



Belmar Environmental Commission

Belmar Environmental Commission
601 Main Street
Belmar, NJ 07719

December 28, 2023

Belmar Mayor and Council
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Dear Mayor and Council,

The Belmar Environmental Commission (BEC) began researching concerns regarding Silver Lake immediately after receiving feedback from residents during our March 2023 meeting. This letter aims to recommend specific actions to address the overpopulation of resident Canada geese, which is the most visible nuisance disturbing the Silver Lake community. Additionally, experts have advised that Silver Lake has a eutrophication issue (this process occurs when the environment becomes enriched with nutrients, increasing the amount of algae growth to estuaries and coastal waters) which is being exasperated by pollutant loading from geese. The BEC conducted a great deal of research, consulted with many experts in the field, allowed debate among commission members, and invited feedback from individuals from the public who attended our meetings. After careful consideration we developed what we believe is the most reliable, and financially practical long-term plan.

Resident Geese Mitigation Recommendation

The BEC recommends that the following measures be put into action no later than February 5, 2024, due to the time constraints associated with the mating habits of Canada geese.

1. Vegetative buffer: Please do not mow the grass from the lake to the walking path except for a neat mow line bordering the path.

All experts with whom we consulted consistently advised the BEC that the most effective and sustainable way to force geese to move and continue their migration elsewhere is to re-vegetate the shoreline. Trees, shrubs, and plants do not offer the security that leads to their residency. The vegetative buffer blocks their sightline causing anxiety over possible lurking predators. It also creates an obstacle disallowing an easy path especially for

young cygnets. This is the least expensive and most effective management technique especially when implemented with other measures and community education.

Previously this year, the BEC had recommended that the grass growing from the lake to the path be allowed to grow out. It was also suggested that a “clean mow line” exist at the edge of the path so this “grown out” area has a neat and extremely deliberate appearance. During the summer of 2023 the area was permitted to grow out, but our recommendation for the clean mow line was unfortunately never established. We were disappointed to see that this area was mowed in December 2023 which undermines our efforts as we approach this coming spring.

The BEC’s long-term goal is to establish a native riparian buffer of at least five feet in depth around the entire circumference of the lake. How this will be achieved will depend on whether the ocean pipe is restored, briefly described in greater detail below.

2. Signage: Erect signs around the lake informing the public that “Silver Lake restoration is in progress, please excuse our appearance” and indicating “no mow areas.”

The signs will inform residents about the ongoing restoration efforts, reduce confusion, and prevent unnecessary concerns or complaints. The signs will also demonstrate transparency and the proactive approach by the town. This can enhance the public image of Belmar and its commitment to environmental conservation.

3. Fines: The BEC recommends a \$500 fine for the first offense and a \$2000 fine for the second offense for feeding waterfowl with strict enforcement of the ordinance.

Experts consistently recommended the enforcement of severe fines for feeding waterfowl. If people are feeding the resident geese, the geese will never leave. Edgewater, NJ has been extremely successful with mitigating their resident geese population. They credit the strict enforcement of a \$2000 fine and cooperation between DPW and Edgewater police as being a critical part of their plan. It is important to note that feeding geese human food can be extremely harmful to geese causing a permanent deformity preventing flight. Signs should be installed conveying this message.

4. Nests: Beginning February 5, 2024, one or two volunteers and/or DPW staff must begin visiting the Silver Lake Island to break up nests one time per week. This effort must include the areas around the lake and continue until approximately the first week of April. Geese may begin laying eggs in the event this measure is not entirely successful. Nests should not be broken up once eggs are laid. The BEC is willing to assist Belmar DPW in any way possible including facilitating trainings, arranging consultation with other towns’ DPW departments and/or assisting with volunteer schedules.

Currently the island is the perfect place for nesting geese, and we must make it feel unsafe. The phragmites on the island must be cut back significantly as soon as possible. Breaking up nests is a fast process as it only takes a few minutes to break up one nest. There were eight nests in 2023. Geese will build a new nest if they find their “old” nest gone. When the lake was inhospitable after Hurricane Sandy, geese nested anywhere they could around the lake and within neighborhoods, so residents should be aware to keep an eye out for nesting geese on their properties and report it to DPW.

We are certain that one pair of geese nested on Inlet Terrace in 2023, producing five cygnets that walked the short distance to Silver Lake. The Administration should communicate with residents around Silver Lake, Lake Como, and Inlet Terrace informing residents to alert DPW if they see geese nesting on their properties so these areas can be addressed. We will not be successful if these areas are not included in the plan.

A permit with the New Jersey Division of Fish, Game and Wildlife must be obtained to break up nests and addle eggs. A link to the permit is included below. Registration must take place between January 1 and June 30 of the year in which the nests and eggs will be destroyed; individual names of employees or agents who will conduct the work must be included; individuals conducting the work must be at least 18 years of age.

5. Install Solar-Powered LED Lights: Purchase price \$3,192.00. (7-month trial period with satisfaction guarantee.) We recommend that these items are purchased with the installation to occur no later than February 5, 2024. Please see quote via link below.

There were several reasons why we chose this specific product. Deterring geese with specialized lights was recommended to us by several experts, including the USDA with studies backing their efficacy. These solar-powered LED units are a humane solution that disrupt the geese's sleep cycle and make the geese feel unsafe encouraging them to leave the area. These units are a one-time purchase, virtually maintenance free, and offer more than a temporary solution. This brand (Away With Geese) was recommended to us by the Edgewater DPW Superintendent and the Animal Protection League of NJ. The company performed a placement study specific to Silver Lake and recommended that we place 5 units in the water (anchored to a block or brick) and 3 units installed on the island. The company has been in business since 2006, stands behind the product and claims to have a 97% success rate; but if we are not satisfied, they offer a 100% money back guarantee (minus cost of shipping) after a 6-month trial period which we were able to extend to 7 months. There is a 2-year warranty from day of purchase on the lights. Our Edgewater DPW contact told us these units are quite easy to install and the company will guide us with installation and troubleshooting if needed.

Additional information: each unit covers a 100-yard radius with a 360° flash; they charge during the day and flash only at night; they only need 15 minutes of sunlight per week to operate; they are eye level to geese specifically and do not disturb other wildlife; they do not disturb humans as the light glows similarly to a lit cigar.

6. Handheld Lasers: Purchase price \$1,750. 2 @ item BDL-50G by Featherlight Technologies; Please see quote and demo via link below.

We recommend that this product is also purchased, and a plan is in place so one or two staff members and/or volunteers are harassing the geese daily especially at dawn and dusk beginning no later than February 5, 2024. Geese must be chased not just away from Silver Lake but completely out of town as they will seek refuge on Inlet Terrace, Shark River and/or Lake Como as they consider these areas part of their roost.

The rationale behind this product recommendation is consistent with the information provided above regarding the LED light deterrent; the USDA provides information about

this company specifically and it was strongly recommended to us by the Edgewater DPW Superintendent. What we find compelling about the use of handheld lasers:

- In studies no habituation to the laser unit was observed
 - Advantages of the laser include the ability to disperse birds from long distances making it unnecessary to use a kayak to chase the geese off the water once chasing them off the grass
 - In one study Canada geese numbers were successfully reduced by 85% at sites used consistently for foraging, loafing, and roosting
 - Please note that lasers are most effective before dawn or after dusk, when red or green beams are clearly visible
 - Bright sunlight will wash out a laser beam, rendering it ineffective, but the green beam is most visible in brighter situations which is why we are recommending the green light unit
 - These are not rugged pieces of equipment and should be handled with the same care one would handle a 35mm camera. The more durable model is considerably more expensive
7. Egg Addling: If all the beforementioned measures are not entirely successful and the geese lay eggs, we must begin egg addling. This process must begin the first week of April 2024 and consist of members of DPW and volunteers (who have already been identified) with the goal of annual continuity in mind. Homeowners near the lake, Inlet Terrace and Lake Como should be notified to alert DPW if geese are nesting on their properties. A permit with New Jersey Division of Fish, Game and Wildlife must be obtained; the link to the permit is provided below.
8. Close the buffet through community education: Habitat modification is the most effective and permanent solution for encouraging geese to avoid the area. If we want to discourage the geese, we must not provide their favorite foods such as turf-grass and non-native plants. Limit, or stop, fertilizing lawns. This reduces the nutritional value of grass eaten by Canada geese.

Furthermore, lawn fertilizer usually contains nitrogen, phosphorous and potassium (potash). Nitrogen is an important lawn nutrient, but it leads to contamination of the watershed, Silver Lake, Shark River and ultimately the ocean. These pollutants can kill or damage plants, fish, and wildlife, degrade the quality of the water and contribute to algal blooms.

9. Molting Season: During late June through July, most adult geese have molted (shed) their flight feathers and are unable to fly more than a short distance. The community must be educated on this point and have patience during this time.

The methods that we have recommended are largely modeled after Edgewater's current program. It had been suggested at a council meeting that Edgewater used a lethal solution for geese mitigation which is not entirely correct. They had used this method nine years ago but received backlash from the community and have not used it since. For the sake of clarity and community understanding, we want to address other solutions that have been discussed at council meetings and explain why we are not recommending them:

1) Dogs: The use of dogs is a method that had been used by Edgewater DPW with very little success. The DPW superintendent reported to us that a “dog is not the answer.” Geese became familiar with the vehicle that transported the dog, would leave when they’d see it approach and return when it left. This feedback is perfectly consistent with reports from Spring Lake’s Environmental Commission. Additionally, in June of 2022, Spring Lake admitted to having had “euthanized” geese from 2010-2023. To claim a dog is responsible for the clearing of geese in Spring Lake is not a reasonable conclusion given these facts. We also consider it an expensive and extremely temporary solution.

2) A machine to pick up geese feces: This method was also tried by Edgewater, and they were unhappy with the results. The machine left an oil residue which scorched the grass leaving it unsightly. We recommend addressing the root of the problem by creating an inhospitable area in which case there is no need to clean up geese droppings.

3) Sprays and repellents: Repellents can be costly due to the large quantities needed to be effective and the need to reapply after periods of precipitation. This requires frequent reapplication on crops to ensure adequate coverage during the growing season, especially in turf areas where the turf is mowed. Edgewater spent \$8K on a spray repellent and it washed away with one rainstorm.

4) Various scare objects: Balloons, aluminum foil, and fishing line are too dangerous and a hazard in public areas. Decoy coyotes are inexpensive, but habitation seems to occur after some time.

We must remember that Belmar will always have some number of migratory geese visiting our town. We believe that the proposed plan will certainly dissuade them to a great degree, but zero migratory geese is an unreasonable goal as these are wild animals and were visiting our waters long before humans inhabited the area. We do believe we can substantially reduce the number of resident geese and prevent them from living and breeding here full time. The overall objective is to reduce the geese population as a first step in bringing health back to Silver Lake.

While we strongly recommend that the Administration prioritizes the mitigation of resident geese, it is but one piece of the puzzle. The overpopulation of resident geese is a symptom of a habitat problem rather than the underlying issue. The BEC is deeply concerned about the current state of the lake and formed a sub-committee to thoroughly understand the problems so we may propose detailed and feasible solutions.

We believe that Silver Lake must be recognized for its significance as one of Belmar's most integral natural resources. Our goal is to restore the health of Silver Lake so that it may be enjoyed by future generations. The following information will provide a brief description of the current issues impacting Silver Lake to underscore the importance of bringing vitality back to the lake and for the benefit of the community’s understanding.

Brief Description of the Current State of Silver Lake

Silver Lake serves as a major collection point for Belmar's water runoff, with eighteen storm water pipes feeding into it. This runoff carries sediments, fertilizer, pesticides, trash, animal waste, and road oils, negatively impacting the lake's aesthetic value by reducing its depth and promoting algae growth. Prior to Hurricane Sandy, Silver Lake was connected to the Atlantic Ocean, providing tidal flushing that helped export nutrients and maintain higher salinity. This connection was destroyed during or around the time of the hurricane. Because the lake's natural watersheds and drainage basins have been severely altered it requires periodic maintenance and this maintenance is long overdue.

In July 2023, Silver Lake experienced a harmful algal bloom (HABs) with a moderate health risk advisory. According to the DEP, harmful algal blooms have become 40% more frequent in New Jersey, primarily affecting freshwater bodies, due to hotter temperatures and increased pollution from human activity. That said, experts at The Rutgers Cooperative Extension (RCE) Water Resources Program told the BEC: "Silver Lake appears to have substantial problems. There is certainly a eutrophication issue that is a result of urban stormwater runoff and pollutant loading from geese. It also appears due to the lack of freshwater input; the flushing time of the lake is very long which contributes to the buildup of algae in the lake." The lake will experience more substantial and costly problems (I.e. requiring dredging) if the core issues are not addressed.

The BEC as well as the Silver Lake Sub-Committee will continue to work with experts to provide the most cost effective and successful solution for our town as well as the lake. We are still evaluating options relative to the potential restoration of the ocean pipe. The BEC will follow up with more information and recommendations very soon.

We appreciate your attention to this matter.

Sincerely,

The Belmar Environmental Commission

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Equipment Quotes and Demo Videos:

https://drive.google.com/drive/folders/1xTiK00pNRJVby32I3kYrd1mpoKjOwB8A?usp=share_link

Installed Lasers: <https://www.awaywithgeese.com>

Handheld Lasers: <https://www.aviandissuader.com>

Registration for permit: “You must register each year prior to taking nests and eggs. You must register between January 1 and June 30 of the year in which the nests and eggs will be destroyed. You must also enter the individual names of employees or agents who may conduct the work on your behalf. You must be at least 18 years of age to register.” <https://epermits.fws.gov/eRCGR/>

Sources:

<https://oceanservice.noaa.gov/facts/eutrophication.html>

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<https://www.app.com/story/news/local/2023/07/27/harmful-algal-blooms-in-nj-causing-advisories-against-swimming-fishing/70471466007/>

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<https://colliersengineering.com/projects/silver-lake-drainage-outfall-installation/>; https://www.mcsonj.org/wp-content/uploads/2021/07/Belmar_Borough-HMP-2020.pdf

https://www.aphis.usda.gov/wildlife_damage/reports/Wildlife%20Damage%20Management%20Technical%20Series/GeeseDucksCoots-WDM-Technical-Series.pdf

<https://www.audubon.org/field-guide/bird/canada-goose>

<https://www.mass.gov/news/when-geese-cant-fly#:~:text=During%20late%20June%20through%20July,and%20are%20unable%20to%20fly.>

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<https://newjersey.news12.com/spring-lake-confirms-saturdays-lethal-geese-round-up-was-part-of-mitigation-efforts>

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