

DOUBLE-CRESTED CORMORANTS at TOMMY THOMPSON PARK BACKGROUND

Double-crested Cormorants in the Great Lakes

Double-crested Cormorants have been nesting in the Great Lakes since at least the early twentieth century. The first confirmed nesting in the Great Lakes occurred in 1913 in western Lake Superior, although there is evidence to suggest that cormorants were present in the Great Lakes area prior to 1913. In the 1920s and 30s, colonies spread eastward to Lake Huron and Georgian Bay and finally to the lower Great Lakes (Erie, Ontario and the upper St. Lawrence River). The Great Lakes cormorant population increased steadily into the 1940s and 50s, but by the late 1950s demands for a control program intensified as many fisherman felt the birds were damaging fish stocks. A provincial control program was implemented in specific areas of the Great Lakes and remained in effect until 1966, but did not significantly reduce the Great Lakes population. The cormorant population, however, did decline dramatically throughout the 1960s and early 1970s. The main cause of this decline was toxic contaminants, such as DDT, which caused eggshell thinning, among other health problems, and led to wide reproductive failure. Due to new regulations, increased enforcement and public awareness, toxic contaminants in the Great Lakes were significantly reduced between 1971 and 1989. Fortunately, by the mid-1970s, the cormorant population began a dramatic and successful recovery; in fact, cormorant populations increased almost 300-fold between 1973 and 1993, and 80 new colonies appeared in the Great Lakes. By 1999, the cormorant population was 400 times higher than the lows of the 1960s. The dramatic recovery of cormorants and the expansion of their range are thought to be the result of an abundant food supply in their breeding and over-wintering areas, in addition to decreased levels of contaminants in the Great Lakes.

As of 2005 there were 175 Double-crested Cormorant colonies in Ontario and the cormorant population in the Great Lakes area was estimated at 113,000 breeding pairs or 226,000 individuals (unmated individuals are not included).

Tommy Thompson Park

Tommy Thompson Park (TTP), also known as the Leslie Street Spit, is a 500 hectare (approximate), man-made peninsula extending into Lake Ontario at the foot of Leslie Street on the City of Toronto waterfront. Construction of the site began in 1959 and continues today through the placement of clean fill and dredged sand and silt. Over time, as construction of the site continued, a variety of habitats evolved and attracted significant numbers and species of birds and other wildlife. More than 400 plants, 314 birds, 19 mammal and 12 herpetile species have been recorded at the site. In addition, the site has provided habitat for significant colonies of waterbirds including Ring-billed Gull (RBGU), Common Tern (COTE), Caspian Tern (CATE), Herring Gull (HERG), Great Egret (GREG) Black-crowned Night-Heron (BCNH) and Double-crested Cormorant (DCCO). The presence of these colonies has contributed to the site being identified as an Environmentally Significant Area (ESA) and, more recently, as a globally significant Important Bird Area (IBA).

The BCNH is a provincially significant colonial waterbird species. The colony at TTP represents the largest known breeding colony of BCNHs on the Great Lakes and, at its peak, approximately

32 per cent of the Canadian nesting population, which contributed to the park being designated as an IBA.

The designation of Tommy Thompson Park as an ESA was based on the following criteria:

- At the time, it was the only breeding habitat for Double-crested Cormorants and Herring Gulls in the TRCA region;
- It is a significant stopover area for migrating birds;
- It provides habitat for nationally and provincially rare plant and bird species;
- It contains aquatic and terrestrial communities that are exceptional and of high quality within the TRCA region and Ontario; and
- The dune, shoreline meadow and cottonwood forest habitats are of limited representation within the region.

The goals of the Tommy Thompson Park Master Plan and Environmental Assessment (1989 and 1992) are:

- To conserve and manage the natural resources and environmentally significant areas of the site;
- To provide a unique, water-oriented open space which will assist in meeting regional needs; and
- To develop public awareness regarding the significance of the Lake Ontario waterfront and in particular, Tommy Thompson Park.

The Master Plan designated sections of the park into several categories of environmental protection and management. Most of the park is designated as Natural Resource Area, where the emphasis is to adopt an ecological approach that relies on natural processes, augmented by minimal intervention and management to achieve a greater diversity of community types.

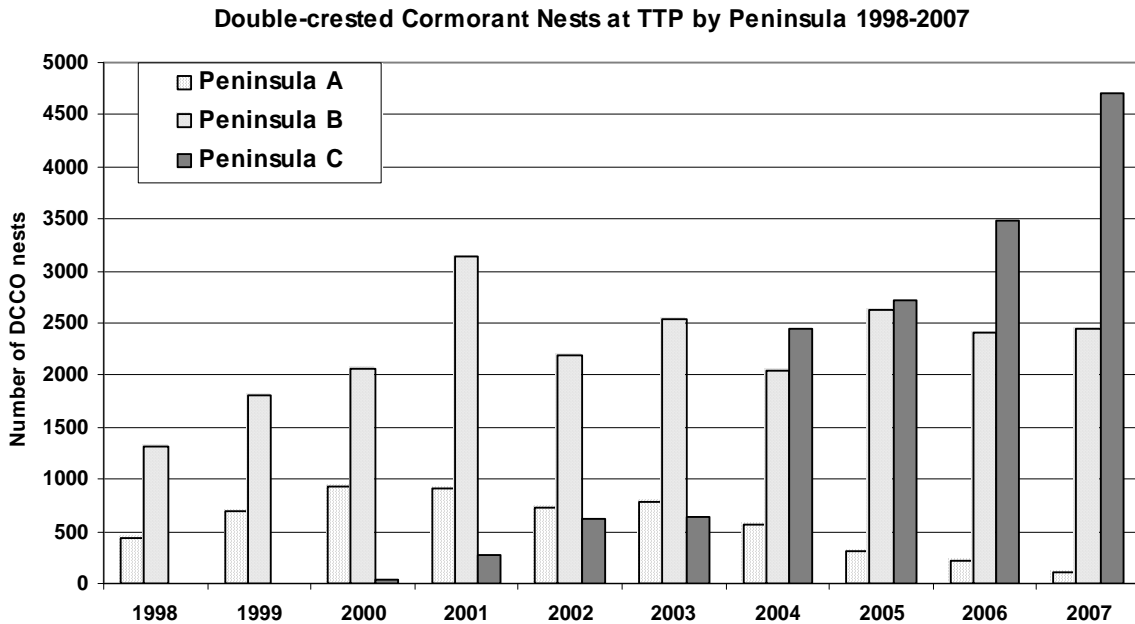
DCCO at Tommy Thompson Park

Double-crested Cormorants began colonizing TTP in 1990, when six nests were built in cottonwood trees overhanging the water at the end of Peninsula B. The cormorant population and nesting distribution quickly expanded and by 2000, cormorants were nesting in the cottonwood trees on three of four forested peninsulas (Peninsulas A, B and C). Until 2003, Peninsula B had supported the bulk of the TTP colony, however, in 2004 many birds shifted to Peninsula C, likely due to forest health decline, and therefore a lack of prime nesting locations on Peninsula B. The main cormorant tree nesting area is now Peninsula C, with 4,699 nests in 2007, and the decline in forest health is already visibly evident. The cormorant colony at TTP is currently the largest known colony on the Great Lakes.

Toronto and Region Conservation (TRCA) celebrates the presence of Double-crested Cormorants at TTP and value their contribution to the biodiversity of the park. They represent one of the most significant contributions to the park's IBA and ESA designations. TRCA has concerns about the effects of DCCO on forest health, and the implications for other flora and fauna species at TTP. The number of cormorants nesting on Peninsula C has increased from 31 nests in 2000 to 4,699 nests in 2007. This increase is believed to be a factor in the shift of the Black-crowned Night-Heron nesting population to less suitable, marginal nesting areas. The night-heron population at TTP fluctuates annually and their productivity remains a concern.

The fast growth of the cormorant colonies at TTP is part of a general population explosion of this species in the Great Lakes area. It is not known why cormorants only began to colonize

TTP in 1990. Perhaps there had been more suitable nesting areas in other locations up to that time and/or the cottonwood forest at TTP had not yet reached sufficient maturity for suitable nesting.



Double-crested Cormorants at TTP – Where are we now?

- Approximately 25 per cent of the entire forest habitat available at TTP has been impacted by DCCOs.
- Peak count of DCCO population in 2007 was 7241 pairs or approximately 28,235 individuals (including chicks but not including unmated individuals), an increase of 18 per cent from 2006.
- DCCO nesting on Peninsula C in 2007 increased by almost 35 per cent since 2006
- Average annual increase is about 19 per cent.

Current Concerns

Forest habitat

- Trees are being destroyed and there is no regeneration.
- Forest canopy is being irreparably damaged.
- Habitat for other species is being lost/diminished.
- Overall tree health is in decline; declining forest health favours colonization by non-native, invasive species which adversely influences existing and adjacent habitats.

Soil erosion

- Erosion is rapidly increasing along shorelines where tree cover has been lost.

Other colonial waterbirds

- Many Black-crowned Night-Herons are now nesting in marginal areas (smaller trees and high-disturbance areas).
- Productivity of other nesting colonial waterbirds may be compromised.
- Prime tree-nesting habitat is being lost.

Breeding and migratory songbirds

- Value of the park as a migratory stop-over point is compromised due to loss of forest cover on Peninsulas A and B, and the decline in forest health on Peninsula C.
- Available habitat for forest-dependent breeding songbirds is declining.

Biodiversity

- Overall habitat biodiversity is reduced with the loss of cottonwood forests.
- Flora biodiversity is diminished in nesting areas.
- Capability of impacted forest to support other fauna species is reduced due to competition from DCCO and/or alteration/destruction of habitat.

Water Quality

- Concerns regarding the impacts of DCCO guano on water quality.
- Public beaches nearby with international Blue Flag rating may be impacted.

Public Concerns

- Currently over 250,000 park users/year; numbers will increase with new park improvements and waterfront revitalization.
- Recreational boaters in the immediate area.
- Toronto City Centre Airport safety concerns.
- Public health concerns.

Prepared by TRCA, January 2008. For more information please visit www.trca.on.ca/ttp or contact Ralph Toninger at 416-661-6600 ext. 5366 or rtoninger@trca.on.ca