

2025 Canada Goose Egg Addling Report

Regional Canada Goose Management Strategy

Capital Regional District | Environmental Protection



Photo by Katie Lauer

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1.0 Acknowledgements

The Capital Regional District (CRD) conducts its business within the territories of many First Nations, including but not limited to BOḰEĆEN (Pauquachin), MÁLEXEȽ (Malahat), Paaʔčiid?atx (Pacheedaht), Pune'laxutth' (Penelekut), Sc'ianew (Beecher Bay), Songhees, S̓XÁUTW (Tsawout), T'Sou-ke, W̓JOȽEȽP (Tsartlip), W̓SIKEM (Tseycum), and xʷsepsəm (Esquimalt), all of whom have a long-standing relationship with the land and waters from time immemorial that continues to this day.

The CRD would like to recognize the continued hard work and dedication of the numerous groups who have contributed to Canada goose management in the capital region including Peninsula Area Agricultural Commission (PAAC), Guardians of our Salish Estuaries (GooSE), First Nations, Parks Canada, Department of National Defense (DND), BC Parks, Victoria International Airport, Swan Lake Christmas Hill Nature Sanctuary, William Head Institution and municipal staff. The CRD would also like to acknowledge the contributions made by stewardship groups, Jacques Sirois, Tom Michell, Jody Wells, John Costello and the many individuals who have allowed CRD staff onto their land.



Figure 1. Photo of addling technician Harry Conan addling Canada goose eggs at the Hartland Landfill (photo by Samantha Hammond)



Figure 2. Photo of a Canada goose nest on agricultural land (photo by Samantha Hammond)

2.0 Introduction

Historically, Canada geese (CAGO) found on Vancouver Island were occasional migratory visitors over the autumn and winter months and were very rarely seen nesting. In the 1960's and 70's a CAGO introduction program was implemented by the Canadian Wildlife Service, BC Fish and Wildlife Branch and various other organizations to increase wildlife viewing and hunting opportunities on Vancouver Island. The introduced geese were young birds from various subspecies of Canada geese who were unable to learn migrating behaviour patterns from their parents. Eventually these geese interbred, creating a hybrid population of non-migratory resident geese which are not native to the region.^{[1][2]}

According to Christmas Bird Count data, the current Vancouver Island CAGO population ranges from 16,000-21,000 with an estimated 9,000-11,000 birds overwintering in the capital region^[3]. The exponential growth of the regional CAGO population is degrading coastal ecosystems and waterways by over-grazing, trampling vegetation, soil erosion and the spread of invasive species. These areas include endangered Garry Oak ecosystems, near-shore islands in ecological reserves and estuaries that are critical habitats for young salmon^{[4][5][6]}. Increased public health concerns have risen from public and private recreational sites including parks, sports fields, swimming beaches, golf courses and farmlands. These concerns are due to high densities of fecal matter, degradation and contamination of water sources, territorial goose conflicts and spread of disease^[7]. Significant economic impacts have occurred with local farmers experiencing financial losses from CAGO damaging crops through grazing and soil erosion, increasing maintenance costs, and contaminating crops and water with their droppings. Poultry farms are also at risk of exposure of Highly Pathogenic Avian Influenza from CAGO^[8]. These impacts have resulted in increased pressure on local governments to take coordinated action.

In 2012, the CRD partnered with municipalities and other stakeholders to develop a Regional Canada Goose Management Strategy (RCGMS) to provide guidance for controlling the adverse impacts that the population of non-migratory, resident CAGO have in the capital region^[2]. These management tools include population monitoring, preventing feeding, habitat modification, hazing, egg addling, hunting, harvesting and public outreach. Since its development, numerous actions have been undertaken with hazing strategies becoming the most popular. Unfortunately, without a coordinated approach, geese and their associated impacts have moved into new areas, expanding the nesting and overwintering populations.

In February 2023, the CRD Board approved the Canada Goose Management Service Establishment Bylaw No. 1, 2022 (Bylaw No. 4522) that aims to reduce the impact of the rapidly growing CAGO population in the capital region. This bylaw was adopted after receiving elector assent through a regional alternative approval process. The RCGMS includes:

- monitoring, mapping and reporting on CAGO populations and their impacts.
- coordinating and establishing collaborative partnerships with municipalities, First Nations, large landowners, Peninsula and Area Agricultural Commission, other government agencies and stewardship groups to implement the CRD's RCGMS.
- development and implementation of a communications strategy and public education program to support the management of CAGO populations.
- collaborating with other Vancouver Island regional districts, local governments, and First Nations to reduce CAGO populations through the Vancouver Island Canada Goose Management Working Group.

The RCGMS identifies egg addling as an effective approach to population reduction. This type of program is crucial for reducing the number of geese recruited into the population each year. Since 2018, the CRD has supported CAGO management actions in the capital region and had contracted an egg addling program with the Guardians of Our Salish Estuaries (GooSE) since 2020. Additionally, other organizations on Southern Vancouver Island have supported CAGO management efforts with their own egg addling programs. For example, BC Parks entered a 10-year agreement in 2022 with GooSE to addle eggs on the ecologically sensitive offshore islets of Oak Bay. The Department of National Defence (DND) has been implementing egg addling and other mitigation measures for over ten years and Parks Canada has been involved in egg addling efforts since 2015. While these efforts have slowed the growth of the resident CAGO population, other methods must be administered to significantly reduce the population.

The CRD initiated an in-house egg addling program in spring 2024 to build capacity and expand egg addling efforts into new areas. This initiative aims to build a comprehensive knowledge base of CAGO nesting behaviour, assist in addling efforts and promote coordination at a regional scale. Insights gained in the first year helped inform this year's efforts and fostered partnerships with landowners, managers, stewardship groups and First Nations. This report outlines the methods and results of the 2025 CRD egg addling field season and discusses limitations and recommendations for enhancing its effectiveness in subsequent years.

3.0 Methods

The egg addling program was initiated to reduce the number of geese recruited into the local population by decreasing egg viability and hatching success. The program ran from March to May 2025.

3.1 Partnership Building and Land Access

- **Working group:** The Regional Canada Goose Working Group (RCGWG), established in 2024, meets quarterly to coordinate efforts and share information between different stakeholders across the capital region.
- **Permit acquisition:** A regional permit from Environment & Climate Change Canada's Canadian Wildlife Service (ECCC-CWS) was applied for on January 14, 2025 and received on January 21, 2025. Private property owners could join the permit by signing a land authorization form.
- **Landowner outreach:** A letter and package were created to inform property owners about the CRD's goose management programs and encourage participation. These materials were mailed to over 1,600 properties within the capital region that were either located in the Agricultural Land Reserve or designated as farms according to BC Assessment Authority data.
- **Landowner authorization:** Participating landowners signed an authorization letter, adding their property to the CRD's permit and granting CRD technicians' access to their land.
- **Ongoing engagement:** CRD staff engaged with municipal partners, Songhees Nation, Malahat Nation, WSÁNEĆ Leadership Council, land managers and parks staff to determine potential nesting sites. Continuous door-to-door canvassing and information sharing were conducted throughout the program in areas with CAGO nesting.
- **Partner relations:** Continued work with partners currently providing nest surveys and egg addling mitigation work in the capital region.
 - GooSE continues to work with PAAC, the District of Central Saanich, BC Parks and various other stakeholders to provide egg addling services on farmlands, quarries and ecological reserve islets.

- Parks Canada continues to conduct egg addling activities on park lands with a significant CAGO presence including Fort Rodd Hill and various sections of the Gulf Island National Park Reserve.
- DND continues to provide mitigation measures on their lands and islets around the Esquimalt Harbour.
- Swan Lake Christmas Hill Nature Sanctuary conducts its own egg addling program in Saanich.
- William Head Institution conducts their own goose management program on federal lands in Metchosin.
- CRD staff conducted nest identification and survey training for municipal parks staff through the RCGWG. Additional egg addling training was provided in the field to District of Saanich and City of Victoria parks staff.
- Local First Nations were invited to participate in the egg addling program and other goose management activities.

3.2 Nest Surveys and Egg Addling

- **Nest surveys:** Conducted on foot from March 4 to May 25 on public lands and private properties where CRD had permission to access. Geese were gently removed from nests to allow technicians to addle eggs.
- **Sterilization:** When a nest with eggs was discovered, the egg addling protocol found below was followed:
 - Eggs underwent a float test (Figure 3) and were not addled if beyond the development guidelines defined by the American Veterinary Medical Association [9].
 - If the eggs were at stage 1, they were below the incubation threshold for addling and were coated with vegetable oil to prevent gas exchange. If eggs were between development stages 2 and 4, they were addled by vigorously shaking the egg. If eggs were at stage 5 or 6, no sterilization techniques were administered (Figure 3).
 - All eggs were then marked with a nest number and placed back into the nest to allow the goose to continue incubation, reducing the likelihood of re-nesting.
 - All nesting sites were re-visited in two-week intervals to sterilize any newly laid eggs and search for nests laid later in the breeding window.
- **Geographic Information System (GIS) tracking:** Addling information was entered into a GIS app called FULCRUM. Nest details, location information, visit date(s), and other notes or photos were recorded. Supplemental GIS data was compiled and included areas where no nests were found, locations of missed or inaccessible nests, locations of recently hatched goslings and other relevant information.
- **Partner Egg Addling:** CAGO management partners (GooSE, DND, Parks Canada and others) conducted nest surveys and egg addling using the same or similar methods and techniques as described above.

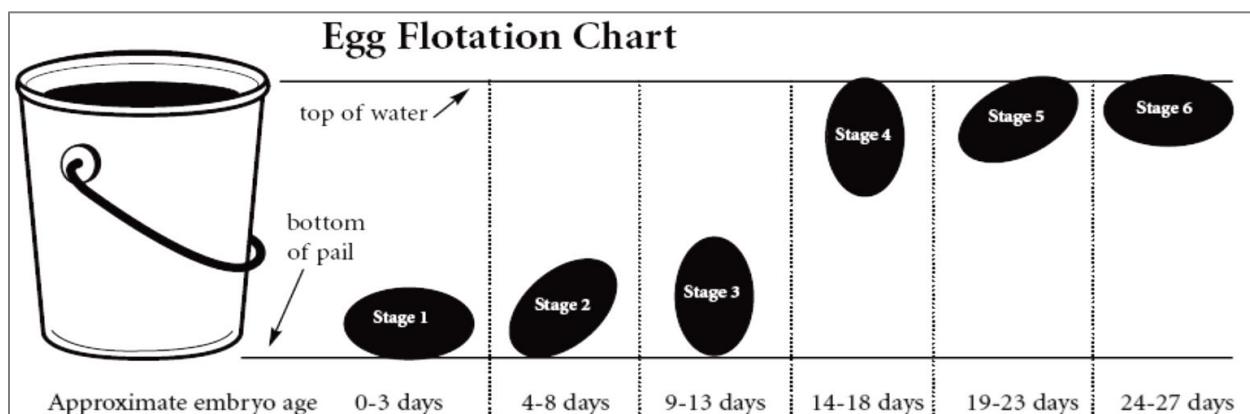


Figure 3. Float test infographic used to determine the age of a Canada goose egg. Image adapted from Iowa Department of Natural Resources [10]

3.3 Gosling Surveys

- **Gosling surveys:** Additional nest and gosling surveys continued in late May and early June after the CAGO breeding window closed. Missed nests that were identified had GPS data recorded and areas with goslings highlight potential nesting locations to investigate in 2026. A brood is defined as a group of goslings with only its parents in attendance and can help us identify a missed nest. A gang brood is defined as multiple broods amalgamated into one, with two or more parents in attendance and can indicate multiple missed nests [11].
- **Online submissions:** Additional gosling locations were extracted from a naturalist website called eBird where bird observations are mapped, and a survey tool called GooseWatch created by the CRD to monitor goose populations; both methods rely on data submitted by the public. Digital submissions will continue to assist in the location of new nests in the following years.



Figure 4. Photo of Canada geese with their goslings (age 1-9 days) at Royal Roads University (photo by Samantha Hammond)

4.0 Results

4.1 Land Access Results

In January, CRD staff sent a mailout to the agricultural community and knocked on doors in neighbourhoods with a high goose presence and a likelihood of nesting geese. Over 180 landowners responded with 89 properties granting the CRD access to complete nest surveys, 41 of which were found with active nesting, a 60% increase from last season. Property access expanded in Saanich, Central Saanich, Victoria and the Gulf Islands by over 30% and remained the same or was reduced in the remaining municipalities (Figure 5).

Another 51 landowners agreed to monitor for signs of nesting and report on goose presence, and 10 landowners denied access (Table 1). It was determined that another 37 properties were addled by other groups including DND, Parks Canada, GooSE and private landowners. An additional 76 properties with a likelihood of nesting have been identified as targets for the 2026 egg addling season.

Table 1. 2025 CRD program land access results in the capital region

Site Access Data	2025
Surveyed by the CRD	89
Monitored by landowners	51
Denied access	10
Addled by other groups	37
Potential sites for 2026	76

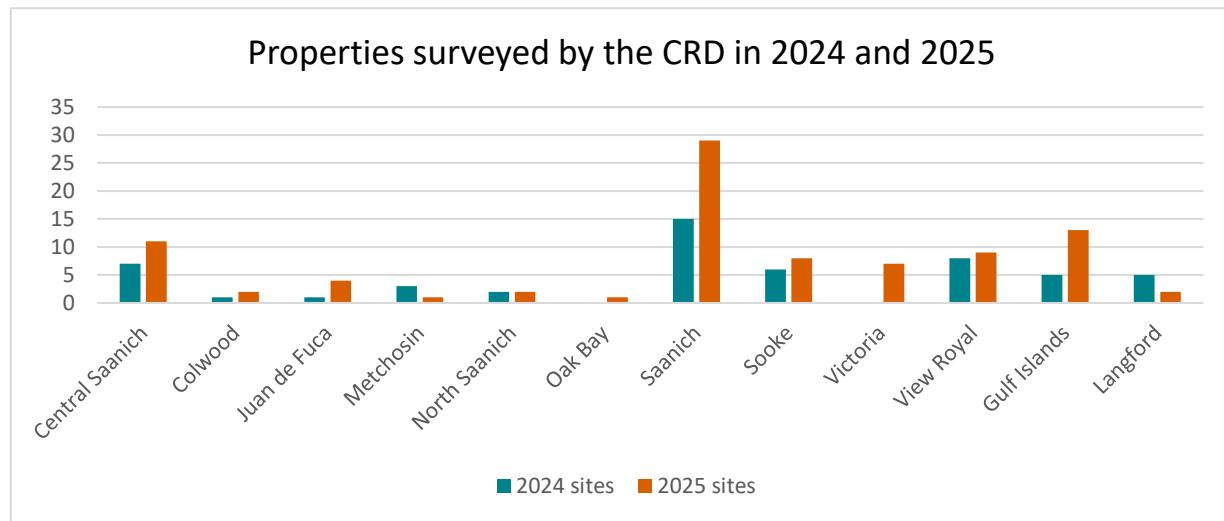


Figure 5. Bar graph comparing the number of properties accessed by the CRD for nest surveys in each municipality (2024 and 2025)

4.2 CRD Egg Addling Results

The CRD egg addling season began on March 1, 2025, with the initial nest survey conducted on March 25, 2025. Surveys covered 89 sites, and a total of 190 nests were discovered with 907 eggs that were either addled, oiled or removed by CRD personnel (Table 2). Of the 190 nests and 907 eggs, 17 nests with 70 eggs were treated in partnership with Parks Canada, seven nests and 37 eggs were treated with municipal parks staff, six nests and 37 eggs were treated with golf course staff and eight nests with 27 eggs were treated in the Greater Victoria Watershed. Nesting activity was recorded at 41 sites distributed across 11 municipalities and electoral districts (Figure 7). Most nests (72%) were located on agricultural lands, while 17% were found in public parks. The remaining 11% were situated on recreational, residential, and industrial properties (Figure 6).

Additional data was collected in the FULCRUM app on nests that were missed, inaccessible or suspected to have experienced predation (Table 3). Missed nests were defined as nests with eggs that failed the float test, were already hatching or had already hatched. Suspected predation nests were identified based on evidence such as scattered shell fragments or broken eggs with no brooding geese present. Common predators of CAGO eggs are raccoons, ravens,

crows, gulls and otters. Incorporating these locations, the total number of identified CAGO nest locations in the region increased to 237. Nests were considered inaccessible if they were located on steep cliffs, in abandoned buildings, or on properties where landowners could not be contacted, making it unsafe for CRD personnel to access them.

Table 2. Total number of CAGO nests, eggs and sites treated in each municipality by CRD technicians in 2025

Region	Nests	Eggs	Sites
Central Saanich	21	98	4
Colwood	19	82	2
Gulf Islands	20	97	7
Juan de Fuca Electoral Area	9	48	2
Metchosin	6	26	1
North Saanich	11	54	2
Oak Bay	1	6	1
Saanich	90	415	16
Sooke	3	15	2
Victoria	6	41	3
View Royal	4	25	1
Totals	190	907	41

Table 3. Number of CAGO nests documented by CRD personnel in the capital region in 2025

Nest Type	Total
Treated	190
Inaccessible	9
Suspected Predation	26
Missed	12
Total Known Nests	237

Canada Goose Nest Locations Within the CRD

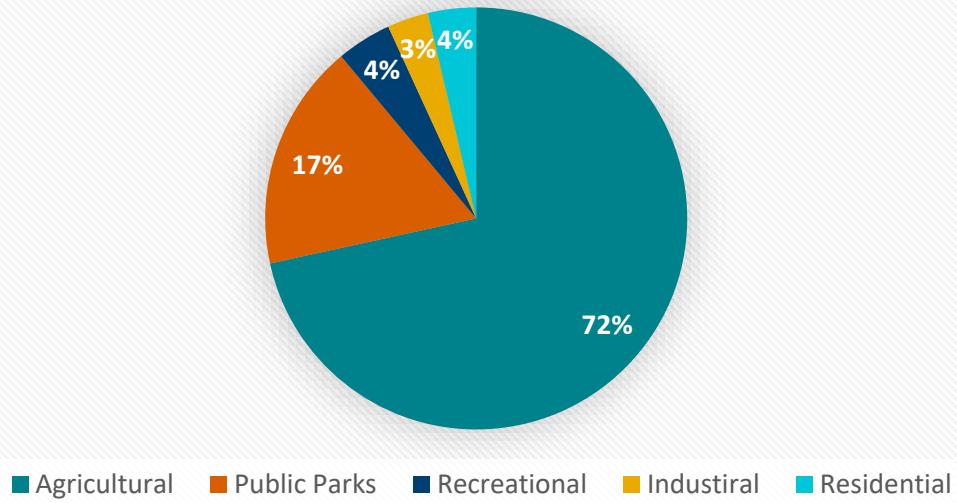


Figure 6. Pie chart comparing the number of nests and eggs found on each property type surveyed for CAGO nests in the capital region during the 2025 season

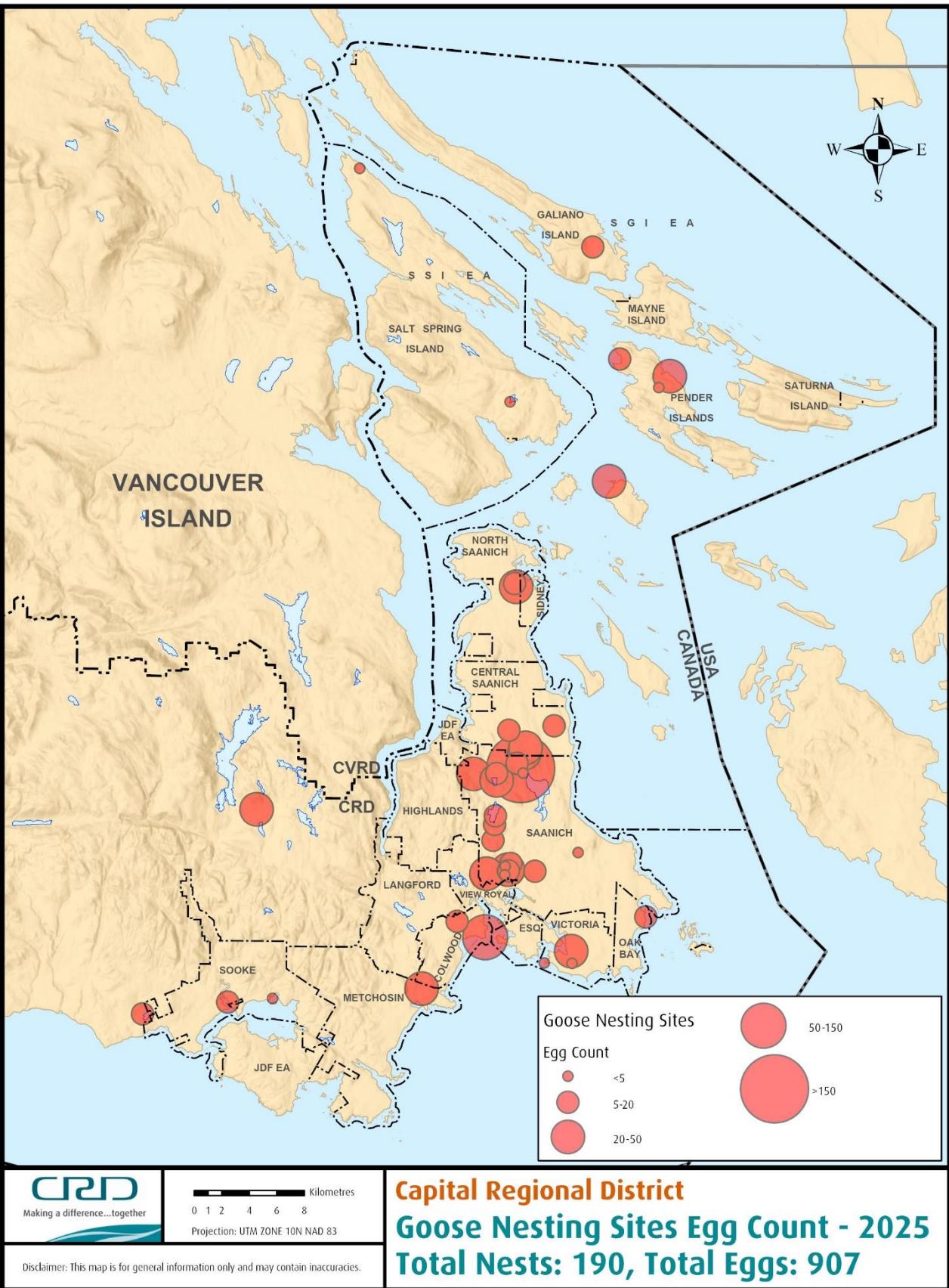


Figure 7. Map depicting the locations of Canada goose eggs treated by CRD technicians during the 2025 CAGO nesting season

4.3 Coordinated Egg Addling Results

Partner organizations such as GooSE, DND, Parks Canada, Swan Lake and the William Head Institution have been actively involved in addling initiatives across southern Vancouver Island for several years. During the 2025 CAGO breeding season, the CRD addled a total of 190 nests with 907 eggs and partner organizations addled a total of 211 nests with 969 eggs; these coordinated efforts led to 401 nests and 1,876 eggs being treated in the capital region (Table 4). Since 2022, addling activities have effectively prevented approximately 7,260 CAGO eggs from successfully hatching. The annual survival rate for urban goslings is estimated to be 77%, compared to an estimated 59% for those in rural environments [12]. Given that the majority of CAGO nests were found on agricultural lands considered rural, it is estimated that regional addling efforts have prevented the recruitment of approximately 4,280 CAGO into the local population. This number increases significantly if future growth from the prevented population is considered. The initiation of the CRD egg addling program and coordination with partnering organizations has substantially increased the success of the addling programs within the capital region.

Table 4. Total number of known CAGO nests and eggs treated in the capital region from 2022-2025

Partner	2022		2023		2024		2025	
	Nests	Eggs	Nests	Eggs	Nests	Eggs	Nests	Eggs
CRD	9	33	8	30	157	696	190	907
Guardians of our Salish Estuaries	236	1,162	207	1,019	201	1,037	110	584
Department of National Defense	58	239	54	206	38	148	50	144
Parks Canada	38	156	63	261	28	97	28	145
Other	21	108	19	104	13	87	23	96
Totals	362	1,698	351	1,620	437	2,065	401	1,876

4.4 Gosling Survey Results

Gosling surveys help staff determine areas where nests have been missed and uncover additional breeding locations for future egg addling programs. In 2025, goslings from untreated nests began hatching in late April, only individuals at the growth stage 1 with an age of 1-9 days were documented. Goslings leave the nest within 1-2 days; therefore, this growth stage is the most likely to still be close to the original nesting location.

CRD staff conducted gosling surveys over 29 days from April 22 to June 25, 2025. Data collection included direct field observations as well as public submissions via eBird and GooseWatch. These efforts documented 542 goslings from approximately 111 broods (Table 5). As eBird submissions did not include brood counts or sizes, the number of missed nests is estimated based on the number of adults in the immediate area and apparent family groupings. Confirmed sightings were compiled into a spatial data layer within the FULCRUM app to support the identification of potential nesting sites in future seasons (Figure 8). High numbers of goslings indicate areas where more focused nest search efforts are required. Burnside Road West, Portage Inlet, Tsehum Harbour and Pender Island have all been identified as breeding spots requiring additional addling efforts in the 2026 season.

Table 5. Total number of goslings and family groups documented during recruitment surveys in the capital region 2025

Municipality	Goslings	Adult Geese	Family Groups
Central Saanich	42	14	7
Colwood	10	4	2
Gulf Islands	99	86	20
Langford	3	2	1
Metchosin	53	29	10
North Saanich	56	16	10
Oak Bay	13	6	3
Sooke	9	5	2
Saanich	177	72	40
Victoria	29	12	6
View Royal	51	10	10
Totals	542	256	111

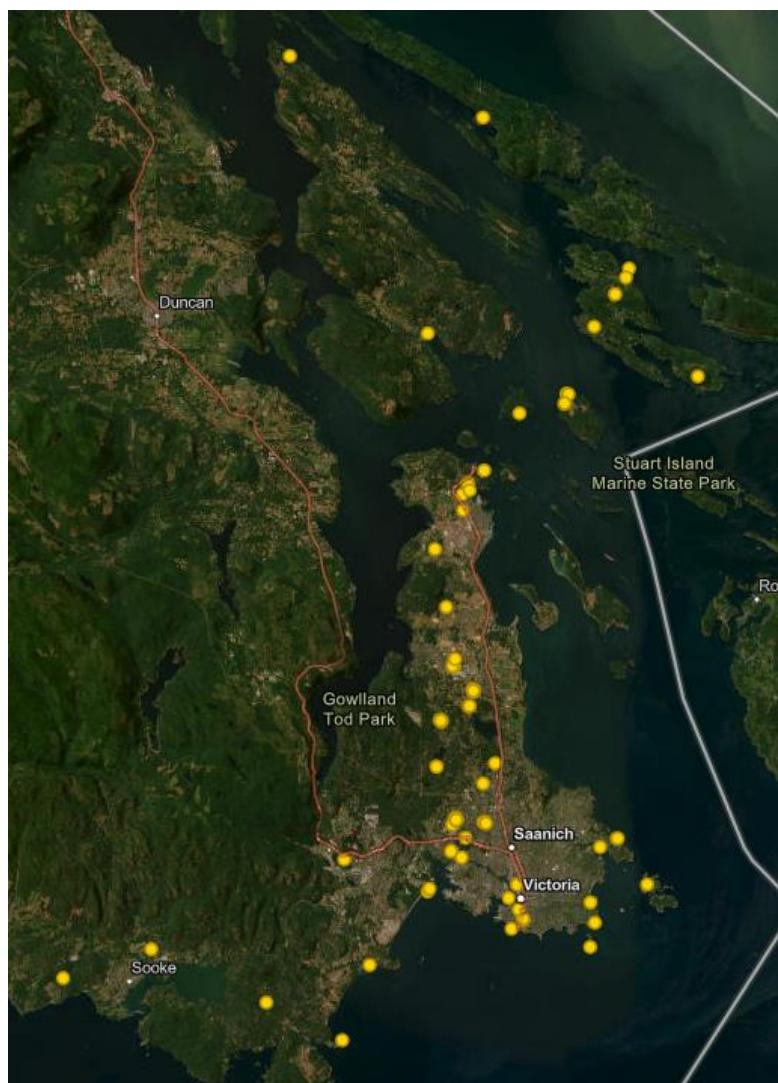


Figure 8. Map of CAGO gosling surveys conducted in the capital region from April-June 2025

5.0 Discussion

In its second year, the coordinated region-wide CAGO egg addling program focused on maintaining and building relationships, securing permission and access to private and public properties, and expanding the CRD egg addling program into new areas.

A key recommendation from the 2024 egg addling report identified a need to streamline permitting and administrative processes for municipalities, farmers and other landowners to make participation in the egg addling program easier. Following discussions with the Regional Canada Goose Working Group (RCGWG) members, park use permits (typically required for work in municipal parks) were removed for CRD staff to complete nest surveys. This change significantly alleviated the administrative burden for both CRD and municipal personnel. The CRD received a regional damage or danger permit from ECCC-CWS that allows landowners to join by signing a land authorization form. Given the scale of the CRD egg addling program, obtaining a land authorization form from each landowner creates additional work for them and can be time consuming. Consultations with a representative from the ECCC-CWS began in early February, and as a result, landowners can now authorize CRD staff to access their properties for up to three years. This eliminates the need for annual reauthorization and reduces administrative tasks.

The regional CAGO egg addling program hired a goose management technician to start earlier this year, on March 1, 2025. This allowed for continued relationship building with landowners and stakeholders, pre-season planning, scheduling site visits, and conducting outreach in areas with dense CAGO populations. This also enabled CRD staff to follow up on leads developed from the 2024 GIS mapping and gosling surveys and incorporate pre-nesting scouting of mated pairs. A new cooling and freezing method for egg sterilization was introduced. In this approach, CAGO eggs are collected and stored in a freezer at the CRD lab to create an inventory. Freezing effectively halts embryonic development making the eggs non-viable. These eggs can later be used as a replacement in active nests, reducing the amount of time CRD technicians spend at each nest creating a safer environment in risky areas and minimizing the stress for nearby observers. This method improved operational flexibility, increased comfort among participating municipalities and facilitated collaboration with building managers, allowing CRD staff to assist with rooftop nest management in locations with high public visibility.

The program expanded into several high-priority areas identified in 2024, including the Gulf Islands, Saanich, Central Saanich and Victoria. On the gulf islands, the number of properties with access went from five to 13 and incorporated Salt Spring Island and Pender Island. In Saanich, the number of participating properties increased from 15 to 29, with active nests found on 16 sites, particularly concentrated around Hastings Flats and Oldfield Road. Numerous new sites in Victoria and Central Saanich joined the program. However, no nests were located along the Songhees Walkway despite frequent sightings of gosling broods. This suggests that nesting may be occurring on small, unnamed islets within Victoria Harbour. Work should be completed to obtain access to these areas prior to the 2026 breeding season. Municipal parks staff in Saanich and Victoria received nest survey and egg addling training and should be able to conduct independent addling under the CRD permit in future seasons. Additionally, participating golf course staff were trained and are expected to manage addling activities independently next year. This will support long-term program sustainability and allow CRD staff to continue expanding into new locations.

A key management partner, GooSE, surveyed a similar number of properties in 2025 but reported a 44% reduction in the total number of nests and eggs treated relative to the 2024 egg addling season. The CRD addling program in collaboration with Parks Canada observed a 52% decrease in the number of eggs treated at the Fort Rodd Hill National Historic Site. These reductions are encouraging and are likely a result of the 2024 First Nations led harvest that occurred in Esquimalt lagoon. As CAGO mitigation efforts are implemented over multiple years at specific locations, a corresponding decline in the number of eggs found at those sites is anticipated. However, as the CRD egg addling program continues expanding into new areas, the overall number of eggs may initially increase locally before beginning to decline as long-term management efforts take effect.

Overall, the second year of the coordinated regional egg addling program was successful. An additional 907 eggs from 190 nests were treated by CRD staff, representing a 23% increase from the 2024 season. Combining this data with that from our partner organizations, who addled a total of 211 nests containing 969 eggs, brings the known regional total to 1,876 eggs for 2025. Data collected by the CRD and all other participating groups from 2022 onwards indicates that at least 7,260 CAGO eggs have been prevented from hatching, meaning approximately 4,280 CAGO were not recruited into the local population. However, the 2025 regional gosling survey estimated at least 111 missed nests, a number that is likely much higher. Continued effort to strengthen relationships, increase program resources and expand egg addling coverage are essential to ensuring the long-term success of the program.

6.0 Recommendations

The coordinated regional CAGO egg addling program had a successful second season. The program could be further improved to increase success in the following ways:

6.1 Increase Public Awareness and Participation in Reporting Nests

- Execute a public awareness campaign that includes media releases, social media content and mailouts. This strategy should aim to increase public awareness of CAGO impacts and the reason mitigation techniques are needed.
- Expand the Regional Canada goose management mailout package to include properties outside of the agricultural community that have a high likelihood of nesting geese to encourage landowners to participate in the egg addling program.

6.2 Promote Collaboration

- Offer training by CRD staff to interested parties to get more participants involved. Focus on engaging with First Nations guardian programs.
- Continue to develop working relationships with other groups to understand how to best assist with current addling activities in the capital region.
- Work directly with the farming community and farming groups to obtain access to more properties with active CAGO nesting, particular focus on expansion in the Gulf Islands.
- Encourage trained parties to complete nest surveys and egg addling in their managed areas under the CRD regional egg addling permit and contribute data to the regional program.

6.3 Increase Egg Addling Budget

- Increase funds for auxiliary hours and support to include pre-season planning, scheduling and scouting for mated pairs to uncover new nesting areas.
- Increase the goose management budget to include extra hours for the Goose Management Coordinator to participate in the egg addling field season.
- Increase funds to include additional personnel including First Nations guardians to assist in the expansion of the egg addling program.

6.4 Additional Operational Considerations

- Obtain drone equipment and training to conduct comprehensive nest surveys over flooded, marshy terrain. These areas are difficult to access on foot and are often densely vegetated making the use of boats impractical, leading to missed nests.
- Apply for a Crown Land Use application to conduct nest surveys and egg addling on small unnamed islets off the coast of Victoria, Sidney and Metchosin through Frontcounter BC.
- Maintain a stockpile of frozen CAGO eggs for use in the 2026 egg addling season.
- Obtain fall protection training and equipment to assist building managers with nest surveys and egg addling in urban areas on rooftops.

7.0 Conclusion

The second year of the coordinated egg addling program has shown highly successful results and has demonstrated the potential for continued growth as participation from local groups and First Nations increases. A collective total of 1,876 eggs addled from 401 nests have prevented the recruitment of approximately 1,106 CAGO into the local population. Since 2022, the CRD and partners have collectively addled 7,259 CAGO eggs, preventing an estimated 4,282 young geese from joining the local population. The service is effectively slowing CAGO population growth, achieving goals of the strategy and strengthening relationships. However, additional resources are required to support increased mitigation efforts aimed at achieving significant population reductions over a short time frame ensuring the success of the program is maintained for the long-term.



Figure 9. Photo of a Canada goose nest (photo by Katie Lauer)

7.0 References

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