OYSTER BAY COLD SPRING HARBOR
PROTECTION COMMITTEE

Resident Canada Geese Management Program

Approved April 8th, 2014

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Introduction

Overview of Oyster Bay/Cold Spring Harbor

The Oyster Bay/Cold Spring Harbor Complex is the cleanest estuary in western Long Island Sound and is a vital ecological, economic, and recreational resource. The approximately 6,000-acre estuary, spanning approximately 40 linear miles of shoreline, is the site of one of the most economically important shellfisheries in the state; it contains a National Wildlife Refuge, state-designated Significant Coastal Fish and Wildlife Habitats, and has been identified by New York State as an Outstanding Natural Coastal Area. Moreover, the Oyster Bay/Cold Spring Harbor Complex is connected to Long Island Sound, an Estuary of National Significance. Oyster Bay is among the 30-plus areas highlighted by the Long Island Sound Study Stewardship Initiative, in New York and Connecticut, for the ecological and/or recreational values that they support (Friends of the Bay 2011).

Oyster Bay/Cold Spring Harbor Protection Committee

To help protect and enhance the water quality of Oyster Bay and Cold Spring Harbor and their tributaries in the most cost-efficient and effective manner, fourteen (14) municipalities located within the watershed formed the Oyster Bay/Cold Spring Harbor Protection Committee in January 2010.

Our Mission

"Improve the health of Oyster Bay and Cold Spring Harbor by coordinating the efforts of all municipalities in the watershed and by engaging the public."

Intermunicipal partnerships like the Oyster Bay/Cold Spring Harbor Protection Committee have proven effective to improve water quality across the country. Two successful local examples are the neighboring Hempstead Harbor Protection Committee formed in 1995 and the Manhasset Bay Protection Committee created in 1998. Working together the municipalities identified priority sources of pollution and implemented solutions that dramatically improved water quality with the support of numerous grants.

Activities

The Protection Committee will accomplish its mission by:

- utilizing and implementing the findings of existing studies,
- sharing information, technology and ideas,
- developing and implementing best management practices,
- developing and adopting model ordinances,
- actively pursuing grants, partnerships and other sources of support for the watershed,
- conducting and/or supporting water quality and habitat monitoring,
- enhancing awareness, conducting educational outreach and practicing stewardship, and;
- consulting with and engaging other governmental agencies, environmental advocates, educational organizations, interest groups, businesses and citizens.

Resident Canada Geese Management Program

For more than a decade reports have identified waterfowl as a contributor to water quality impairment in Oyster Bay and Cold Spring Harbor (NYS DEC 2003, NYS DEC 2007, Friends of the Bay 2011). In the 2007 Final Report for Shellfish Pathogen TMDL (Total Maximum Daily Loads) the New York State Department of Environmental Conservation and Suffolk County Department of Health Services reported, "…water quality is primarily affected by urban storm water runoff (including pet waste) and direct waterfowl and wildlife inputs, followed by STPs (sewage treatment plants), failing septic systems, and boater waste." The United States Fish and Wildlife Service gave states the authority to develop a management program to address the resident Canada geese problem (NJ DEP 2001).

As part of its annual strategic planning, the Oyster Bay/Cold Spring Harbor Protection Committee decided that a comprehensive watershed-wide resident Canada geese management program was one of the committee's priorities to improve water quality and to support implementation of Municipal Separate Storm Sewer System (MS4) requirements.

Investigation

An analysis was conducted to determine the nature and extent of the problem with Canada geese in the Oyster Bay/Cold Spring Harbor watershed. This multi-faceted approach consisted of reviewing existing information, meeting with protection committee members and other large landowners, gaining input from regulatory agencies and the public, and conducting field investigations.

Reviewing Existing Information

To determine the current state of knowledge, learn from the experience of others and understand what local municipalities are doing, a wealth of existing information was reviewed. This information included research papers, technical guidance for wildlife managers, state goose management plans, web sites, municipal codes and the Municipal Separate Storm Sewer System (MS4) annual reports from each municipality.

Meetings with Protection Committee Members

To understand what the problems, if any, Canada geese are posing in their community and what they are doing to address them, meetings where held with knowledgeable representatives from each municipality. In some communities the mayor and/or trustees were best informed about these issues; in others it was the village clerk or highway manager. As part of these meetings areas of large concentrations of Canada geese and other issues were identified.

On-going Investigation

Following-up with Large Landowners

The managers of Caumsett, Cold Spring Harbor and Planting Fields Arboretum state parks, several private golf clubs, Bailey Arboretum and Cold Spring Harbor Laboratory were also contacted to understand what problems, if any, they may be experiencing with geese or swans.

Field investigations

In person field investigations were used to follow-up with areas identified by municipal officials and others that may have nuisance waterfowl.

Public Input

Through public education and outreach efforts of the Oyster Bay/Cold Spring Harbor Protection Committee, input was solicited to gain additional anecdotal information on where large concentrations of Canada geese may be congregating or where mute swans may be living.

Findings

Canada Geese (*Branta Canadensis maxima*)

Background

Having become accustomed to seeing Canada geese on just about every golf course, ball field, park and shoreline with a grassy area nearby, many residents may not believe that in the early 1900's there were only a few thousand of these birds in the entire United States. The dramatic comeback of Canada geese is a story of a species recovery that has been almost too successful. One hundred years ago unrestricted egg harvesting, commercial hunting and destruction of wetland habitat reduced Canada geese population to near elimination. Restrictions on these activities combined with the creation of large grassy areas and the ability of Canada geese to adapt readily to urban and suburban environments has resulted in a tremendous rebound (Smith 1999). In 2009 the USDA estimated that there were 3.6 million resident Canada geese in North America.

Biology

Canada geese have large bodies, weigh 3 to 15 pounds, and possess gray-brown wings and light gray to dark brown sides and breasts, and a black tail, legs, feet and bill. Geese are grazers and prefer fertilized lawns in open areas near water which provides access to food, a place to drink, aids in preening and bathing and gives them a view of potential predators and an escape route (Smith 1999). Resident geese in suburban areas can live more than twenty years (NYS DEC 2007).

Reproduction

A female goose can begin breeding when they are just 2-3 years old and may produce more than 50 young over her lifetime (NYS DEC 2007). Resident geese nesting season occurs late February through mid-May with the predominance of eggs hatching by early May (USDA 2009). Most nests are surrounded by or within 150 feet of water with a good view of the surrounding area (Smith 1999).

A clutch consists of 2-12 eggs with an average of 5 eggs. Once all eggs have been laid, a 28-day incubation period begins. Half of these eggs will hatch and become free flying birds by the fall (USDA 2009).

Molting Period

Resident geese lose and re-grow their flight feathers during an annual "molt" which results in a four to five week flightless period from mid-June through late July (NYS DEC 2007). Before the molt some geese without young travel significant distances to get to preferred molting areas. Molting geese generally prefer areas with food (grass or crops) and water (USDA 2009). Severe conflicts with people often occur during this time because large concentrations of immobile geese gather on lands next to water, such as parks and public beaches.

Resident vs. Migratory

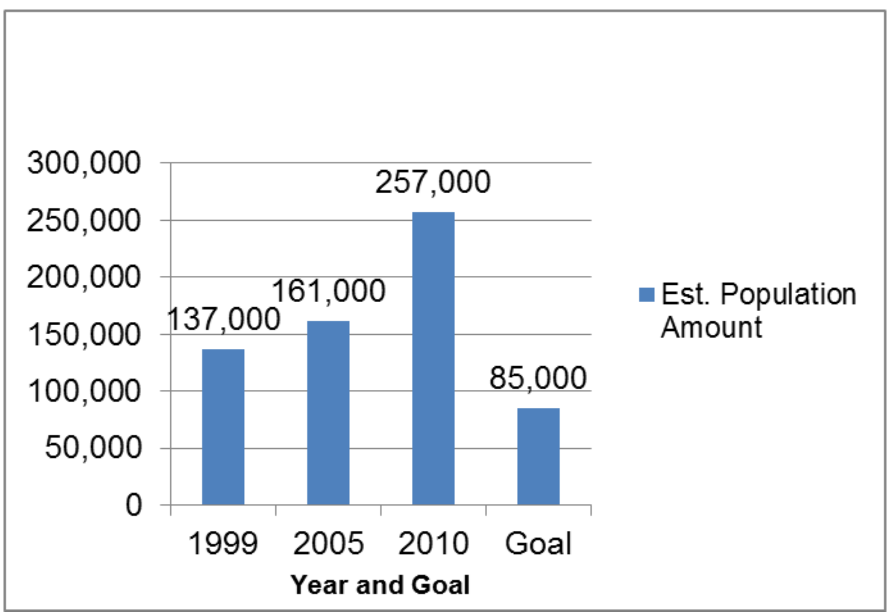
Resident Canada geese are distinct from migratory populations that breed in northern Canada. As the name implies "resident" geese spend most of their lives in one area although they may travel hundreds of miles to wintering areas. Banding studies have shown that Canada Geese have a strong tendency to return to where they were born and use the same nesting and feeding sites year after year. This makes it hard to eliminate geese once they become settled in a local area (NYS DEC 2007). In addition, migratory geese are more wary of humans than resident geese (Smith 1999).

Population Growth

Local flocks of Canada geese grew rapidly and spread to other areas during the 1950's and 1960's when the State Conservation Department released game farm geese on wildlife management areas north and west of Albany. This dramatically increased the handful of geese that nested in the wild in New York State during the early 1900's (NYS DEC 2007).

Population surveys in New York began in 1989. Since this time the number of geese breeding has more than doubled. In 2010 it was estimated that there were more than 250,000 Canada geese in New York State and well above one million in the Atlantic Flyway (NYS DEC 2013). The current New York State population goal for resident Canada geese is 85,000.

Figure 1: NYS Resident Geese Population



According to the New York State Department of Environmental Conservation expanses of short grasses, abundant lakes, ponds and shorelines, lack of natural predators, limited hunting and supplemental feeding "have created an explosion in resident goose numbers" (NYS DEC 2007). In addition some researchers have measured survival rate of urban-born juvenile geese well above 90 percent from September through the first hunting season (Smith 1999).

Legal Status

Canada geese are protected by the Migratory Bird Treaty Act of 1918 (19 USC 703-711) which makes it illegal to harvest waterfowl or other migratory birds except during hunting season or by permit (Smith 1999). After the dramatic population rebound, the Canada Goose Nest and Egg Degradation Order issued by the US Fish and Wildlife Service in 2006 (50 CFR 21.50) authorizes landowners and local governments who register with the Fish and Wildlife Service to destroy resident Canada goose nests and eggs on their property from March 1 – June 30 when necessary to resolve or prevent injury to people, property, agricultural crops, or other interests (USDA 2009). In New York management responsibility is shared by the U.S. Fish and Wildlife Service (USFWS), U.S. Department of Agriculture (USDA) and the New York State Department of Environmental Conservation (NYS DEC).

Conflict

The population explosion and changing migratory patterns of resident Canada geese has led to conflicts with humans disturbed by overgrazed lawns, accumulation of droppings and feathers on recreational areas and walkways, and aggressive behavior by nesting birds. In addition geese pose public safety hazards near roads and airports as a result of strikes with cars and airplanes. There are also public health concerns at beaches and to drinking water supplies as each goose produces approximately one pound of droppings per day. This waste contributes to bacterial and nutrient loading of surface waters (NYS DEC 2007).

Resident Canada Geese in Oyster Bay/Cold Spring Harbor

Meetings were held with most municipal members of the Oyster Bay/Cold Spring Harbor Protection Committee to identify areas of large concentrations of Canada geese to examine existing codes (i.e. pick-up pet waste, don't feed waterfowl), and to review on-going geese controls (i.e. egg oiling, educational materials). Of the fourteen municipal members of the Protection Committee, ten have Goose Management Programs, eight have existing codes that prohibit feeding (3 more municipalities are considering adopting such legislation), both towns have an egg oiling program and the Town of Oyster Bay uses a dog as part of its hazing (persistent, nonlethal harassment) program.

The Town of Oyster Bay has three Border Collies and Cold Spring Harbor Laboratory has one Border Collie to scare geese from undesirable locations (i.e. golf course, lab grounds). The Village of Laurel Hollow has an informal agreement enabling them to borrow the dog from the Laboratory as needed. In addition the Village of Laurel Hollow arranges a schedule for resident volunteers to walk their dogs on a leash on the village hall/beach property to scare geese. Residents of Lloyd Harbor are also allowed to walk their leashed dogs in the Village Park but not along the beach. This approach is similar to the Village of Northport in Suffolk County which changed its code to allow leashed dogs to be walked in its waterfront park that was chronically plagued with goose droppings. According to communications with village employees and first-hand accounts this has resolved the goose dropping problem and provided a popular social benefit for the dog walking public without any reported instances of significant issues (i.e. dog waste, aggression). The popularity of this ideal location for dog walking has caused the Village of Northport to cancel its leaf bag give-away for homeowners to help cover the $6,000 annual cost for pet waste bags in the park.

In meetings with the municipalities surprisingly few locations where large concentrations of resident Canada geese congregate were identified. In fact most municipalities did not confirm any areas within their jurisdiction. This may be in part due to the fact that they are not responsible for any large public properties since those with schools, private golf courses or state parks suspected resident geese may be a concern for managers of these properties.

Areas of confirmed concentrations of Canada geese listed from west to east include:

- Laurel Hollow Beach
- Cold Spring Harbor Laboratory
- St. John's Pond (Cold Spring Harbor)
- Cold Spring Harbor Park (north side of Route 25A across from fire department)
- Lloyd Harbor Village Beach
- Southdown Road (private waterfront Lloyd Harbor homes in Huntington Harbor watershed)

Several additional areas were suggested as possible locations that require further investigation; from west to east these are:

- Recharge basins (30-40 maintained by Nassau County)
- Locust Valley School District (Bayville, Lattingtown)
- The Creek Club – ninth hole; village does lease club some land, contact: Bob Stein
- Bailey Arboretum (Lattingtown)
- Planting Fields Arboretum State Park (Upper Brookville)
- Brookville Nursery (Upper Brookville)

- Mill River Country Club (Upper Brookville)
- West Harbor Beach area (east of Bayville Bridge, Mill River Rod and Gun club vicinity)
- Muttontown Preserve (north end, Muttontown/East Norwich)
- Mill Pond (Oyster Bay)
- Oyster Bay Golf Course (Syosset/Woodbury)
- Our Lady of Mercy Academy (Syosset)
- Mercy First (Syosset)
- Oyster Bay/East Norwich School District
- Sagamore Hill National Historic Site (Cove Neck)
- Seminary of the Immaculate Conception (Lloyd Harbor)

One significant difference in waterfowl management among the towns is the result of local firearm ordinances. Waterfowl hunting is allowed in the Town of Oyster Bay (exclusive of the National Wildlife Refuge) but restrictions on discharges of firearms within the Town of Huntington preclude hunting. A summary of the current measures these proactive municipalities are doing to limit the impact of resident waterfowl on the estuary is summarized in Figure 2 below.

FIGURE 2: SUMMARY OF EXISTING LOCAL WATERFOWL MANAGEMENT EFFORTS

Municipal Member	Goose Management Program	Prohibit Feeding	Egg Oiling	Hazing	Hunting
Nassau County	Yes	Yes	Yes	No	Yes
City of Glen Cove	Yes	No	No	Yes	No
Town of Oyster Bay	Yes	Yes	Yes	Yes	Yes
Village of Bayville	No	Yes (updated Nov. 2014)	No	No	Yes
Village of Centre Island	No	No (updated Nov. 2014)	No	No	No
Village of Cove Neck	Yes	No (updated Nov. 2014)	No	No	Yes
Village of Lattingtown	Yes	Yes	No	No	No
Village of Laurel Hollow	Yes	Yes	No	Yes	Yes
Village of Mill Neck	Yes	Yes	No	No	No
Village of Muttontown	Yes	Yes (updated Nov. 2014)	No	No	No
Village of Oyster Bay Cove	Yes	Yes	No	No	No
Village of Upper Brookville	Yes	Yes (updated Nov. 2014)	No	No	No
Town of Huntington	Yes	Yes	Yes	No	No
Village of Lloyd Harbor	No	No, under consideration	No	No	No

The towns of Oyster Bay and Huntington both have active “Geese-Peace” programs that involve oiling Canada goose eggs. As seen in Figure 3 below the towns have consistently been able to locate approximately 100 nests and oil several hundred eggs each year. The Town of Oyster Bay program includes contracts with several large property owners (primarily public schools within the Town) in addition to Town lands such as parks and golf courses but the program is currently operating at full capacity and is not in a position to take on additional large properties. Town employees will address nests identified by private landowners upon consent and assess on a case by case basis how it can help.

The Town of Huntington Canada goose management has occurred primarily in the Huntington/Northport Bay watershed. As part of the initial “Geese-Peace” training in 2010, 14 eggs at three nests on the St. John’s pond on the Nassau/Suffolk County border were found. This data was included to show the level of effort occurring nearby. It is also worth noting that the 45% increase in eggs oiled from 2011 to 2012 in Huntington was a result of an assistant working with the individual who usually oils the eggs by himself. Having two people enables one person to scare away the geese while the other person oils the nest. This makes egg oiling more efficient and safer.

FIGURE 3: RESIDENT CANADA GOOSE MANAGEMENT ACTIVITY

	2010	**2011**	**2012**	**2013**
Town of Huntington				
Nests	106	99	150	138
Eggs Oiled	434	423	616	533
Eggs/Nest	4.09	4.27	4.11	3.86
Town of Oyster Bay				
Nests	Not Available	42	190	94
Eggs Oiled	Not Available	210	979	500
Eggs/Nest	Not Available	5.00	5.15	5.32

Techniques for Controlling Nuisance Waterfowl Population

The challenge of effectively controlling nuisance waterfowl in a cost effective, publically accepted manner has resulted in a variety of techniques being developed and tested throughout North America. These numerous techniques can be organized in the following five categories: discontinuing feeding, habitat modification, hazing/scaring, reproductive control and removal. A brief description of each of these approaches based on the work of Arthur Smith and others in "Managing Canada Geese in Urban Environments" is summarized below (Smith 1999). The strengths and weaknesses of each along with the relative cost are presented in Figure 4.

Discontinue Feeding

Feeding waterfowl such as geese, ducks and swans is a popular activity among the general public. Unfortunately feeding of bread and other foods with low nutritional value disturbs migration and can lead to large concentrations of waterfowl who grow accustomed to handouts from humans. Educating well-intentioned people about the detrimental effects of feeding wildlife, supported by "Don't Feed the Waterfowl" local laws, can reduce concentrations of undesired waterfowl.

Habitat Modification

Just like many humans, geese prefer large, unobstructed lawn areas near open water commonly found in parks, golf courses, athletic fields, office parks, residential communities and large private homes. The large turf area provides an ideal grazing area where it is easy for geese to see predators while the water provides a convenient escape and aids in preening.

To make these areas less attractive to geese a variety of techniques to modify the habitat can be performed. To reduce the attractiveness of turf areas property owners can stop mowing, eliminate fertilizing and limit watering. Preventing easy access between turf areas and the water makes geese uncomfortable. This can be accomplished by altering the shore-line through planting tall vegetation, installing fencing, adding large rocks or a walking path. Other physical barriers such as grid lines can be placed over a pond or islands to prevent geese from landing in these areas. There are also several commercially available goose repellants that can be dispersed on turf areas.

Hazing or Scaring

Use of visual or audible scare devices can be used to disrupt large concentrations of geese after they have settled. Visual scare techniques include scarecrows, "eye spot" balloons or kites, dead geese decoys and dog lawn ornaments. Gun shots, distress calls and propane cannons are a few of the audible methods employed to detract nuisance waterfowl. Hazing geese primarily involves the use of other animals such as trained birds of prey or dogs, introduction of predators or territorial swans to chase the geese away.

Many of these techniques are not generally recommended by the New York State Department of Environmental Conservation for a variety of reasons including: scare crows and dead goose decoys and distress calls have not been proven effective for geese; trained birds of prey are labor intensive and generally not available; and, territorial swans are not recommended because they cause other problems.

Reproductive Control
Controlling reproduction through sterilization or egg oiling, addling or puncture is a possible option. Sterilization currently requires surgery as the efficacy and the effectiveness of oral contraceptives such as Ovocontrol® (http://ovocontrol.com/ducks-geese/ovocontrol-g/) used primarily for pigeon control has not been independently verified for waterfowl. According to a communication with Erick Wolf, *Ovocontrol Control* is no longer made for ducks and geese as sales were minimal and resistance by hunting groups was especially difficult to overcome. It was also "virtually impossible to get" pesticide permits required by both state and federal agencies. Lastly, the long life of geese also does not make them good candidates for contraceptive control (Erick Wolf Personal Communication).

Suffocating viable eggs in corn oil, a technique known as "egg oiling", is a time consuming but popular reproduction control technique. Egg oiling may need to be conducted consistently for 5-10 years before showing results (NYS DEC 2007).

Removal
According to Smith (1999) the most effective way to reduce the size of an adult flock is to increase mortality among adult populations which can be accomplished by the capture and relocating or culling of adult geese or to allow hunting. Other researchers confirm that reducing adult birds is one of the most effective methods of controlling overabundant geese given their high survival rates (Ankney 1996). Shotguns used for goose hunting maximize potential to hit the target and minimize the impact on non-target animals or humans as they spread a mass of pellets over short distances (New Jersey Department of Environmental Protection 2001).

The New York State Department of Environmental Conservation reports that nearly 100,000 Canada geese are taken annually by the State's more than 30,000 waterfowl hunters (NYS DEC 2007). Even with these numbers and proof that hunting is effective for targeting resident geese populations with limited impact on migratory birds, waterfowl managers are still faced with overabundance and limited in their ability to expand the hunting season (Klimstra 2012).

In western Long Island Sound the 2013-14 Canada goose hunting season was October 5 – October 20, 2013 and November 28, 2013 - February 26, 2014. The bag limit was eight geese per day (NYS DEC 2013). Hunting requires a New York State hunting license (which requires a hunter safety course), a federal Migratory Bird Hunting Stamp, and you must be registered in New York's Harvest Information Program.

FIGURE 4: SUMMARY OF TECHNIQUES FOR CONTROLLING GEESE POPULATIONS (ADOPTED FROM SMITH 1999)

Technique	Strengths	Weakness	Cost
Discontinue Feeding (education, legislation, enforcement)	Inexpensive, reduces or eliminates feeding problems	May not be favored by public, often ignored, difficult to enforce, requires extensive education	Inexpensive
Habitat Modification (shoreline alteration, vegetation and other barriers, grid lines)	Reduces or eliminates nesting problems, permanent solution	Does little to reduce overall population, may detract from human benefits, can only control on public lands	Generally expensive
Reduce Attractive Turf Area (eliminate mowing, fertilizer use and watering)	Reduces or eliminates feeding problems, additional water quality benefits	Does little or nothing to reduce overall population size, may not be favored by the public/private home owners	Inexpensive
Apply Goose Repellants	Reduces or eliminates feeding problems	Geese may not move very far, must apply frequently, does little or nothing to reduce overall population	Expensive – frequent applications
Hazing or Scaring			
Visual or Audible Scare Devices	Short term effective, can be automated	Geese can become acclimated, some not effective (scarecrows, geese calls, dead goose decoys)	Medium
Use of Swans	Immediate reduction or elimination of nuisance flock, quiet	Real ones create problems, does little to reduce overall population	Medium
Trained Birds of Prey	Immediate reduction, quiet, effective if undisturbed or untreated adjacent area	Does little to reduce overall population, requires professional handler, few available	Expensive
Dogs to Chase Geese	Immediate reduction or elimination of nuisance flock	Will affect other species, usually requires professional handler, geese may not move far	Expensive (public managed) – less expensive if public dog walking
Introduction of Predators		None take geese only	
Reproductive Control			
Sterilization - surgery, no proven oral contraceptive	Generally approved by public	Labor intensive, no effective delivery system, oral contraceptive not independently verified	Expensive
Oil/addle/puncture Eggs	Controls gosling problem	Labor intensive, does little or nothing to reduce overall population size, may not be favored by the public	Medium – simple techniques, labor intensive
Removal			
Capture and Relocate	Immediate, generally accepted by public	Requires professionals, labor intensive, juveniles only, nowhere to relocate	Expensive
Culling	Immediate, meat can be used by food banks	Requires professionals, generally not accepted by the public	Medium
Allow Hunting	Most effective, direct impact on breeding adults	May not be favored by public, residential areas close to hunting	Inexpensive

DRAFT Recommendations
(as of January 2014)

There is significant evidence of the need and government agency support for resident Canada geese management. To be effective management efforts require a multi-faceted coordinated long-term strategy based on science with appropriate, proven techniques which have public support and that can be implemented consistently over time.

Recommendations:

Goal/Objective: Complete the initial assessment for the comprehensive waterfowl management program

1. Complete initial assessment by investigating all locations identified by municipal partners and residents as possible locations where large concentrations of resident Canada geese congregate. This will be accomplished by opening a dialogue with site managers and multiple site visits at different times of year.

2. Identify all recharge basins in the watershed and work with town and county partners to develop a strategy to investigate these for Canada geese nests.

3. Establish the goal of resident Canada geese management to achieve a sustainable population that does not negatively affect water quality, habitat or recreational enjoyment.

4. Work with the United States Fish and Wildlife Service, New York State Department of Environmental Conservation and other agencies to determine a baseline of existing levels of Canada geese and mute swans in Oyster Bay and Cold Spring Harbor.

5. Determine the current hunting locations, numbers of hunters targeting Canada geese and numbers bagged in Oyster Bay and Cold Spring Harbor.

6. Use the baseline to determine a sustainable population and evaluate progress toward meeting this goal.

Goal/objective: Increase public awareness, education and involvement

7. Increase awareness and education efforts about waterfowl management through Protection Committee and member web sites, printed materials and outreach programs.

8. Involve residents in assisting public employees in identifying areas where resident Canada geese and mute swans are seen.

9. Enforce regulations prohibiting feeding of waterfowl and other wildlife by internal training or policy.

Goal/objective: Implement best management practices

10. Encourage the six municipalities that do not currently have prohibitions on feeding of waterfowl/wildlife to adopt such ordinances (sample legislation in appendices).

11. Discontinue feeding of waterfowl through public education, legislation and enforcement.

12. Continue hazing using trained dogs and other methods as necessary.

13. Expand resident leashed dog walking program at Laurel Hollow Beach into other areas where there are large concentrations of resident geese (i.e. Village of Bayville's West Harbor Beach).

14. Coordinate dog walking/hazing program with the Oyster Bay/Cold Spring Harbor Protection Committees Pet Waste Management Program.

15. Identify sites on public lands to implement habitat modification to make areas less attractive to nuisance waterfowl.

16. Increase awareness of habitat modification best management practices, as part of the education campaign, to encourage homeowners and managers of large properties such as estates and golf courses to implement long-term, sustainable solutions.

17. Continue existing egg oiling programs and expand where possible (see recommendation concerning volunteers).

18. Resolve the legal/risk management issues currently preventing volunteers from being trained and utilized to participate in egg oiling and other "Geese Peace" efforts.

19. Coordinate the work of existing "Goose Control Officers" in the towns of Oyster Bay and Huntington and others nearby (i.e. Cold Spring Harbor Laboratory) to efficiently and cost effectively manage geese.

20. Work with local governments, residents, hunters, the New York State Department of Environmental Conservation and United States Fish and Wildlife Service to safely expand Canada goose hunting as the most cost effective means of population control.

21. Continue to coordinate waterfowl management efforts of government agencies (i.e. USFWS, NYS DEC, counties, towns and villages), with particular emphasis on monitoring the recently released Management Plan for Mute Swans in New York State December 2013 issued by NYS DEC.

22. Continually monitor all sites confirmed or suspected of being home to resident Canada geese or mute swans.

23. Annually evaluate the success of the Resident Canada Geese Management Program

Bibliography/Acknowledgements

Ankney CD. 1996. An embarrassment of riches: too many geese. Journal of Wildlife Management 60:217–223.

Battelle. 2007. Final Report for Shellfish Pathogen TMDLs for 27 303(d)-listed Waters prepared for U.S. Environmental Protection Agency Oceans and Coastal Protection Division and New York State Department of Environmental Conservation Division of Water, Duxbury, M.A.

Friends of the Bay. 2011 Oyster Bay/Cold Spring Harbor Watershed Action Plan prepared by Fuss & O'Neill. Oyster Bay, N.Y.

Granelli, Christian. 2012. Town of Huntington Resident Canada Geese Population Stabilization Program presentation to Oyster Bay/Cold Spring Harbor Protection Committee. Oyster Bay, N.Y.

Klimstra JD, Padding PI. 2012. Harvest distribution and derivation of Atlantic Flyway Canada geese. Journal of Fish and Wildlife Management 3(1):43–55; e1944-687X. doi: 10.3996/032011-JFWM-023.

Kossack, C. W. 1950. Breeding habits of Canada geese under refuge conditions. American Midland Naturalist 43(3):627-49.

Maryland Department of Natural Resources Mute Swan Task Force. 2001. Web. 10 Nov. 2013. The Maryland Mute Swan Task Force Recommendations. <www.dnr.state.md.us/wildlife/Hunt_Trap/waterfowl/muteswans/mstfpc.html>.

Michigan Department of Natural Resources. 2013. Web. 10 Nov. 13. Frequently asked questions about Mute Swans .<http://www.michigan.gov/dnr/0,4570,7-153-10370_12145_59132_59333-263394--,00.html >.

New Jersey Department of Environmental Protection Division of Watershed Management. 2001. Management of Canada geese in suburban areas: A Guide to the Basics. Trenton, N.J.

New York State Department of Environmental Conservation. 2013. Long-term Population Goals for Resident Canada Geese. Web. 10 Nov. 2013. <http://www.dec.ny.gov/animals/67311.html>.

New York State Department of Environmental Conservation. 2013. Nuisance Canada Geese. Web. 10 Nov. 2013. <http://www.dec.ny.gov/animals/7003.html.>

New York State Department of Environmental Conservation. 2013. Mute Swan. Web. 10 Nov. 2013, < http://www.dec.ny.gov/animals/7076.html>.

New York State Department of Environmental Conservation. 2013. 2013-14 Canada Goose Seasons. Web. 16 Nov. 2013. <http://www.dec.ny.gov/outdoor/28496.html>.

New York State Department of Environmental Conservation, Bureau of Watershed Assessment and Management, Division of Water 2011. The Atlantic Ocean/ Long Island Sound Basin Waterbody Inventory and Priority Waterbodies List Encompassing all or portions of Bronx, Kings (Brooklyn), Nassau, New York (Manhattan), Queens, Richmond (Staten Island), Suffolk and Westchester Counties Volume 2: Nassau and Suffolk County Waters. Albany N.Y.

New York State Department of Environmental Conservation Division of Fish, Wildlife and Marine Resources and U.S. Department of Agriculture Animal and Plant Health Inspection Service. 2007. When Geese Become a Problem. Albany, N.Y.

New York State Department of Environmental Conservation. 2003. Pathogen Total Maximum Daily Loads for Shellfish Areas in Oyster Bay Harbor and Mill Neck Creek. Albany, N.Y.

Town of Oyster Bay. 2013. U.S. Fish and Wildlife Service Resident Canada Goose Report of Activity Confirmation. Syosset. N.Y.

Smith A.E., S. R. Craven and P. D. Curtis. 1999. Managing Canada geese in urban environments. Jack Berryman Institute Publication 16, and Cornell Cooperative Extension, Ithaca, N.Y.

State of Rhode Island and Providence Plantations Department of Environmental Management Division of Fish and Wildlife. 2006. Mute Swan Management Plan. R.I.

Mute Swan Management Plan United Stated States Department of Agriculture Animal and Plant Health Inspection Services. 2009. Management of Canada goose nesting. Washington, D.C.

Vaa, Spencer (et. al.). 2010. South Dakota resident Canada goose management plan.

Wolf, Erick. 2014. Personal Communication representing OvoControl.

Wright, R.M., and Philips. 1991. Reducing the breeding success of Canada and graylag Geese, *Branta canadensis and Anser anser* on gravel pits. Wildfowl 42:42-44.

Appendices: Sample “Don’t Feed Waterfowl” Legislation

Compiled from the Town of Oyster Bay, and the incorporated villages of Laurel Hollow and Oyster Bay Cove.

For the purpose of this article, unless otherwise expressly stated or unless the context or subject matter requires otherwise:

DOMESTIC WATERFOWL
Those species of birds commonly known as white ducks, barnyard geese, Muscovy ducks and any other geese/ducks bred by man, but not any other waterfowl falling under the jurisdiction of the United States Fish and Wildlife Service and/or the New York Department of Environmental Conservation.

FEED
Shall mean to give, place, expose, deposit, distribute, or scatter any edible material with the intention of feeding, attracting, or enticing migratory waterfowl.

MIGRATORY WATERFOWL
Those species of birds commonly known as swans, geese, and ducks, and any other waterfowl falling under the jurisdiction of the United States Fish and Wildlife Service.

PERSON
Any individual, company, partnership, corporation, limited partnership, joint venture, or other legal entity.

TOWN PROPERTY
Any land which is owned, maintained, leased, or managed by the Town of Oyster Bay for any purpose whatsoever, including, but not limited to parks, preserves, beaches and drains.

Prohibition

No person shall feed or provide food for any migratory waterfowl on Town property at any time of the year.

Penalties for offenses

A violation of this article shall be punishable by a fine of not less than $100, nor more than $500. Any subsequent violation occurring within five years of the date of such first violation shall be punishable by a fine of not less than $250, nor more than $750.

Applicability

The provisions of this article shall not apply to property owned by or under the jurisdiction of other municipal authorities, the State of New York, and any agency thereof or the government of the United States of America.

MS4 Annual Report Form

Additional Watershed Improvement Strategy Best Management Practices

Current topics:

10. Has your MS4/Coalition enacted a local law prohibiting pet waste on municipal properties and prohibiting feeding goose feeding?

11. Does your MS4/Coalition have a pet waste bag program?

12. Does your MS4/Coalition have a program to manage goose populations?

Future Topics:

8a. Turf Management - fertilizer application on municipally owned lands.

8b. Turf Management – grass clippings and leaves on municipally owned lands

9. Has your MS4/Coalition developed and implemented a program of native planting?