A SELECTION OF REFERENCE ARTICLES ON COLONIAL WATERBIRDS AT TOMMY THOMPSON PARK AND RELATED INFORMATION – ANNOTATED

Blokpoel, H. and G.D. Tessier. 1992. Control of Ring-billed Gulls and Herring Gulls Nesting at Urban and Industrial Sites in Ontario 1987-1990. Proceedings from the Eastern Wildlife Damage Control Conference. 5:51-57.
The number of Ring-billed Gulls nesting at the Eastern Headland [Tommy Thompson Park] grew from 20 in 1973 to 75,000-80,000 during 1982-83 and was interfering with construction, traffic and ecologically sensitive areas. TRCA hired a contractor to prevent gulls from nesting in all but three areas using methods that included dawn-to-dusk harassment using shell crackers, tethered falcons, and distress calls. The scaring program was 100 per cent effective in preventing gulls from nesting in the controlled areas.

Blokpoel, H. and G.D. Tessier. 1983. Monofilament Lines Exclude Ring-billed Gulls from Traditional Nesting Areas. Proceedings of the 9th Bowling Green Control Summary.
Monofilament lines were successfully used at the Eastern Headland [Tommy Thompson Park] to discourage Ring-billed Gulls from nesting outside the designated areas.

Canadian Wildlife Service. 1995. Great Lakes Fact Sheet: The Rise of the Double-crested Cormorant on the Great Lakes. Environment Canada.
This fact sheet examines the history of the Double-crested Cormorant on the Great Lakes from its initial colonization and conflicts with the fishing industry, to its rapid decline as levels of toxic chemicals rose in its diet, and finally, its explosive return in response to declining levels of contaminants and human-induced changes in fish stocks.

Christens, E. and H. Blokpoel. 1991. Operational Spraying of White Mineral Oil to Prevent Hatching of Gull Eggs. Wildlife Society Bulletin 19:423-430.
Daedol 50 NF oil is a chemically inert, nonpoisonous, highly purified, USP, white mineral oil that is essentially colourless, odourless and tasteless. It is used to asphyxiate Ring-billed Gull embryos. After three oiling treatments, a conservative figure of 99.6% of treated eggs failed to hatch and in eggs that were oiled late or only once, the hatched chicks showed no gross abnormalities. The technique of spraying eggs with oil in a large area over many years can be used to achieve a population decline without polluting the environment.

Christens, E., H. Blokpoel, G. Rason and S. Jarvie 1993. Spraying of Oil on Canada Goose Eggs to Prevent Hatching. MTRCA.
Daedol 50 NF mineral oil was used to prevent Canada Goose eggs from hatching and the study determined that one spraying repetition early or late in incubation resulted in 100% hatching failure. Geese continued to incubate the treated clutches well after the expected hatching date which reduced the incidents of re-nesting, however there was an increase in pre-expected hatch date abandonment for treated nests, although re-nesting did not occur to any extent.

Dunlop, C., H. Blokpoel and S. Jarvie. 1991. Nesting Rafts as a Management Tool for a Declining Common Tern (*Sterna hirundo*) Colony. Colonial Waterbirds 14(2):116-120.
A Common Tern colony at the Eastern Headland [Tommy Thompson Park] has been declining due to habitat loss caused by natural succession and erosion, competition with Ring-billed Gulls, predation and human disturbance. Four wooden rafts with sand and gravel, decoys, driftwood, chick shelters and ramps were installed in 1990 to provide artificial nesting sites. Common Terns successfully nested on the rafts.

Intercept Wildlife Control. 1992. Ring-billed Gull Control Program, Tommy Thompson Park, 1992. MTRCA.
The objective of the program is to restrict expansion of the existing gull colony by discouraging nesting in the controlled areas. Management techniques included coloured tape grids, balloons, plastic owls, scarecrows, pyrotechniques and live raptors. Management was successful and no gulls successfully nested in the controlled areas.

Jarvie, S., H. Blokpoel, and T. Chipperfield. 1999. A geographic information system to monitor nest distributions of Double-crested Cormorants and Black-crowned Night-Herons at shared colony sites near Toronto, Canada. Pages 121-129 *In* Symposium on Double-crested Cormorants: Population Status and Management Issues in the Midwest (M.E. Tobin, ed.). USDA Tech. Bull. No. 1879. 164pp.
In the early 1990s it became apparent that the rapid colonization of Tommy Thompson Park by Double-crested Cormorants would eventually affect the existing colonies of Black-crowned Night-Herons owing to competition for nest sites and destruction of nest trees. As a result, monitoring of these two species was expanded in 1992 by individually marking and geo-referencing all nest trees and by recording the numbers of heron and cormorant nests for all nest trees. A geographic information system was developed to plot the changes in the nesting distributions of herons and cormorants.

Metropolitan Toronto and Region Conservation Authority. 1982. Environmentally Significant Areas Study (ESA No. 120, Tommy Thompson Park). MTRCA.
The Environmentally Significant Areas Study was undertaken to provide input into developing a more coordinated and comprehensive approach to land use planning and resources management. The Tommy Thompson Park ESA fulfills four criteria of an ESA including essential habitat for a significant species or population; exceptional or high quality habitats or biological communities; rare habitats; and habitat for rare or endangered species.

Metropolitan Toronto and Region Conservation Authority. 1994. Environmentally Significant Areas Study Update. MTRCA.
An update to the original 1982 study to re-evaluate and revise the criteria. The Tommy Thompson Park ESA was slightly extended and re-evaluated, fulfilling four criteria including essential habitat, rare species, high quality habitat and remnant habitat.

Metropolitan Toronto and Region Conservation Authority. 1996. Reefrafts for Common Terns and Fish: Guidelines for Design, Construction and Operation. Environment Canada.
Small colonies of Common Terns can be effectively managed by providing artificial habitat in appropriate areas. Common Terns will readily adapt to artificial habitat including floating structures which can be enhanced to provide fish habitat as well. These guidelines provide

information on the design specifications, construction, installation and management of reefrafts.

Metropolitan Toronto and Region Conservation Authority. 1994. Ring-billed Gull Control Program, Tommy Thompson Park. MTRCA.
A preventative approach is taken to discourage Ring-billed Gulls from nesting in the non-selected areas instead of destroying nests and eggs after nesting. Prevention methods included pyrotechnical devices, kites resembling Peregrine Falcons, falcon decoys, gull distress calls and falcon screeches, and stuffed predator decoys. This effectively contained the gulls to specific areas and no successful nests were observed in the controlled sites.

Metropolitan Toronto and Region Conservation Authority. 1989. Tommy Thompson Park Master Plan and Environmental Assessment. MTRCA.
The development of the Master Plan including the study process, background information, and the existing conditions are documented in detail. A comprehensive set of goals and objectives are established and confirm TRCA's commitment to the natural environment and the unique regional significance of the area, reflecting the public interest in the park. These goals and objectives are used to evaluate alternative policy directions, development components and concept plans. The preferred concept plan is selected and specific features of the plan including interpretive programming, sailing use, access, trails, and servicing are discussed. Implementation of the Master Plan is outlined including capital costs, phasing, operations and funding. Appendices include public participation, Keating Channel EA Approval and the surficial soil contamination survey.

Metropolitan Toronto and Region Conservation Authority. 1992. Tommy Thompson Park Master Plan and Environmental Assessment Addendum. MTRCA.
The Addendum to the Master Plan captures the plan's main components and provides the basis to conserve and manage the natural resources and environmentally significant area of the site; provide unique, water-oriented open space which will assist in meeting recreational needs; develop a public awareness of the significance of the Lake Ontario waterfront and of TTP in particular; and develop a plan for TTP which is cognizant of the policies and development proposals within the planning area.

Ontario Ministry of Natural Resources. 2006. Review of the Status and Management of Double-crested Cormorant in Ontario.
Includes information on biology, history, current population status, environmental impacts, and research/monitoring of cormorants in Ontario. Relevant cormorant legislation, provincial policy, and management activities in other Canadian and United States jurisdictions are also summarized. It provides a basis for the future development of management options.

Quinn, J.S., R.D. Morris, H. Blokpoel, D.V. Weseloh and P.J. Ewins. 2006. Design and management of bird nesting habitat: tactics for conserving colonial waterbird biodiversity on artificial islands in Hamilton Harbour, Ontario. Canadian Journal of Fisheries and Aquatic Science 53 (Suppl. 1):45-57.
Hamilton Harbour supports breeding colonies of Double-crested Cormorants, Black-crowned Night-Herons, Herring Gulls, Ring-billed Gulls, Common Terns and Caspian Terns. Since most birds nest on privately owned mainland locations that are subject to multiple industrial and development activities, three artificial islands were constructed in the in the winter of 1995–1996 to reduce current land-use conflict and maintain the existing avian biodiversity.

Recommendations for habitat design and management emphasize techniques to prevent displacement of both tern species by Ring-billed Gulls and of night-herons by cormorants. Long-term management procedures based on aspects of the biology and known ecological interactions among the various species are proposed.

Toronto and Region Conservation Authority. 2007. Cormorants in the City: DCCO Management at Tommy Thompson Park. Presentation to the International Association of Great Lakes Research Conference, Pennsylvania.
The management of the Double-crested Cormorant colony within the limits of Canada's largest city poses some unique problems. Past management efforts have included scare tactics, nest poling and inactive nest removal; however these techniques have been rather ineffective in reducing the population or discouraging them from colonizing new areas. The management issue is further complicated by a large colony of Black-crowned Night-Herons nesting in the same areas as the cormorants. Future management possibilities include egg oiling and artificial nest enhancements to encourage ground nesting.

Toronto and Region Conservation Authority. 2006. Tommy Thompson / Leslie Street Spit Bird Checklist, 3rd edition. TRCA.
A checklist of all confirmed bird observations at the park including abundance codes based on seasons and breeding status.

Toronto and Region Conservation Authority. 2000. Tommy Thompson Park Public Urban Wilderness: Habitat Creation and Enhancement Projects 1995-2000. TRCA.
TRCA planned and implemented several aquatic and terrestrial habitat projects at TTP based on the extensive Master Planning and Environmental Assessment process to create critical habitat for a variety of organisms where habitat was previously unavailable or to enhance existing habitat. This document outlines the factors influencing the design process and details several habitat projects that demonstrate the effectiveness of conservation design.

U.S. Fish and Wildlife Service. 2003. Final Environmental Impact Statement Double-crested Cormorant Management in the United States. U.S. Department of the Interior FWS and USDA APHIS Wildlife Services.
The critical components of the EIS are purpose and need; management alternatives; affected environment upon which management is based; and environmental consequences of each management alternative. The environmental analysis indicates the potential effects of the proposed management action on cormorant populations, non-target birds, fish populations and fishing, property values, aquaculture and aesthetics.

Wilson, W.G., E.D. Cheskey and IBA Steering Committee. 2001. Leslie Street Spit - Tommy Thompson Park Important Bird Area Conservation Plan. Canadian Nature Federation, Bird Studies Canada, Federation of Ontario Naturalists.
In 2000 Tommy Thompson Park was declared a Globally Significant Important Bird Area by BirdLife International, a partnership of member-based conservation organizations. The TTP IBA is globally significant under the congregatory species category due to large colonies of several species including Ring-billed Gull, Black-crowned Night-Heron, Double-crested Cormorant, Common Tern, Caspian Tern and Herring Gull; and it is nationally significant during migration periods and during winter due to waterfowl concentrations. Also noteworthy are the large concentrations of songbirds during migration periods. This document explores the history of

the site; conservation management, threats and opportunities at the site; and presents an action plan for bird conservation at TTP.

Wires, L.R. and F. J. Cuthbert. 2006. Historic Populations of the Double-crested Cormorant (*Phalacrocorax auritus*): Implications for Conservation and Management in the 21st Century. Colonial Waterbirds 29(1):9-37.
To provide context in which current Double-crested Cormorant populations can be understood and therefore more effectively conserved and managed, historic and current breeding and wintering records are reviewed to determine historic distribution (pre-1900) and current distribution (1970-1999) and range across North America. Early records suggest Double-crested Cormorants were present in large numbers throughout much of their current range, however, numbers sharply declined through the late 1800s. The population partially recovered through the mid-1900s, but declined during the 1950s-1970s. In the late 1970s, a second rebound began across much of the continent; the largest breeding populations increased from approximately 32,000 pairs in the early 1970s to >226,000 pairs in the late 1990s.