



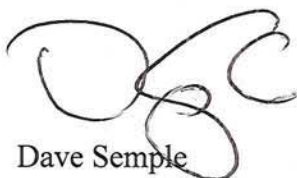
City of Richmond

Report to Committee

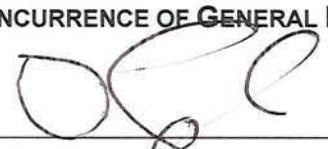
To: Parks, Recreation and Cultural Services Committee **Date:** June 16, 2010
From: Dave Semple
General Manager, Parks and Recreation **File:** 11-7375-00/Vol 01
Re: **Snow Geese Management Strategy**

Staff Recommendation

That the "Snow Geese Management Strategy" report (dated June 16, 2010, from the General Manager, Parks and Recreation) be received for information.



Dave Semple
General Manager, Parks and Recreation
(604-233-3350)

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ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER	
Budgets	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		
REVIEWED BY TAG	YES <input checked="" type="checkbox"/> <i>32</i> NO <input type="checkbox"/>	REVIEWED BY CAO	YES <input checked="" type="checkbox"/> <i>EDV</i> NO <input type="checkbox"/>

Staff Report

Origin

At the January 26, 2010 Parks, Recreation and Cultural Services Committee Meeting the following referral was made to staff:

“That staff investigate and report back on the options available to the City to address the snow goose population increase.”

This report responds to that referral.

Analysis

Richmond is located in the Fraser River Estuary, an important area for migratory birds and wildlife. Each year millions of migratory birds pass through the Fraser River Estuary on route from their northern breeding grounds to their southern winter habitats and vice-versa. Snow geese are among the most abundant birds who migrate through and stay in or over-winter, in this area from September to April.

The snow geese that over-winter in Richmond breed on Wrangel Island in Russia, and then fly to North America to winter at two separate locations: the Fraser/Skagit deltas in the north and near Sacramento, California in the south. Many of the California wintering birds stop on the Fraser/Skagit estuaries on their way south.

Between 75,000 and 100,000 snow geese have been wintering on the Fraser/Skagit deltas in recent years, a two to three fold increase over a decade ago. The reasons for the rise in population are currently being debated, but hypotheses include warmer temperatures on Wrangel Island (where the geese spend summers and raise young), a decrease in natural predators on that island, a decline in hunting enthusiasts on the winter grounds, and favourable feeding opportunities on the Fraser and Skagit deltas. It is expected that the snow geese population will continue to increase next season and beyond.

Richmond has historically been a part of the Wrangel Island flock's annual cycle, but the geese have not been of particular concern in previous decades as the populations were smaller and they were able to forage on farmland and open fields. The increase in population combined with the conditions listed previously, and the increased densification of the City, have pushed the geese onto schoolyards and playfields. These areas provide easy and nutritious feeding opportunities for the geese, however there are a number of negative side effects associated with this. These include field damage, the perception of potential health risks from faeces, and the deterrent factor for members of the public wishing to use the fields but are unable to do so with the geese present.

Staff has attempted to address these negative impacts with the following:

1. Membership on the Lower Mainland Snow Geese Steering Committee, a group which includes various stakeholders such as YVR, the Corporation of Delta, Environment

- Canada officials and others. The committee discusses best practises, compares observations and coordinates on tactical approaches.
2. Launch of an educational campaign for children in Richmond with the distribution of the 'Teachers Resource Guide to Snow Geese'. The resource guide provides information on the snow geese, classroom activity ideas, and references for teachers at the Richmond Nature Park. The guide will be distributed in the Fall 2010.
 3. Coordination of a town hall meeting with Richmond Nature Park staff, Canadian Wildlife officials and Vancouver Coastal Health to educate the public about snow geese and answer any questions (next meeting tentatively scheduled to take place in September).
 4. Proactive and reactive humane dispersal of geese in problem spots such as school and park sports fields with a contracted dog handler (actions are coordinated with YVR); and
 5. Experimentation with new humane hazing techniques such as pyrotechnics.

Over the past few seasons it has become apparent that more action is necessary to make a noticeable difference on the impact of the increasing snow geese population. Snow geese are highly habitual animals and any change to their habits and patterns will take time. The reality of snow geese management in Richmond is that to some extent humans and snow geese in this City will have to co-exist; the challenge will be finding a way to do that while reducing the negative impacts of the geese on our park and school fields.

This report outlines three (3) options for responding to the snow geese population increase:

Option One – Maintain the Status Quo

Under this option the City does not allocate any additional resources towards snow geese management.

Option Two - Snow Geese Management Strategy

This option outlines a series of recommendations that, if used in combination, will reduce the negative impacts of snow geese in Richmond. The recommendations were compiled after consultation with officials from the Province (Ministry of Environment) and the Federal Government (Environment Canada), as well as reviewing best practises currently in place in Delta and at the Vancouver International Airport (YVR). Research with the latter two jurisdictions proved especially valuable as they are geographically close to the areas of snow geese concern in Richmond and the tactics they currently use with success have the potential to be effective if implemented here.

The recommendations are outlined below:

Increased Humane Hazing of Geese (\$50,500 year one, approximately \$40,000 subsequent years)

Vancouver International Airport is particularly aggressive with their hazing techniques for life safety reasons. YVR has a staff of fifteen (15) people (working seven days a week, 24 hours a day) to address problem wildlife. The snow geese hazed away from the airport lands look for other areas, and often subsequently congregate on lands within the City of Richmond.

Hazing geese away from unsuitable sites is considered a humane and quick method to temporarily remove them from problem areas. In order for hazing to be effective, there must be an aggressive, consistent program in place which makes the areas they flock to undesirable, combined with an alternate feeding area for the geese to relocate to. Experts agree that varying hazing techniques is vital in order to be effective, as the geese quickly become accustomed to noises and other irritants.

In order to reduce the possibility of the geese becoming complacent, a combination of approaches should be used, including:

Dog program (\$40,000 annually)

Dog hazing has proven effective for immediate removal of snow geese from fields and school grounds. The City currently contracts one dog hazer; however a more coordinated approach is needed to deter the geese from re-assembling elsewhere in the City. A request for proposal should be published in the Fall soliciting dog handlers available to be on call and to provide regular patrols of parks.

Air Pistols program (\$1,500 one time cost)

Air pistols are another effective short-term method to haze snow geese away from unwanted areas; the air pistols can either mimic the sounds of hunting rifles or make a screeching sound unlike a gun. The key with air pistols, as with other noise deterrents, is to vary the tactics used so that the geese do not become conditioned to the sounds.

Prior to initiating an air pistol program, a comprehensive public relations campaign must be launched so that people in the areas where the guns will be used are aware of what is occurring. The campaign should include signage at the sites, conversations with school district officials, media releases to local news outlets and any other communication methods as appropriate. City staff would be trained in the proper use of the pistols, be instructed to use them during day time hours only, and ensure the RCMP are notified prior to each discharge.

Bright Lights (\$2,000 one time cost)

YVR has had success shining bright lights into geese flocks settling in unsafe areas at dusk or night time. In order to be effective the lights must be a minimum of five million candle power, military grade. These lights are easy to use, require minimal training, do not disturb area

residents (guidelines for use include ensuring that the lights are aimed below shoulder height) and can be readily accessible to City staff.

Lasers (\$7,000 one time cost)

Hand held red or green lasers, when shone into flocks of geese, has proven effective in dispersal. The lasers work best at dusk and night time hours, however, they also work well during cloudy daylight hours. Similar to bright lights, lasers are easy to use, require minimal training, do not disturb area residents and can be readily accessible to parks staff.

Winter Cover Crop Programming (\$19,250 annually)

Winter cover crops are vegetation planted in late summer and early fall to protect bare soil from rain erosion after vegetables are harvested from a farm field. There are a few organizations in the lower mainland that administer cover crop programs, including the Delta Farmland & Wildlife Trust (DF&WT). These programs provide financial incentives to farmers who plant winter cover crops on their fields. In Delta, farmers primarily plant spring and winter cereals as cover crops. Delta has found that winter cereals provide abundant food for waterfowl like snow geese, and planting these cereals can be effective in luring snow geese away from unwanted sites when combined with hazing.

One of the main benefits of the program in Delta has been the reduced impact snow geese have had on economically important hay and pasture crops which had formerly been overgrazed by the geese.

***Trial Cover Crop Program in Richmond* (\$11,000 annually)**

Cover crops planted in south Richmond could act as alternate feeding areas (AFAs) for snow geese hazed off of park and school fields. Delta Farmland and Wildlife Trust (DF&WT), which operates a cover crop program in Delta, can help establish a new winter cover crop program here.

A conservative estimate of the amount of farmland that would buy into the program would be 75 to 100 acres, and be dependant on cash-crop harvests. The location of farms best suited to this program would be those south of Steveston Highway and West of No. 3 Road, as they are closer to the historical wintering areas used by the geese.

The amount of enrolment would be dependant on a number of issues, including:

1. Financial incentive to farmers. There is work required to plant cover crops; in order for farmers to buy into a program it must be worth their while.
2. Negative impact of birds on farm land.
3. Negative impacts on neighbouring properties.

Conversations with the farming community in West Richmond have indicated that it would take a minimum of \$100 per acre for them to consider planting cover crops. If the City were

successful in coordinating acres of farmland a year, this program would cost a approximately \$10,000 annually plus \$1,000 for administration.

Trial Cover Crop Program Support in Delta (\$8,250 annually)

An complimentary approach to a cover crop program in Richmond is to support the existing program in Delta where there is potential to lure the geese from Richmond onto Westham Island.

Delta is heavily used by snow geese between October and April. On average there are 400 acres of winter cover crops cereals planted in west Delta. However, there is potential to increase this to over 700 acres with the right incentives to farmers. DF&WT does not currently have the funds to cover all of this increase, and given the possible benefit to Richmond, staff recommend allocating funding to supplement the expansion of this project. The cost to increase the program from 400 to 700 acres would be \$16,500 a year which could be split by Richmond and the DF&WT.

Ongoing Research – Richmond Specific (\$30,000 annually)

For the hazing and lure crop programs to be most effective and beneficial to residents it is necessary to monitor the movements and behaviours of the geese in Richmond. This is needed to assess the success of the different management prescriptions and make changes if necessary. A graduate student from one of the local universities could be utilised for this purpose. Their project would largely be an applied one, but would involve research on foraging ecology, habitat preference, and examination of the trade-offs between hazing/hunting pressures versus lure crops. It would also involve an evaluation of the cover crop and marsh fertilization programs (eg., crop type, planting date, fertilization rate, plant response, goose response, etc.). Traditionally snow geese fed on bulrushes and other marsh plants, and it would be pertinent to examine the potential for increasing these natural food sources in appropriate areas.

The student would report to staff with specific recommendations for action and be required to make a final presentation to the Parks, Recreation and Cultural Services Committee with his/her report.

Increased Educational Initiatives (\$5,000 annually)

The measures listed previously are anticipated to reduce some of the negative impacts of snow geese on Richmond residents. However, at some level, residents and snow geese will have to co-exist as Richmond is a part of their migratory route. It is important to support initiatives that highlight some of the ecological significances and positive aspects the snow geese migration can have such as:

1. bird watching opportunities (the geese are a unique spectacle in the lower mainland and other parts of the country);
2. the link to the importance of the Fraser River delta for other birds and fish; and
3. Richmond's historical and current role in the management of an international population.

Education can include the following:

School Outreach Programming

The Parks Programs Division has a number of staff qualified to administer educational programs to elementary school children. Staff can target education towards those elementary schools which have seen large amounts of geese foraging, with a goal of instructing the three highest grades in each school. In addition to presentations to intermediate grades, Parks staff can act as a resource to teachers of younger grades with items such as the teachers resource package that will be distributed to schools in the Fall.

Town Hall Meetings

Snow geese management is a multi-jurisdictional project and it would be beneficial for the public to hear from the different stakeholders in an open educational forum. Town Hall meetings at the beginning and end of each season, with attendance from a variety of officials, should be organised. These meetings should be advertised well in advance to ensure those interested can attend. The goal will be to have each stakeholder present a short informational summary on their program, as well as ample time for attendees to ask questions.

Community Outreach

Parks Programs staff can work with local malls and/or other high foot pedestrian traffic areas to set up temporary displays for the public to learn about snow geese. Staff will be on hand to answer questions, provide handouts and make note of specific concerns by residents.

The City should be prepared to commit to this strategy for a three-year period to determine the level of program success. As mentioned earlier, snow geese are extremely habitual creatures and a change to their patterns will take time. Staff will provide end of season updates to Council in addition to a final, more comprehensive review at the end of the third year. The final review will include recommendations for snow geese management in subsequent years.

Option Three - Snow Geese Management Strategy combined with increased hunting by permission areas

Under this option the strategy outlined above as Option 2 is combined with increased hunting by permission areas along the Fraser Foreshore. This approach is not recommended due to the high concentration of recreational use along the west dyke. There is potential for public concern about hunting in this area, and while hunting can be effective if there are enough enthusiasts, the number of recreational hunters has declined in recent years. The amount of concern that could be generated from increased hunting within permitted areas may not be in proportion to the actual impact the hunting can have on the snow geese population.

Financial Impact

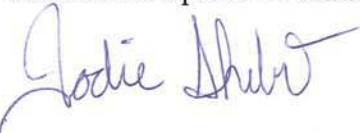
The cost for the program is outlined as follows:

Snow Geese Management Strategy Breakdown of Costs	
Recommended Initiatives	Annual Cost
Humane Hazing Methods	\$50,500 year one, \$40,000 subsequent years
Winter Cover Crops Program	\$19,250
Student Research	\$30,000
Educational Initiatives	\$5,000
<i>*Approximate total cost per year = \$105,000 year one; \$95,000 per annum for years two and three.</i>	

There is currently no funding for this program. Funding for the first year of this program will be considered from the 2009 surplus. Funding sources for the following years will be recommended in reports back to Council which will include status updates on the program.

Conclusion

There is no simple solution for quickly addressing the negative impacts associated with the increasing population of over-wintering snow geese in Richmond. The Fraser River Estuary has historically been a part of their migration route and that habit cannot and should not, be altered. The goal of snow geese management in Richmond is to reduce the negative impact that the geese have on public land, while balancing their ecological significance and needs. This report outlines a three-year strategy incorporating four primary recommendations, which if carried out in combination, will mitigate and minimize the adverse impacts associated with the increasing numbers of snow geese in Richmond. The effectiveness of the strategy will be monitored, and tailored as required in the future.



Jodie Shebib
Manager, Parks Programs
(604-244-1275)