# CITY OF EAU CLAIRE URBAN GOOSE MANAGEMENT PLAN

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### Eau Claire Urban Goose Management Plan

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#### Introduction

The Canada goose is perhaps the most widely recognized bird in North America. Geese flying in the V formation signal changes in season, and for many people it symbolizes nature and wildlife.

In the early 1900's, Canada geese were nearly eliminated in most parts of North America by the unrestricted harvesting of eggs, commercial hunting, and the draining of wetland habitat. Today, Canada goose populations have rebounded to a point where localized high concentrations have caused agricultural crop damage and urban nuisance situations.

There are several subspecies of Canada geese but only 2 are common in Wisconsin. The geese most commonly found in urban areas during the summer are know as Giant Canada geese. The new name of Temperate Breeding Population (TBP) has been given to them recently. This name is applied to those geese that nest in the lower 48 states.

The other subspecies that is common in Wisconsin is the Lesser Canada goose. These are birds that migrate through the state in the spring and fall but nest further north in Canada.

The TBP of Canada geese were thought to be extinct at one time but a few small remnant populations were discovered in southern Wisconsin during the 1960's. Restoration efforts to increase this population has resulted in the subspecies becoming more abundant then the migrating Lesser Canada geese. With this increasing population and distribution came both problems with agricultural damage and urban nuisance situations, as well as increased hunting and viewing opportunities.

A special Statewide Early September Canada goose hunt was established about 1990 in an attempt to reduce the population of the locally nesting geese. The season runs from September 1-15 with a liberal daily bag limit of 5. The TBP geese had shown a steady population increase during the 1980's and 1990's but stabilized from 2005-2008 and has shown a decreasing trend since 2011. This may be a result of the liberal hunting opportunities. Although there is no hunting in the Dells Pond area near Riverview Park, there is hunting approximately ¾ miles

north when the river gets into Chippewa County. This provides some hunting opportunities but probably doesn't impact the Riverview Park birds because they rarely fly outside the protected city limits.

#### **Biology**

Canada geese vary in size depending on the subspecies. Body weights range from 3 to 15 pounds, with the TBP geese weighing the most.

Canada geese usually begin nesting at three years of age, and mate for life unless one of the pair dies. The remaining goose usually finds another mate within the same breeding season.

Canada geese usually nest very close to water. Nest sites in urban areas are quite variable. They may nest in areas with only a small tree or shrub, in a patch of grass, at the base of a mature tree, or on a deserted muskrat house. A good view of the surrounding area is important. Nesting in Wisconsin is usually initiated around the 1<sup>st</sup> of April. They lay an average of 5-6 eggs over a nine day period and don't start incubating them until the last egg is laid. The average incubation period is 26 to 28 days. All the goslings hatch the same day.

If the nest is destroyed or the eggs removed, Canada geese usually renest. This is important when attempting to control populations through nest destruction. This will be discussed later in the plan.

Canada geese are grazers and prefer lawn grass in urban areas. Large, open grassy areas near water are perfect spots for goose activities. They also prefer fertilized plants over underutilized. Occasionally, goslings from several broods join together to form gang broods. It's not uncommon to see groups of 20 to 50 goslings together in Half Moon Lake or the Chippewa River.

Adult Canada geese undergo a complete replacement of their flight feathers each summer. They, as well as their goslings, are flightless during this period. This is important for nuisance goose management because they are vulnerable to capture during this month long period in June.

Canada geese hatched in urban environments may have very low first year mortality. Up to 77% of urban goslings survive their first year of life. In comparison, first year survival of migrating geese averages 59%. If they live past their first year, their annual survival rates become even higher. These high survival rates are a key reason for the explosive growth in urban flocks.

#### **Legal Status**

All Canada geese are considered a migratory bird species and are afforded the protection of the Migratory Bird Treaty Act, Federal regulations, and State laws. Handling and lethal management of Canada geese for damage management purposes outside of established hunting seasons require depredation permits. However, there are flexibilities in the regulations that allow management of TBP Canada geese in order to limit damage, especially when associated with human health and safety.

One such provision is the Canada Goose Nest and Egg Depredation Permit. This permit application goes to the US Department of Agriculture-Wildlife Services (USDA-WS) then to the WI Department of Natural Resources (WDNR) for final approval. This allows the applicant to destroy eggs and nests according to the permit conditions.

Another management provision is a US Fish and Wildlife Service (USFWS) depredation permit that allows the live capture and euthanization of a selected number of geese. The USDA-WS enters into a service agreement with the applicant and assists with the goose removal.

Hunting is regulated by the USFWS and the WDNR. Season dates and bag limits are reviewed annually. Wisconsin is part of the 14 State Mississippi Flyway that sets waterfowl hunting regulations in this part of the US. The Canada goose season runs from September 1 to early January depending on what part of the state you're hunting in. Daily bag limits range from 2 to 5 birds depending on the location and date.

#### **Issues With Urban Geese**

Although most people view Canada geese as a charismatic and highly valued species, individual tolerance of goose behavior differs. Geese are attracted to open green space environments such as parks and golf courses and this can result in conflicts with the public. The goose population can expand quickly due to ideal nesting conditions and lack of predators. If left unchecked, a number of potential issues can arise.

One issue is the aggressive nature of Canada geese. They tend to defend their nests from any animal that they deem a threat. This may be a dog, a child, or even an adult. A 15 pound bird with a wingspan of 3-4 feet can be an imposing adversary. They can bite and slap any unfortunate creature that ventures too close to the nest. Although they don't inflict serious injuries, they can cause scratches and bruises that can be painful. Canada geese have been known to chase people for long distances from the nest. This can certainly make a day at the park far less enjoyable.

Canada geese are grazers, which means they feed on grass rather than aquatic plants. Parks are ideal locations for them because the grass is mowed short and provides preferred feeding opportunities. Because they feed almost continuously, they also defecate frequently. A single goose can defecate every 20 minutes and up to 1.5 pounds of feces each day. If you have 100 geese feeding in a park, that can amount to ½ ton of feces in a week. There can be piles of feces every few feet which can make that area unsanitary and unusable. This has certainly been the case at times at both Half Moon Lake and Riverview Park.

From a water quality stand point, the phosphorus and nitrogen contained in goose feces can pollute any nearby waterbody. In a lake like Half Moon, the pollution can cause algal blooms that kill other organisms requiring the use of oxygen. Waterfowl droppings can be a contributor to lake eutrophication. Eutrophication is a process where excess nutrients can stimulate excessive plant growth such as algae and nuisance aquatic plants.

Because of their size, Canada geese can be a hazard to aircraft. If these large birds are sucked into the engines, they can cause a major failure like the one in New York where the plane had to land in the Hudson River. To date, there have

not been any major issues in Eau Claire, but the flight path to the Chippewa Valley Regional Airport goes directly over Riverview Park.

Public health is another major concern with high goose numbers. There are a number of parasites that are carried in Canada goose feces. They may not be a significant concern but never the less are something to consider.

There are several types of bacteria that are found in goose feces. The two that are the main concern are Salmonella, and E. Coli. Salmonella can survive in the environment for up to 9 months. Picnickers should wash their hands before handling food when in areas where goose droppings are present.

E. Coli is another Bacteria that is found in the environment but also in goose feces. This bacteria can cause stomach cramps, diarrhea, nausea, and vomiting. Most healthy adults recover within a week, though young children and older adults may develop more serious complications.

The Environmental Protection Agency (EPA) has set standards that are used for recommending beach closures and advisories throughout the US. These standards are used by the Eau Claire City-County Health Department. As a result of these tests that range from daily to weekly depending on the E. Coli levels, Riverview Beach was closed for a few days in 2012, and much of June, July and August in 2015 (Appendix A). There were no closures in 2016. Half Moon Beach was closed for a few days in the summers of 2013 to 2016. Lake Altoona Beach has been closed for a few days in 2014 and 2015, but in 2016 it was closed for most of August. Although goose feces may not be the only contributor to high E. Coli counts, managing goose numbers is a tangible means of controlling the amount of feces put into the environment.

#### **History of Local Actions**

Temperate Breeding Canada geese have adopted well to urban, suburban, and agricultural landscapes in Wisconsin. An increasing population was documented from 1986, when goose surveys began, until about 2011. With this increased population and distribution, came both problems with agricultural damage and urban nuisance issues.

In 2011, Eau Claire public health officials determined that high goose numbers at the local beaches were causing health concerns (Appendix B). E. Coli counts at Half Moon Beach, Riverview Park Beach, and Lake Altoona Beach, were in the range that could cause intestinal issues in some beach goers. Goose feces was so abundant that park users couldn't avoid stepping in it.

In January of 2012, the Eau Claire Parks, Recreation, and Forestry Department developed a policy statement that addressed growing concerns about waterfowl numbers along with other nuisance wildlife. The USFWS, USDA-WS, and WDNR were contacted to assist in gathering public opinion and developing a plan. Due to high E. Coli counts, Riverview Beach was closed for several days during the summer of 2012.

A public meeting was held in December of 2013 with very poor attendance by the public. Despite the lack of public interest, a Goose Nest and Egg Depredation Permit was applied for and the City registered with the USFWS.

In February of 2014 a permit to destroy eggs and remove geese was issued by the USFWS and WDNR. One nest was oiled and in April and 108 geese were captured by USDA-WS and City staff at Riverview Park and Half Moon Lake. Riverview Beach was only closed for a couple of days in 2014 due to high E. Coli counts. This closure was prior to the goose round-up.

In 2014, the EC Parks, Recreation, and Forestry staff began developing vegetation buffers at Riverview Park. Strips 10-12 feet wide along the shoreline were planted to tall grasses and were left unmowed to encourage volunteer woody and herbaceous plants. These buffers discourage wary geese from moving from the river up onto the mowed parkland. This is somewhat effective but geese still use the beach and boat landings to access the grass. Park users have trampled down the grass in spots to gain better access to the water and these have also create goose passage areas.

In 2015, there was sporadic hazing and vegetation management but no population control. Riverview Beach was closed several times and Half Moon Beach was closed for a few days.

In early 2016, another Depredation Permit was applied for. A major egg oiling campaign was planned and on April 14<sup>th</sup>, 10 nests with 60 eggs were oiled in the Brauns Bay area of Half Moon Lake. Between April 15-18, 84 nests with 456 eggs were oiled in the Riverview Park and Dells Pond area. As as result of lower goose numbers, Riverview Park was not closed once due to high E. Coli counts. Half Moon Beach was only closed a couple of days. Meanwhile, Altoona Beach was closed for most of August.

#### Non Lethal Management Techniques

#### **Habitat Modification**

Geese like a gently rolling slopes with short vegetation at the water's edge. This provides a clear line of vision to avoid would-be predators and easy access to the water. Creating a buffer strip of tall thick vegetation will deter geese from using the shoreline.

Warm season grasses such as switchgrass, indiangrass, and little bluestem are stiff stemmed grasses that usually remain tall and erect throughout the winter. This creates an early spring buffer before other grasses have started their spring growth. Cool season grasses like wild rye, orchardgrass, and trefoil are cheaper to plant and easier to establish but don't stand erect as well.

Shrubs like service berry dogwood, elderberry, hazelnut and sumac create a visual buffer that geese don't like walking through but they are expensive to establish. Letting existing woody vegetation grow along shorelines is a less expensive proposition.

There are a couple of disadvantages when using vegetative buffers. Geese can still access mowed areas to feed using routes that can't be buffered such as beaches and boat landings. Buffers also reduce the ability of park users to see and access the water.

#### Harassment and Hazing

Harassment techniques can be used to frighten geese and discourage them from

using an area. As long as the geese are not touched or handled, no Federal or State permit is required. Pyrotechnics such as 12 gauge shotgun shell crackers or starter pistol screamer shells can be effective for short periods of time but loose effectiveness once the birds get used to them. The loud bangs and whistles would not be popular with nearby landowners. Propane cannons can be used to disperse geese in rural agricultural damage areas but are not appropriate in urban environments due to their load explosions.

Visual frightening devices such as balloons, mylar tape, flags, and scarecrows are inexpensive, quickly implemented, and quiet, but require regular maintenance and may visually detract from the beauty of the area. They are also targets for vandals. Geese may become habituated to them and not disperse far from them.

The use of trained dogs to harass geese is an increasingly popular technique and has been used intermittently in Eau Claire and Altoona. It tends to most effective in areas where there is no water for the geese to escape to. Harassed geese tend to move short distances and may become a nuisance elsewhere close by. In areas like Lake Altoona, Half Moon Lake and Riverview Park, the geese can move to the water and return soon after the dog is removed. This technique may be effective for short term relief but not very practical for long term control.

In general, the best results are obtained when harassment is initiated as soon as the problem is detected. Harassment techniques will only be as effective as the amount of effort employed.

#### **Fencing**

Fencing can be used to eliminate goose access to smaller areas like private yards but not practical for larger park settings. Low fences made of chicken wire, decorative border fencing, or monofilament line can keep non-flying birds from walking into yards from water. A retractable fencing system called <a href="Goose D-Fence">Goose D-Fence</a> is available online.

#### **Chemical Repellents**

Chemical repellents are an attractive tool to reduce goose activity because they are visually and acoustically unobtrusive, may be applied directly to the problem

area and may not harm the birds permanently. Three repellents are widely used are: RejeX-it Migrate, which uses Methyl Anthranilate (MA) as an active ingredient; Flight Control Plus, which uses Anthraquinone as an active ingredient; and Goose Scram Professional, which uses castor oil, white pepper, and other active ingredients. These repellents are typically applied to grassy areas.

Limitations on repellents include high costs, the necessity to reapply, and potential odors. This does not prevent the geese from swimming nearby and defecating in the water. Goose Scram was used at Lake Altoona Beach in 2016 with inconclusive results. Altoona Beach was closed for most of August due to high E. Coli counts.

#### **Feeding Bans**

Feeding waterfowl and other wildlife is a popular pastime for many people but it is also a major cause of high urban bird populations. Canada geese are grazers and therefore do not need handouts to exist. Education and regulations may help decrease human feeding of waterfowl, unfortunately, anti feeding ordinances are difficult to enforce and are typically ignored by the public. Educational signs explaining the rational for the feeding ban may help in getting voluntary compliance with existing laws.

#### **Population Control**

The most efficient way to reduce the size of an urban goose flock is to increase mortality among adult geese. Hunting is the major cause of goose losses but may not be an available option in an urban environment. Hunting is allowed about ¾ miles upstream from Riverview Park in Chippewa County but not many of the local geese venture that far from the sanctuary of the city limits. Other means of population control are necessary to stem the growth of an urban flock.

Doing a goose round-up has several advantages. This technique can be applied directly to the problem area, it's effects are obvious and immediate, and it carries a much less risk that the geese will create conflicts elsewhere.

When the adult geese are flightless during their molt and the young-of-the-year have not developed flight feathers yet, they can be rounded up by herding them into specially designed nets. Watercraft are used to move the flightless birds to shore and then are slowly walked into the capture area. The funnel is closed and the birds are removed by hand and loaded into crates for removal.

The WDNR does not allow these geese to be relocated elsewhere due to disease concerns, the potential of them returning to the same area, and the chance that they will become a nuisance elsewhere. Adult geese can be processed and provided to food pantries once they are tested for contaminants such as lead and mercury. This would involve some extra costs born by the City. The young birds are too small to be processed. Another less expensive option is to deliver the geese to a wildlife rehabilitation center where they are used to feed the rehab animals.

Another population control option is nest and egg destruction. Permits must be obtained from the WDNR. The City Must first register online with the USFWS and then request a permit using Form 2300-314 Canada Goose Nest and Eggs Depredation Permit. This application is sent to the WDNR through the USDA-WS. This permit allows the City to destroy nests and eggs during the spring nesting period.

There are 3 ways to destroy eggs: addling (shaking); puncturing; and oiling. Oiling is the easiest method. It involves coating the egg with 100% corn oil using a spray bottle. Once the egg is completely coated with oil, it is placed back in the nest so the adults continue to attempt incubation thus reducing the chance that they will initiate a new nesting attempt.

Although nest and egg treatments are useful to curb population growth at a local scale, it should not be relied upon for immediate population reductions. Research indicates that elimination of nests and eggs will have to be conducted over many years before population stabilization will occur.

Sterilization using oral contraceptives is something that has been used elsewhere in the country. In Wisconsin, it is considered experimental and is not currently permitted.

Geese are long lived birds (10-25 years in the wild) and a long term, integrated approach using several management techniques will be necessary to reduce and maintain acceptable urban population levels.

#### Recommendations

- 1. The City should expand the wildlife feeding ban information effort. An increased public education program should be used to explain why feeding is not an acceptable practice.
- 2. The City should apply for an Urban Wildlife Abatement and Control Grant. This 50% cost/share grant can be used for funding outside agency management assistance efforts as well as internal staff time and expenses.
- **3.** The City should continue with habitat modification efforts. Maintaining and increasing buffer zones along shorelines is essential in discouraging geese from using the mowed grass parklands.
- 4. The City should consider using dogs to harass geese. This should be done in early spring when the geese first show up in the parks. Once they get comfortable and feel safe, they are much more difficult to run off.
- 5. The City should consider continuing with the egg oiling campaign. Annual oiling during the early nesting period will greatly reduce the yearly gosling production. With an average of about 6 eggs per nest, the population will expand exponentially without this effort.
- **6.** The City should consider doing a goose round-up periodically when the adult population reaches an unacceptable level. A Threshold of 20 pairs in early spring should initiate consideration for a summer round-up.
- 7. Should the above recommendations fail to reduce the goose population to an acceptable level, the City should consider a one day goose hunt during the Early Canada Goose Season (Sept. 1-15) at Riverview Park.

# **APPENDIX A**

#### Beach E. coli levels - closure information from Eau Claire City-County Health Department

- EPA standards are used for E. coli levels, recommendation of closures/advisories throughout states
  - o <a href="https://www.epa.gov/sites/production/files/2015-10/documents/rwqc2012.pdf">https://www.epa.gov/sites/production/files/2015-10/documents/rwqc2012.pdf</a>
  - Beach Closure E. coli levels:
    - <235 colony forming units (cfu)/100 mL is the level that is considered "safe" to swim</p>
    - >235 cfu/100 mL beach is determined at higher than a "safe" level of bacteria and will be re-checked each day until the counts are <235 cfu/100 mL</p>
    - >1,000 cfu/100 mL is the level for a closure of the beach for water activities
      - In order to re-open the beach after a closure, the levels need to be <235 cfu/100 mL we do recheck every day (Monday through Thursday) until the beach is re-opened</li>
    - The highest level of E. coli able to be interpret via the method used at the health department is >2419.6
  - o Associated E. coli exposure health risks:
    - 235 cfu/100 mL approximately 8 out of 1,000 people will potentially contract an E. coli associated illness
    - >1,000 cfu/100 mL approximately 32 out of 1,000 people will potentially contract an E. coli associated illness

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			5 Bird feces at Altoona Beach				19 Goose feces at Kiverview Beach	11 Ducks and feces at Half Moon Beach	58 Goose feces at Half Moon Beach	411 Goose feces on Altoona Beach shore	4 Seaweed on Half Moon Beach	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Green water and seaweed at Haif Micon, right side	15 17 ducks on right sloe of Haif Moon and goose lettes of duck of Attoolia beaut	19 Green water at Half Moon	Goose feces at Altoona Beach and Green scum on right side of mail woull beach.	1 Green scum at Haif Moon, goose feces at Altoona Beach andat boat opck	20 Goose feces at Riverview Beach				29 Slight algae bloom at Altoona Beach and 20 geese at Altoona Beach dock			Green scum at Altoona Beach		15 Algae bloom at Altoona Beach	34 Green water at Altoona Beach		40 Algae bloom at Altoona Beach	12 Agae bioom at Altoona Beach	15 Algae bloom at Altoona Dock			
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## **APPENDIX B**

#### rnn Fleber - Re: Fwd: Swimming Signs

From:

Richard Thoune

To:

Fleber, Phil; Peters, Dale

Date:

8/2/2011 3:36 PM

Sybject:

Re: Fwd: Swimming Signs

CC:

Johnson, Courtenay

Hi, Phil, Dale. Courtenay and I are currently researching the public health and safety implications associated with simply signing the beach area while continuing to have an operational recreational park with pavilions, picnic tables, etc. and the potential for the public to continue being exposed to harmful bacteria present in goose feces. Right now, we don't think that the public health hazard present can be simply solved with more signs, different sign content, etc. We may need to consult with state Dept of Health Services EH staff as well. We would like to gather all of the appropriate information and then meet with you to discuss the options. Richard

>>> Phil Fieber 8/2/2011 2:48 PM >>> stock signs

Phil Fieber, Director
City of Eau Claire
Parks, Recreation and Forestry
915 Menomonie Street
Eau Claire WI 54703
715-839-5031 Office
715-271-5686 Cell
715-839-1685 Fax
phil.fieber@eauclairewi.gov/
www.eauclairewi.gov/pr



P:(715)-839-4718 F:(715)-839-1674 Thursday, October 10, 2013

October 10, 2013

Phil Fieber, Director City Park, Recreation & Forestry Department 915 Menomonie Street Eau Claire, WI 54703 City of Eau Claire

OCT 1 5 2013

Parks, Recreation,
& Forestry Dept.

Subject: Nuisance Canada Geese in City Parks

Dear Phil,

The Health Department has received complaints in the past regarding the large amount of goose droppings in city parks. After reviewing past communications, the Health Department has already indicated that the City should take steps to both limit the number of geese that congregate in the parks and to maintain the beach and picnic areas reasonably free of feces.

Our sampling staff and the local WI DNR staff have voiced their concerns about the large populations of geese, particularly at Riverview Park, Owen Park, and Half Moon Lake Beach. I've done follow-ups myself at each location in August and did confirm large populations as well. (30+)

Bach adult goose can drop as much as 1 ½ pounds of feces each day. Numerous studies have confirmed the presence of pathogens including parasites, viruses, and bacteria in goose feces. You can find more information on human health hazards related to geese at <a href="http://icwdm.org/handbook/birds/CanadaGeese/HumanHealth.aspx">http://icwdm.org/handbook/birds/CanadaGeese/HumanHealth.aspx</a>.

This situation does present a public health hazard to the visitors of the swimming and eating areas of the city parks. It is also known that several parties and gatherings are often held at these locations, which increases the likelihood that individuals may contact feces and engage in activities that would increase ingestion.

The Health Department is recommending the City develop a plan to address the goose population issues and the removal of goose feces so the residents can use these areas safely.

We understand that developing the plan will take time. If requested, we would be happy to assist your department on technical issues related to resources and habitat modification. More resources are available at the WI DNR website dedicated to control of geese populations at <a href="http://dnr.wi.gov/topic/wildlifehabitat/goose.html">http://dnr.wi.gov/topic/wildlifehabitat/goose.html</a>

Thank you for working with us to ensure safe and healthy recreational activities at Riverview Park and Beach. We look forward to receiving a copy of the city's plan.

Sincerely,

Richard Thoune, RS, MS, MPH

Director/Health Officer