

CORMORANT ADVISORY GROUP MEETING #10

Thursday January 19, 2012

6:30 p.m. to 9:00 p.m.

Metro Hall, Room 313A, 55 John Street, Toronto

FINAL MEETING NOTES

Attendees:

Ralph Toninger, TRCA
Karen McDonald, TRCA
Andrea Chreston, TRCA
Matt Brady, TRCA
Gail Fraser, York University
Jim Quinn, McMaster University
Janette Harvey, City of Toronto
Paul Scott, Aquatic Park Sailing Club
Cathryn MacFarlane, Aquatic Park Sailing Club
Liz White, Animal Alliance of Canada*
Ainslie Willock, Canadians for Snow Geese*
Barry Kent McKay, Zoocheck Canada*
John Carley, Friends of the Spit
Lynne Freeman, Toronto Ornithological Club
(*Denotes member of Cormorant Defenders International)

These notes reflect the general nature of the meeting discussion. If there are errors or omissions, please contact A. Chreston at achreston@trca.on.ca or 416-661-6600 ext. 5772.

Comments contained herein reflect the opinion of the individual and do not necessarily reflect the position of the organization they represent.

1. Welcome

K. McDonald opened the Advisory Group meeting by welcoming the members and reviewing the process to date. She noted that this meeting will review the 2011 results and propose the 2012 plan, thereby eliminating one meeting; however if the group feels the need to discuss the strategy more another meeting could be held.

2. Review of 2011 colonial waterbird data and 2011 cormorant management strategy

K. McDonald presented the results of 2011 colonial waterbird monitoring and DCCO management strategy. The tree nesting DCCO population appears to be leveling off, with an increase of only 11 per cent in 2011 over 2010, while the ground nesting DCCO population remains in a rapid growth phase with an increase of 37 per cent over 2010. The ground nest population on Peninsula B now accounts for 40 per cent of the total population at TTP. Overall DCCO tree occupation rose by only three per cent in 2011, with a further breakdown of 17 per

cent on Peninsula B and 0.2 per cent on Peninsula C. Tree health on both Peninsulas continues to decline, and R. Toningering predicts that Peninsula C is entering the stage of canopy collapse. The BCNH population remained constant at 423 nests totaled for Peninsulas B and C. P. Scott inquired as to why BCNH returned to Peninsula B after not nesting at that location in 2010. R. Toningering replied that it is natural for BCNH populations to move around and that it was actually abnormal when the population at TTP remained in one location for an extended period. J. Quinn asked whether the DCCO ground nesting colony has interfered with other ground nesting birds such as RBGU and HEGU. G. Fraser replied that it has not, the gull species nest away from the DCCO ground colony as the spatial nature of TTP provides plenty of ground nesting options. R. Toningering added that there has been a drop in the RBGU and HEGU populations over the past decade.

R. Toningering was in contact with Mark Ridgeway from the MNR to analyze the TTP DCCO population data using a model developed to predict human cancer rates. His very rough, preliminary graphs categorize the DCCO population on each Peninsula into different phases based on the growth rate. These phases support the theories TRCA has hypothesized for many years and help to describe the population dynamics that have been observed in the last 15 years. One challenge however, is to tease out the natural growth rates from the growth due to emigration from other colonies in the Great Lakes region. P. Scott asked if the growth rate on Peninsula C is faster than a natural growth curve. R. Toningering replied that it is, especially compared to Peninsulas A and B, though not as fast as the ground nesting colony. It appears as though Peninsula C reached saturation in 2008, and since has no longer been rapidly colonizing, although the density per tree is increasing. The graphs presented are a tool to predict how the population may change in the future. Currently, TTP is the only site to have a DCCO population that continues to grow. J. Carley asked what the normal growth rate would be without immigration. R. Toningering answered that it is highly variable, but that the average rate in the average colony is between five to seven per cent per year. TRCA will further investigate natural growth rate at the site and compare it to other sites in the Great Lakes to gain a better understanding migration rates into our colony.

L. White inquired whether it is possible to know if tree nesting DCCO are moving to the ground. R. Toningering replied that it is impossible to know for certain since tree nesting birds are not banded or marked in any way that would allow us to recognize individuals. The ground nest colony expansion may be due to birds moving from trees to the ground, or birds may be emigrating from other colonies, or DCCO that were hatched on the ground in previous years have reached their breeding age and are now ground nesting. Colour leg banding should help us further understand the population dynamics within the TTP colony, particularly in the ground nesting colony where chicks are banded, although sightings of colour leg bands at TTP are very low (there is a lower record of sightings at TTP than at other colonies) due to the large area, multiple subcolonies, and manpower limitations. G. Fraser added that she has spent many hours monitoring the colony and she has not seen many banded birds. Chick banding of ground nesters has taken place for several years, although with only 100 chicks banded per year and natural mortality and site abandonment by individuals we do not expect many resightings.

K. McDonald reported that the Strategic Approach in 2011 was followed as planned, with a few minor adjustments. Habitat restoration on Peninsula A did not take place as the previous plantings have been successful therefore additional work was not required. Pre-nesting

deterrents did not take place on Peninsula B as the BCNH population had returned, and post-breeding deterrents on Peninsula D did not occur as there were no DCCO in the vicinity.

Inactive nest removal took place during the winter, prior to the return of the DCCO in spring. A professional tree climber was hired to remove nests, however only 10 were removed from two trees on Peninsula C due to unsafe conditions resulting from poor tree health. The other 226 nests removed in the winter were done with forestry poles. Active deterrents took place between March 29 and May 30 and included the removal of 69 active nests from the primary deterrent area on Peninsula C.

In summary, on Peninsula B in 2011: structure and downed nests were added to the east enhancement area; decoys were cleaned and maintained early into the season; a webcam was added to the ground nest colony; the planned viewing blind was not installed due to the nesting BCNH; DCCO tree nesting increased by 62 per cent (481 nests); and ground nesting increased by 37 per cent (1,237 nests). On Peninsula C in 2011: tree nesting increased by five per cent; very late nesting was observed; and a viewing blind was added to improve public outreach and enjoyment of the colony.

L. White inquired whether it is problematic to do pre-nesting deterrents on Peninsula D. K. McDonald replied that it is fairly easy and only involves walking around; there is quite a bit of activity on Peninsula D due to the Tommy Thompson Park Bird Research Station as well as the Aquatic Park Sailing Club and this has been sufficient to deter DCCO. J. Quinn noted that the image of the ground nest colony shows that the colony is divided into a large nesting area with a smaller satellite area to the west. He wondered why there is a gap between the ground colonies and if this area is different. R. Toningier replied that the ground nest colonies are located in areas where forest used to stand and the gap between the two is where there was a sandy strip. J. Quinn mentioned that structure is very important for ground nesting. In Hamilton, DCCO were nesting in a box elder tree; when the tree fell, the DCCO continued to nest on the downed tree and a ground nest colony grew around it. The DCCO nested on the ground in this location until the island was removed by the Hamilton Port Authority.

3. Update on York University Studies

a) Conspecific attraction experiment

Graduate student Ilona Feldmann volunteered 27.92 hours of observation between May 2 and June 24. No nesting DCCO were observed, but there were many instances where DCCO acted 'nesty'.

b) The impact of raccoons on tree nesting waterbirds

In 2011, G. Fraser used custom made 91 cm long predator guards. These guards were mounted on 18 BCNH trees, with foil above the guard to record raccoon activity. An additional 10 BCNH trees had only foil wrapped around the trunk. The foil only trees had 21 per cent nest success, while the predator guard trees had 65 per cent nest success. Failures of nests were attributed largely to raccoon predation even in trees with guards, as these raccoons accessed the nests by climbing adjacent trees without guards and crossing through the canopy. The 91 cm metal predator guards appear to be a good strategy as 2011 yielded the highest productivity since the study commenced. J. Quinn inquired whether raccoons enter the DCCO ground nesting colony. G. Fraser replied that they do, however, DCCO are the least preferred meal and the raccoons predate the gulls first. J. Quinn asked if DCCO defend against the

raccoons. G. Fraser replied that she would be surprised as the raccoons at TTP are very large. Raccoons tend to predate DCCO at the end of the season, after the BCNH have left their nests.

c) Raccoon occupancy – camera trap study

Three stations with two cameras each were set up in 2011 to assess raccoon occupancy at TTP. Having two cameras at each station allowed the researchers to capture different angles to help identify individuals. Although the data are still being analyzed, preliminary results show several raccoons and a mink accessing the colony. The cameras also captured a shot of a banded DCCO on Peninsula C. The bird was likely banded as a chick by Chip Weseloh and David Andrews at the ground nest colony in a previous year.

d) DCCO work

G. Fraser followed nests on Peninsulas B and C in 2011; however, Peninsula B was a challenge due to healthy trees and dense foliage. Productivity was 60 per cent on Peninsula B (an increase from 2010) and 83 per cent on Peninsula C. G. Fraser noted that tree health was noticeably declining on Peninsula C as there were lots of limbs collapsing during the season that contained nests with chicks. She noted that DCCO productivity is always lower in the mixed species area of Peninsula C, potentially due to a later nest date and the likelihood that the DCCO nesting in this area are younger (and naturally have lower productivity). Usurpation rates of DCCO taking over BCNH was at 2.8 per cent in 2011, which is lower than previous years. This shows that TRCA deterrent activities do not increase nest usurpation. Overall, the tree nesting population is doing well, but the ground nesting population is doing extremely well. 95 per cent of the 47 nests followed fledged, and 97.5 per cent productivity was recorded. A natural crèche (not human induced) was observed for the first time since observation began in 2008, possibly an indication of food stress. 75 chicks were banded with unique colour bands (white letters on black) for TTP.

4. Proposed Strategic Approach for 2012

K. McDonald proposed the Strategic Approach for 2012:

- Remove inactive nests on Peninsula B and C;
- Continue with ground nest enhancements and attraction experiment on Peninsulas A and B; and either
- Continue with active deterrents as in 2011; OR
- Discontinue active deterrents within the nesting areas, but maintain deterrents to prevent expansion and adapt strategy to include deterrents if BCNH do not return to Peninsula B or C.

K. McDonald explained that the rationale for discontinuing deterrents is to help quantify the effect that deterrents may or may not be having on transitioning the colony from tree nesting to ground nesting. Since there is no control group, there is no way to know if the current methods have resulted in the increase in ground nests or if there is another reason. She added that there is a considerable draw on resources to deter, and that deterrents do not take place on weekends or holidays; the four day Easter weekend is a quite considerable amount of time without management.

L. Freeman asked if BCNH are affected by the deterrent activities. G. Fraser replied that they are not fazed by deterrents. C. MacFarlane asked if BCNH nest only in trees. R. Toningier replied that typically BCNH nest in shrubs and on the ground; however, at TTP they only nest in

the trees. The TTP colony is also very large compared to others that typically have fewer than 100 nests.

C. MacFarlane asked why DCCO are moving from the trees to the ground. G. Fraser replied that we do not know that they are moving, but an increase in ground nest population has occurred. R. Toningier added that it is unclear whether DCCO choose where they nest or if it is a function of where they were born. G. Fraser noted that based on J. Quinn's earlier comment, it sounds like DCCO stay with a dedicated tree whether it is standing or on the ground. K. McDonald stated that it is unknown if the deterrents have influenced DCCO to move out of the trees, it could possibly be due to habitat saturation.

L. Freeman then asked if the deterrents are slowing the rate of tree demise. R. Toningier replied that it is being slowed, but since it is not possible to remove every nest from the deterrent areas (they are too high in the canopy) guano continues to rain down on the trees and the soil and ultimately the trees will be lost; the continuation of deterrents might just be pushing off the inevitable. L. Freeman asked how many trees in the deterrent area on C are already dead. R. Toningier replied that many have a health rating of four, meaning they are losing limbs and have sparse foliage.

P. Scott commented that there is no correlation between the management activities and the DCCO tree nesting. He is concerned that if the DCCO funds are given up in 2012 that they would not be available in the future, and that without deterrent activities there would be another lapse on Peninsula C. J. Carley also asked if money plays a role in the decision to discontinue deterrents. R. Toningier clarified that funding is not a concern; the funds will still be used on DCCO management in 2012, just not specifically on deterrents. K. McDonald also noted that more efforts would be put toward monitoring and observing the DCCO colony and possibly increasing banding. TRCA wants to manage the site in the best way possible. To date, the effort spent on deterring the small area has not resulted in a large impact and the results from G. Fraser's studies have shown that BCNH are not being impacted, so TRCA is willing to stand back and see what happens.

G. Fraser asked if TRCA has considered using the deterrent funding to mitigate the soil around the trees to reduce demise. R. Toningier explained that a lesson learned from Peninsula A is that when the amount of guano rain decreases (i.e. DCCO are no longer nesting in the area) the conditions will improve naturally. It will take young trees 10 to 15 years to become stable and large enough to support a DCCO nest. TRCA has no concerns that the once the DCCO leave Peninsula C that the tree canopy will begin to regenerate, as long as a ground nesting colony does not establish. TRCA currently does not see Peninsula C as a ground nesting colony; it is not identified as a cormorant conservation zone. A. Willock was surprised by this statement; she believes that DCCO will probably nest on the ground on Peninsula C as the forest falls and wonders why we would not allow this. L. Freeman agreed, not allowing DCCO to nest on the ground doesn't make sense. J. Carley commented that one of the objectives of the DCCO Management Strategy is to preserve forest cover. He then asked why the forest is not regenerating on Peninsula A. R. Toningier replied that the presence of the RBGU on Peninsula A has prevented the forest from regenerating. L. Freeman commented that a decision about where the strategy is going must be made. R. Toningier clarified ground nesting on Peninsula C is just a hypothesis, it may not happen especially since it did not on Peninsula A.

L. Freeman asked if an adaptive approach regarding the conservation zones could be taken if DCCO end up ground nesting on Peninsula C rather than on Peninsula A. K. McDonald replied TRCA is concerned about the loss of forest cover, especially given that Peninsula C is much larger than Peninsula A. Additionally, forest habitat on Peninsula C is adjacent to Peninsula D, which would provide more habitat benefits for species that require forests. Another added concern about adapting the conservation zones is the presence of gulls on Peninsula A, which makes it very difficult to successfully reforest. The conservation zones on Peninsulas A and B are good for DCCO and other colonial waterbirds, while forest on Peninsula C is good for the rest of the wildlife that live at TTP. A. Willock does not agree at all. She agrees about keeping DCCO off Peninsula D, but she does not believe it makes sense to not allow DCCO to ground nest on Peninsula C. This scenario favours the trees over DCCO. K. McDonald replied that the group will deal with this decision when it arises, but that there needs to be a balanced approach. L. Freeman asked when the strategy will be up for review. R. Toningier replied that the strategy is reviewed annually and is the purpose of the meeting tonight. The original goal and objectives are still being followed, but they can be changed if the group decides they need to be. L. Freeman said that she is uncomfortable with the ultimate goal being to return Peninsula C to forest even if DCCO are trying to nest on the ground. R. Toningier clarified that this is all speculation. J. Carley said that if all Peninsula C is deforested, Friends of the Spit would support natural regeneration of cottonwood forest by seed dispersal. The objective is to limit the loss of forest. L. Freeman raised the point that there is a difference between limiting and regenerating. R. Toningier emphasized that there is no goal for Peninsula C at this time.

C. MacFarlane asked what the risk to the tree canopy is if deterrent activities were to be suspended. P. Scott expects that without deterrents a higher occupation of new trees will take place on Peninsula C. R. Toningier replied that the outside areas would still be protected. The deterrents are not saving the canopy on Peninsula C and unless the BCNH leave, more aggressive deterrents cannot be taken. The key deterrent area is at the tip of Peninsula C, but the trees are still getting worse. If deterrents were foregone at the tip, more efforts could be put towards maintaining the perimeter and the base of Peninsulas B and C. This proposed Strategic Approach does not intend to stop deterrents altogether, just reduce them in the focus areas. TRCA will constantly be on the ready to resume deterrents should new expansion areas appear. C. MacFarlane thought this made more sense, to save the trees. P. Scott agrees that Peninsula C is already gone, but he doesn't agree about the other areas and asked for the current state of the forest area. K. McDonald replied that the state of the forest has not changed as it was originally reported as forest in decline or lost, and it is still in this state. G. Fraser also noted that her studies have shown that the ground nesting colony is more productive than the tree nesting colony. P. Scott replied that the purpose of the deterrent activities on Peninsula C was to encourage DCCO to nest on the ground on Peninsulas A and B, however, it is not known if this is working. G. Fraser replied that it was known going into the project that there would not be an answer to this question.

P. Scott suggested focusing efforts in the first four weeks of the breeding season before the BCNH arrive. Increase the amount of staff and the intensity of the deterrent activities. G. Fraser commented that DCCO expansion is more problematic after four weeks into the season as this is the time that the late nesters move into the new areas.

J. Carley noted that the City of Toronto has the role of hazard tree removal under the TTP Joint Management Plan and asked how the colonies are perceived. J. Harvey replied that only hazard trees along the trails, where the public are expected to be, are considered for removal.

R. Toningher added that there is a partnership between the City of Toronto and TRCA when it comes to hazard tree assessment and removal, and only trees that are two tree heights away from the trail are considered for removal, the rest are considered to be in natural areas.

L. Freeman and J. Quinn agreed that discontinuing deterrents in 2012 provides an opportunity to collect credible data by following proper experimental procedures. G. Fraser agreed that deterrent activities could be reduced. This is an adaptive strategy and the primary DCCO deterrent area is a waste of effort. She thinks that long term Peninsula C can be reforested through a dedicated effort and that if ground nesting were prohibited on C that DCCO would likely join the ground nesting colony on Peninsula B. L. White supports the idea of reducing the deterrent activities, but wants to return to the issue about what would happen if ground nesting were to occur on Peninsula C.

5. Wrap Up

The 2012 Strategic Approach will be presented to the TRCA Board on March 30, 2012 at Black Creek Pioneer Village, 1000 Murray Ross Parkway, Toronto. All DCCO Advisory Group members are invited to participate in the 12th Annual Tommy Thompson Park Spring Bird Festival where Colonial Waterbird Hikes will be offered. Please let A. Chreston know if you are interested in leading a hike at the festival.