo. Because the eggs are not otherwise disturbed, incubating birds will generally continue incubation to the expected hatching date and beyond, preventing or reducing the potential for renesting.

Obtaining Egg Oil

Applicators can obtain egg oil from any retail or wholesale supplier of groceries or baking or cooking supplies. Any commercially available brand of 100-percent food-grade corn oil may be used. Other pure vegetable oils and vegetable-oil mixtures are not covered by this tech note and may not meet the EPA exemption authorized by Section 25(b) of FIFRA.

Equipment

Egg oil may be applied to incubating eggs by any means that allows about the same amount of oil to be applied to each egg without excessive contamination of the nest and surrounding area. The most effective application equipment is a pressurized backpack or hand-held sprayer that holds from 1 to 2 gallons of egg oil. Sprayers should be pressurized to between 15 lb / in^2 and 40 lb / in^2 and should be calibrated to deliver between 3 to 6 ml / sec. The spray wand should contain a tip that produces a fan or circular pattern.

Application

Monitor the breeding and nesting activity of birds targeted for treatment with egg oil. To be most effective, application of egg oil should be made between the fifth day after the laying of the last egg in a clutch and at least 5 days before anticipated hatching. Treat all eggs in a nest at the same time, and do not move or turn eggs. For colonial nesting birds, such as gulls, newly completed clutches may have to be treated at 10-day intervals to assure complete coverage. For pressurized sprayers, place the wand tip from 6 to 8 inches above each egg and apply an appropriate amount of egg oil. The amount of egg oil used varies with egg size. Treat goose eggs with approximately 7 ml / egg oil per egg and gull eggs with 2 ml / egg.

Storage and Disposal

Store oil in the original container. Recycle containers or dispose of them in an appropriate landfill.

Potential Hazards

Hazards to applicators are not expected unless the person is allergic to corn oil. Because egg oil applied to the eggs of any bird will result in embryo death, applicators should take care to identify and mark the nests of nontarget birds in mixed colonies so nontarget species are not treated. Do not spray or apply egg oil to anything other than eggs. Do not apply directly to water.

Further Information

Additional information on this product can be found in the April 1994 ADC Final Environmental Impact Statement (Appendix P), in Material Safety Data Sheets supplied by the Pocatello Supply Depot, and in the 1995 Handbook on Prevention and Control of Wildlife Damage. Specific information on this product can be obtained through the National Wildlife Research Center (NWRC) (970-266-6000) or through the NWRC web site http://www.aphis.usda.gov/ws/nwrc. For further information about the availability of this product, contact your WS State Director, or the Pocatello Supply Depot.

Appendix B

Application and Report Forms

Resident Canada Geese Nest Manipulation Application and Report Form

APPLICATION

NWCO Name: _____ **NWCO Permit #:** _____

SCGCP#: _____

(SCGCP # is received after NWCO satisfactorily completes 2 nest manipulation projects. SCGP # = "Training" if NWCO has not satisfactorily completed 4 translocations projects.)

List all persons assisting with the nest manipulation on the back of this form

Municipality, organization, or individual requesting assistance:
(Include name, title, address, and phone number of the principal contact person.)

_____
_____
_____

Location: (Provide local area name or address as well as county, twsp and section - attach map) _____
_____
_____
_____

Number of nesting pairs: _____

Assessment of damage: (Provide detailed information justifying the request)

_____
_____

Abatement techniques that were tried to alleviate problem:

_____
_____

NWCO Signature: _____ **Date**_____

For DNR use only **APPROVAL**

Approved dates for action: _____ Is supervision required? (circle one) Yes / No

No. nests that can be destroy: _____ Disposal of eggs: _____
_____

Area Biologist_____Signature_____Date_____

COMPLETION REPORT

Date of completed: _____

Number destroyed: Nests _____Eggs _____

For DNR use only Nest manipulation project was completed: ☐ Satisfactorily ☐ Unsatisfactorily

Signature_____ Date:_____

Distribution: Original to Depredation Biologist. Copies to NWCO, Area Wildlife Biologist, and State Waterfowl Biologist.

List of Persons Assisting NWCO With Nest Manipulation Project

Name	Address

Resident Canada Geese Translocation Application and Report Form

APPLICATION

NWCO Name: _____ **NWCO Permit #:** _____

SCGCP#: _____

(SCGCP # is received after NWCO satisfactorily completes 4 translocations projects. SCGP # = "Training" if NWCO has not satisfactorily completed 4 translocations projects.)

List all persons assisting with the capture and removal on the back of this form

Municipality, organization, or individual requesting assistance: _____

(Include name, title, address, and phone number of the principal contact person.)

_____

_____

_____

Location: (Provide local area name or address as well as county, twsp and section.(attach maps)

_____

_____

_____

Number of geese causing injurious activity: Adults_____Young_____

Assessment of damage: (Provide detailed information justifying the request)

_____

_____

Abatement techniques that were tried to alleviate the problem:

_____

_____

NWCO Signature: _____ **Date**_____

For DNR use only **APPROVAL**

Approved dates for action: _____ Is supervision required? (circle one) Yes / No

No. geese to capture: Adults_____ Young_____

Disposition of adult geese: _____

_____

Release site for young geese: _____

_____

Area Biologist_____Signature_____Date_____

COMPLETION REPORT

Date translocation was completed: _____

Number geese captured and released: Adults_____Young_____

Number of geese that died: Adults_____Young_____

Number of banded geese captured (report bands on back of page):_____

For DNR use only Translocation project was completed: ☐ Satisfactorily ☐ Unsatisfactorily

Signature_____ Date:_____

Distribution: Original to Depredation Biologist. Copies to NWCO, Area Wildlife Biologist, and State Waterfowl Biologist.

List of Persons Assisting NWCO With Translocation Project

Name Address

Banded Geese Captured

Band Number	Release Site		Band Number	Release Site

Legal description (township, range, & section) of release site if private land:_____

Egg/Nest Destruction Data Sheet

NWCO Permit #_____

Location _____ Year _____

	First visit			Second visit			Last visit
Nest #	Date of visit	# of eggs	Incubation Stage*	Date to revisit	# of eggs**	Incubation Stage*	Date to revisit

* Float (F) or Sink (S) If float add two weeks to the date and place in the next column "date to revisit" If sink, then place a T in the next column "date to revisit" to indicate the nest is terminated.

** If there are more eggs in the nest on the second visit it is a good indication that the nest was not being incubated during the first visit and therefore will require one more visit to terminate.

Iowa Department of Natural Resources

Resident Canada Goose Control Permit - Annual Activity Report

NWCO Name _____Address: _____

NWCO Permit # _____ SCGCP# _____ For Calendar Year _____

		Nest Destruction		Translocations		Mortalities	
Complainant	Location*	# Nests	# Eggs	Adults	Young	Adults	Young

*Use more than one line if necessary to adequately describe the location. Attach additional pages if needed.
Special Canada goose control permit reports are due by Nov. 31 of each year.
Mail original to Depredation Biologist, and copy to State Waterfowl Biologist.