Capital Regional District 2022 Canada Goose Mitigation Draft Action Plan



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Capital Regional District

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1. Purpose:

The Capital Regional District (CRD) and the Guardians of Mid Island Estuaries Society (GoMIES) are working together through a Memorandum of Understanding (MOU) to develop an action plan to address and mitigate regional Canada Goose (CAGO) population growth. GoMIES deliverables through the MOU were to conduct a Canada Goose moult survey in July 2021 to identify high population density "hot spots" for moulting geese. In addition, GoMIES were to analyze their previous population surveys from 2017 to 2021, the Victoria volunteer-based Christmas bird counts, and their 2020 and 2021 addling work in the CRD to identify known and likely nesting locations. This information was synthesized into a summary report titled "Canada Goose Mitigation and Population Monitoring within the Capital Regional District" and has been previously submitted to the CRD separately from this action plan (Appendix 1.). The data from the report was used to inform a draft CRD Canada Goose Action Plan that would identify near-term and long-term mitigation activities, key partners, and stakeholders, and include a detailed budget.

2. Issue:

Regionally over-abundant Canada Geese are an ongoing concern in the CRD as they degrade coastal ecosystems, water quality, and public health and have a negative economic effect on local businesses, farms, parks, health agencies, and airport authorities.



Figure 1: Examples of habitat types utilized by resident Canada Geese as nesting grounds.

Acknowledgements

The Guardians of Mid-Island Estuaries Society would like to thank the following Capital Regional District and municipal employees for their guidance and support in the ecological protection of southern Vancouver Island. Norm Doerksen, Superintendent of Public Works, Central Saanich, kept a small working group of community participants meeting annually to implement mitigation activities and population monitoring post 2012 Regional Canada Goose Management Strategy. Norm provided us with local intel regarding high populations and local insight into which locations would most benefit from resident Canada Goose mitigation efforts, including agricultural properties, watersheds, and private land. Jeff Weightman who graciously checked in with our crews to make sure they had the resources to successfully carry out their work. Jeff also shared valuable local knowledge leading us to nesting hotspots near Oak Bay and Esquimalt.

Mr. Mike Hicks, who has been championing the need for to control resident Canada Geese impacting sports fields, farms, and public green space in the Capital Regional District. His years of experience of working in the natural landscapes of the CRD have given him firsthand knowledge of the need for efforts in protecting its unique eco-systems. Mike 's involvement in Canada Goose fouling mitigation on sports and recreation fields within municipal parks has greatly contributed to addressing the public health and safety concerns of CRD citizens.

Finally, Dr. Glenn Harris for supporting GoMIES' Canada Goose population monitoring, which is critical in providing a foundation for making future mitigation decisions. Dr. Harris has been able to tie together and coordinate the various individuals and organizations that contribute to an efficient resident Canada Goose mitigation strategy within the CRD.



Introduction

Members of the Guardians of Mid Island Estuaries Society (GoMIES) have worked to protect and restore estuaries for over 30 years and have led community-based Canada Goose mitigation activities on Vancouver Island from Saanich to Campbell River since 1998. Our science-based research approach has evolved to protect tidal sedge marsh habitats by applying eco-cultural techniques to prevent goose herbivory and degradation to critical salmon and wildlife habitat, paired with effective Canada Goose population monitoring surveys and population control measures. This work has been conducted in partnership with 6 First Nation Bands including K'omoks (Comox), Tsawout (Saanich), Snaw-naw-as (Nanoose), Snuneymuxw (Nanaimo), We Wai Kum (Campbell River), and Tla'amin (Powell River).

We have learned that when communities take part in a comprehensive spring addling program, in combination with adult population reductions through natural mortality, hunting, and First Nations harvests, then impacts associated with locally over-abundant CAGO can be significantly reduced. Recently, within the CRD our addling program expanded to cover Crown Ecological Reserves, Federal and Provincial administered conservation lands, and private lands including but not limited to farms, quarries & golf courses. GoMIES has built a high level of proficiency towards finding goose nests in a variety of habitat types and has begun training First Nation Guardians and conservation stewards in best practices to help curb juvenile recruitment. In 2021 we prevented 2188 eggs from hatching in 4 regional districts on Vancouver Island with 60% of these eggs occurring in 5 municipalities of the CRD.

The City of Parksville and the Regional District of Nanaimo have provided significant financial resources and efforts to reduce CAGO populations in their region since 2002 and after 20 years they have lowered nesting and moult populations by over 75%. In 2017, Parksville proposed a resolution at the AVICC where all municipalities signed a declaration to work together to share CAGO management responsibilities and this was formally passed at the UBCM. A MOU agreement has been endorsed by many municipalities on Vancouver Island and a key recommendation of this document will be for the municipalities of the CRD to also become active in "shared mitigation" to reduce impacts of over-abundant CAGO in most communities (Appendix 2.).

Longer Term Mitigation Activities to Manage Locally Over-Abundant Canada Geese within the CRD:

The implementation of a methodical and comprehensive egg addling program is a widely recognized tool to effectively reduce population growth. By incorporating annual CAGO population surveys within the CRD, the location of densely populated nesting sites can be determined. As a result of these surveys, strategic selection of sites with the highest nesting densities, favorable access, and or critical public or environmental safety concerns, can be addressed while achieving the greatest returns for the effort in a fiscally responsible manner.

The delivery of the addling program must be intra-jurisdictional and implemented across the landscape addressing nesting activity in diverse habitats and for the benefit of varied stakeholders. Canada geese are a very adaptable species and have a wide range of suitable and productive nesting habitats. The most favorable nesting habitats include nearshore islands, parks, grasslands, freshwater lakes and waterways,

wetlands, farmland, forest edge, and rock quarries. Within the CRD these habitats can be found on lands owned or managed by First Nations, Federal or Provincial Governments, Municipal Governments, Parks, Ecological Reserves, Bird Sanctuaries, Department of National Defence, airports, marinas, and private golf courses, farms, quarries, and other commercial developments.

GoMIES has many years of experience managing and implementing addling programs on Vancouver Island. Past experiences have revealed that the most successful addling programs are carried out by dedicated staff from municipalities, conservation organizations, First Nations, and other invested stakeholders. The aggression of nesting geese, challenging characteristics of varied habitats, and the difficulty in locating camouflaged nests discourage most participants. Volunteers can be helpful but must be supported by dedicated experienced professionals, highly skilled in nest search and addling techniques and aggressive wildlife evasion skills. Equally important and a condition of Federal permit authorization is to carry out addling techniques that maintain the highest regard for animal welfare. The turnover rate for volunteers is usually quite high and the effectiveness of the addling program depends on the familiarity of the addling crew with the specific site and landscape they are working in. Geese prefer to nest in the same location year after year so by having wildlife biologists, technicians, and land managers familiar with local hotspots with strict safety protocols in place helps improve effectiveness and reduce costs.

Municipal bylaws restricting the discharge of firearms should be reviewed and where appropriate, exemptions allowed where Canada Goose mitigation through lethal means can be safely implemented i.e., farms and quarries. Provincial Conservation Officers and the RCMP can be requested to verify the property meets the requirements for safe use of firearms for this purpose. Environment Canada Wildlife Permits are required to carry out this activity "outside of the hunting season." At least one Central Saanich farm is implementing this strategy and is successfully reducing the impacts of summer resident Canada Geese on his crops.

Strategic Partners and Stakeholders in Canada Goose Mitigation

Local First Nations:

GoMIES has a strong working relationship with the Tsawout First Nation. In 2018 and 2019 Tsawout FN graciously hosted GoMIES and several other First Nations during initial CAGO mitigation work. This work has had measurable benefits on stabilizing local invasive CAGO moulting populations. GoMIES believes that training First Nations Guardians and Stewardship Technicians to become skilled at CAGO nest searches and egg addling techniques is a key step towards sustained and efficient expansion of addling capacity on Vancouver Island. First Nations could provide addling on their traditional territories as they are already familiar with the land and the demands of its terrain. Tsartlip and Tsou-ke First Nations would also be contacted by GoMIES to gage interest in developing an addling training program in their traditional territories. Tsawout Fisheries staff have already committed to learn and assist in 2022. These First Nations have an abundance of nesting geese within their territories as identified through the data collected through 2020 and 2021 surveys. GoMIES addling training programs were very successful with K'omoks Guardians who now have 6 members skilled to lead addling in their territory. In addition, GoMIES has recently been approved for funding by the City of Campbell River to train 6 Wei Wai Kum Guardians in 2022. All First Nation Bands within the boundaries of the CRD would be considered a valued source of

knowledge regarding local CAGO populations and preferred nesting and moulting locations and should be encouraged to contribute to and participate in the CAGO population surveys within the CRD.

Municipal Staff:

Staff from the individual municipalities within the CRD would be valuable partners to the CRD CAGO mitigation program. Their working knowledge of the landscape would be a valued asset. Staff members working in Parks would be prime candidates as they likely have prior knowledge of CAGO nesting locations in their specific jurisdictions. Addling training could be provided and renewed by a GoMIES staff member annually to account for turnover in staff experienced by municipalities.

Federal Government of Canada:

Canada Geese are protected under the Migratory Birds Convention Act (1994); therefore, federal approval permits are required prior to the initiation of CAGO mitigation operations. Guardians of Mid-Island Estuaries Society has a productive working relationship with Canadian Wildlife Service (CWS). This federal entity is responsible for issuing all appropriate permits for CAGO addling and First Nation harvests. CWS is branch of the Department of Environment and Climate Change Canada.

CWS also manages three Migratory Bird Sanctuaries within the CRD (Shoal Harbour MBS 144 ha, Victoria Harbour MBS 1840 ha, and Esquimalt Lagoon MBS 134 ha). Originally established to control hunting, these three regional Migratory Bird Sanctuaries provide important habitat for migrating, nesting, and moulting birds. However, CAGO have become year-round resident birds that have displaced many native nesting birds and caused severe habitat degradation (removal of eel grass and tidal marshes) within these "Sanctuaries". A 2020 CAGO survey of the Esquimalt Lagoon revealed extensive shoreline habitat degradation and loss of estuary Carex sedge marsh habitats and similar concerns have been raised by members of the Rocky Point Bird Observatory along Gorge Harbour.

Department of National Defence:

GoMIES has worked in co-operation with the Department of National Defence and have helped them fill the gaps in their addling program in and around the Winchelsea Islands Canadian Forces Maritime and Experimental Test Range, in Nanoose Bay. Sharing data and terrain approach information with the DND has increased the efficiency of the CAGO addling program in the Mid-Island Region. Continuing this equally beneficial relationship with the DND in areas around the Maritime Forces Headquarters/Joint Task Force Pacific Headquarters will increase scope on the broader picture of CAGO mitigation within the CRD. DND did have representation on the CRD CAGO Working Group.

BC Parks:

In 2021 GoMIES were grateful to establish a working relationship with the BC Parks volunteer Ecological Wardens. This partnership has proved invaluable in monitoring and now preventing the degradation of the ecological health of the protected islands on the southern coast of Vancouver Island. These volunteers alerted us to the need for professional addling services required on the Ecological Reserves of Great Chain Island, Trial Islands, Jemmy Jones, and several others.

BC Parks, Habitat Ecologist (Erica McLaren) should be approached to participate in the CAGO Working Group along with a representative of the Garry Oak Ecosystem Recovery Team (GOERT).

Private Development Sector:

Local large scale urban developers are eager to form coalitions in Canada Goose mitigation. Royal Bay developers have shown interest in working cooperatively with other stakeholders to increase CAGO mitigation opportunities on their development lands within the CRD. Royal Roads University may also be interested in participating in CAGO mitigation as their lands border the Esquimalt Lagoon Bird Sanctuary and their grounds are fouled by CAGO year-round. Nesting has been reported on active construction sites in the CRD which can interfere with daily operations and is a cause for concern to public safety.

Golf Courses:

Local businesses that utilize grass based and aquatic landscapes in the CRD, most specifically golf courses, are also negatively affected by resident CAGO. One prominent golf course has exhausted the majority of legal CAGO mitigation options and is eager to work cooperatively with other stakeholders on a much broader scale to reduce CAGO impacts to their course and surrounding environment, on behalf of their members. Other golf courses within the CRD in areas of high CAGO nesting concentrations should be encouraged to participate and support CAGO mitigation activities.

Natural Resource Sector:

Active gravel quarries in the CRD have also been found to support high concentrations of nesting CAGO pairs. CAGO utilize the small, vegetated ponds found in quarries to provide protection for goslings from terrestrial predators. These CAGO populations cause disruptions to daily operations, create water quality concerns, and impose employee health and safety concerns. Having worked effectively and safely in a busy quarry in Central Saanich for the past several years, GoMIES has formed a valuable partnership that has resulted in the management group having much interest in working cooperatively at the other two pits located in Sooke and Duncan. Their cooperation is appreciated as 2 of the three pits are situated adjacent to prime agricultural lands where the geese move to forage on summer cash crops.

Agricultural Sector:

Resident Canada Goose populations are threatening the economic viability of farming on Vancouver Island. Within the CRD, the overabundant resident Canada Goose population has significant impacts on 1000's of acres of vegetables, berries, grain, grass and corn crops. Impacts to the local farm crops include cash crop consumption, fouling, and plant damage. Farmers have been complaining for many years and their complaints and estimated financial losses are well documented though the Peninsula & Area Agricultural Commission. Through our recent work in the Saanich area, we were introduced to a farmer who had abandoned his farming opportunities many years ago due to the constant presence and foraging pressure of resident geese. His 25-acre property has become a Canada Geese nesting and rearing area for the last 10+ years. He has lost his farm status and his very productive land remains unfarmed. Observations in the area reveal similar situations on surrounding properties. Agricultural producer associations and individual farmers are increasingly willing to advocate, support and participate in a large scale, region wide CAGO mitigation program.

Community Stewardship Organizations:

There are many groups dedicated to the preservation of sensitive ecosystems, land, habitat, and wildlife conservation values. GOERT, Rocky Point Bird Observatory, The Victoria Naturalists just to name a few. These organizations and many others are recognizing the importance of minimizing the impacts to the

natural flora and fauna because of the constant foraging pressure of the introduced over-abundant CAGO within the CRD. Many of these organizations have come forward to provide valuable historical knowledge of the increasing population accounts and increased impacts to the ecosystem. Many groups have provided staff and other resources to implement and support important CAGO surveillance and mitigation activities. A comprehensive list of the many conservation organizations active within the CRD should be generated as part of the in-depth action plan process and sharing knowledge and information with these groups will build strong community support for a well-structured CAGO mitigation program.

Establish and Maintain Processes and Protocols for Information Sharing and Decision Making

Issues and Recommendations:

The CRD developed a Canada Goose Management Strategy in 2012 but has not actively worked to implement key mitigation activities in recent years. A web site is hosted by the CRD as part of the Regional Goose Management Strategy and provides a good place for more information to be uploaded to this site to better inform the public of recent and on-going initiatives. GoMIES has a proven track record in working with communications and parks staff in Parksville and Powell River. We have learned what is most effective in terms of one point of contact. GoMIES would play an important role in ensuring public access to general and scientific information regarding the impacts the locally over-abundant CAGO population has on the natural environment and share the story of their origin and the distinct difference between this population and the native migratory population. This information could be posted onto the CRD website. Such information could include key partnerships and progress made in other Island communities and touch on the widespread economic impacts these introduced geese have across the landscape. While each individual municipality may have differing impacts from the year-round presence of Canada Geese the CRD as a whole has suffered public health and safety risks, water quality issues, fish and wildlife habitat destruction, crop depredation losses to farms, and municipal sports and recreation impacts. This awareness will help to inform the public and provide the background information in support of the proposed comprehensive CAGO Mitigation Action Plan.

The CAGO impacts to rare, threatened, or red-listed flora and fauna within nearshore Oak Bay Islands is urgent and needs to be addressed as these Garry Oak Ecosystems are converting to invasive plant and CAGO nesting hotspots which could affect their Ecological Reserve protection status.

The CRD should participate in the Vancouver Island CAGO Working Group (VICAGOWG) to share information, techniques, program successes and lessons learned (Appendix 2 – MOU). The City of Parksville has led this group since 2015 with other members being representatives of Campbell River, Comox Valley Regional District, Regional District of Nanaimo, Qualicum Beach, Powell River (including the Tla'min First Nation), and Nanaimo. Members of the CRD CAGO Working Group have attended several meetings but have not formally signed the MOU. These municipalities have actively supported or implemented addling programs, CAGO banding and re-sight studies, population surveys, management and mitigation plans, and First Nations harvests at a cost of over \$400,000 since 2015. GoMIES has conducted the most complete CAGO population surveys of any region in BC for the entire east coast of Vancouver Island (including Gulf Islands, Central Coast, and Powell River) funded mostly by the Ministry of Agriculture and Fisheries. The CRD has greatly benefited by these CAGO mitigation and population assessments but as the region of Vancouver Island with the highest year-round populations with no formal

comprehensive addling program; unabated juvenile recruitment has detrimentally affected all CRD municipalities and communities in the mid and upper Vancouver Island.

Annual public information sessions along with more frequent stakeholder engagement sessions would help to educate interested parties as to "why" these mitigation activities are necessary and how important it is they show support for these efforts. The CRD or Municipal offices can provide the venue to reduce the cost of hosting such events.

Development of a CRD CAGO Mitigation Steering Committee to ensure the program is operating within the mandate of the CRD and to provide frequent updates to the CRD regarding the activities and progress of the mitigation program.

This mitigation plan should be thought of as a long-term plan with costs expected to lesson as sustained activities lower CAGO populations (as realized by the RDN, City of Parksville, and Powell River).

Annual Monitoring of the CAGO population is important and can be achieved effectively by empowering First Nation, Community Stakeholders and Naturalist groups to work cooperatively with the CAGO Mitigation Program Team. Ground counts are recommended but periodically (every few years) a more intensive aerial count will help to reveal the thorough effectiveness of the actions taken by the CRD towards CAGO mitigation and may be funded in combination with other Vancouver Island communities.

Activities	Descriptions	Expected Results	Start Date	End Date
Addling permits from ECCC: Canadian Wildlife Service and BC Crown Lands Officer accompanied with Management Plans	 Prepare addling permit to CWS with all landowner forms signed and list all individuals participating in addling including Tsawout First Nation representatives 	 30 + private farms and large commercial landowners throughout the CRD and Provincial approval for all Crown Islands in Oak Bay/Victoria Obtain landowner permissions from all private and public landowners or managers 	February 2022	March 15, 2022
Implement a comprehensive addling program throughout known and expected hotspots within all municipalities in the CRD	 Focus on private farms, golf courses, large land developments, quarry, Crown islands and estuaries. CRD and municipal parks could be included if nests reported, and we have Parks Manager permission letter. 	 Locate approximately 300 Canada Goose nests and addle all eggs found. Map all locations and record data during at least 2 site visits to each nest Identify new sites for future years and count all adult birds and juveniles observed 	March 28, 2022	May 20, 2022

Table 1:2022-23 CRD Canada Goose Action Plan

Conduct a summer moult count at all known hotspots along marine waterways and larger lake and wetlands both on public and private lands but predominately waterfront Crown or urban parks.	•	Ground counts and kayaks will be used over a two-week period. Volunteer naturalists could assist along with local First Nations during their marine based activities.	•	All Canada Geese observed will be counted and recorded on a GPS system for future mapping. Most groups will be photographed. Populations will be recorded and reported out as within each municipality and as a total for the CRD. Surveys started in early June will be able to determine adult populations and juvenile young of the year to measure success of addling and help determine location gaps in our addling efforts.	June 1, 2022	June 17, 2022
Partnership Building and Community Outreach	•	Golf courses, PAAC, Royal Bay Development, First Nations, Ministry of Agriculture, BC Parks, GOERT, CWS, DND, Victoria Airport, Parks Canada, Rocky Point Bird Observatory, Naturalists, etc.	•	More organizations, First Nations, all CRD municipalities, and volunteer groups sharing the responsibilities of CAGO mitigation to protect ecological, social, recreational, health, commercial and agricultural values. Outreach presentations both in-person and through Zoom if necessary	On-going	On-going
Addling Summary	•	Data compiled and mapped within each municipality.	•	Summary Table submitted	June	August 31, 2022
Moult Count Summary	•	Data compiled and mapped within each municipality.	•	Summary Table submitted along with GPS locations to CRD GIS department for mapping	August	September 29, 2022
Year End Reporting	•	Overview of all activities above with recommendations and budget revisions	•	Draft Report for CRD Review		November 30, 2022

Table 2:2022-23 CRD Canada Goose Population Management and MitigationProgram Budget

ACTIVITY	DESCRIPTION	LABOUR DESCRIPTION	TIMELINE	BUDGET
Applications for Addling permits from ECCC & Writing Supporting Management Plans	Writing specific regional management plans based on population surveys, ecological & economic impacts, landowner, and stakeholder partnerships, proposed mitigation activities, and submit wildlife permit application(s)	 Generating maps, population survey accounts, historic impact accounts and mitigation activities, proposed mitigation activities and rationale, obtaining landowner authorizations First time Landowner Authorizations usually done in person & onsite and usually incur travel expenses 	Jan to Mid-March	\$15,000.00
Addling Plan & Implementation	 Strategically implement a comprehensive addling program within municipalities encompassed by the CRD Target Municipal Parks and Recreation Lands, Oak Bay Islands, Private Quarries, Golf Courses, Farms Nest Search, Geo- reference site, addle & document # eggs, visit up to 3 times per season in prime habitats 	 Three crews of 2 people minimum Vehicle Expenses, Boat Expenses Meals & Accommodation Expenses Municipal Staff & First Nation Training & Involvement Approximately 300 nests per season 	Mar 28 to May 20, 2022	\$45,000.00
Summer Moult Population Survey	 Comprehensive survey of adult & young geese throughout the CRD Reveals nesting success and identifies future priority areas Data compiled and mapped within each municipality. Include community groups where possible i.e., Naturalists 	 Two crews of 2 people Focus on freshwater lakes and coastal marine habitats Vehicle Expenses, Boat Expenses Meals & Accommodation Expenses Honorarium for Community Group participation (km or lunch) 	June 1 - 17, 2022	\$12,000.00
Partnership Building	Educate stakeholders and potential partners about all aspects of CAGO environmental and economic impacts that pertain to their	 In person and onsite discussions Encourage participation and or financial support for CAGO mitigation activities within the CRD 	Ongoing	\$12,500.00

	 organization – estuaries, farms, sensitive ecosystems, recreational lands, and lakes etc. Golf courses, PAAC, Royal Bay Development, First Nations, Ministry of Agriculture, BC Parks, GOERT, CWS, DND, Victoria Airport, Parks Canada, Rocky Point Bird Observatory, Naturalists, etc. 	 Attend potential partner organization meetings or activities Engage approximately 20 potential partnership organizations per year Develop a PowerPoint presentation that can be used for community outreach 		
Addling Summary	Data compiled and mapped within each municipality.	 Reporting information includes nesting habitat types, landownership, location/municipality, # of adult geese on site, photos, comparisons to previous years data if a revisited site Work with CRD GIS department to build maps showing nests within all municipalities 	June - August	\$5,000.00
Moult Count Summary	Data compiled and mapped within each municipality.	 Reporting information includes moult location habitat types, landownership, municipality, # of adult and YOY geese on site, photos, comparisons to previous years data if a revisited site Work with CRD GIS department to build maps showing moulting populations within all municipalities 	August - Sept	\$5,000.00
Year End Reporting & CRD Municipal Committee Presentation	Overview of all activities above with recommendations and budget revisions		November 30	\$5,000.00
Administration	Office IncidentalsBookkeeper	• 5%		\$5000.00
VICAGOWG Report & Presentation	Report CRD Involvement & Program Success	Outline expansive and intensive approach CRD has taken	Annual	In Kind
			TOTAL	\$104,500.00

APPENDIX 1 – Summary Report

APPENDIX 2 – VICAGOWG MOU