# MANAGEMENT OF COLONIAL WATERBIRDS AT TOMMY THOMPSON PARK

## CORMORANT ADVISORY GROUP MEETING #1

**Thursday, January 24**
**4:00 p.m. to 8:00 p.m.**
**Mennonite New Life Centre,**
**1774 Queen Street East**

TORONTO AND REGION Conservation
for The Living City

Tommy Thompson Park
Toronto's Urban Wilderness

# OBJECTIVES

- Investigate need for management of cormorant populations at TTP
- Evaluate management options (including “do nothing”), based on the best available scientific information
- If required, identify a proposed management approach
- Involve key stakeholders through an advisory group
- Consult with other stakeholders and the public using an open and inclusive process
- Ensure provision of accurate and balanced information to the public, media and policy makers

# ADVISORY GROUP

## MANDATE

- Provide input and advice
- Ensure that all perspectives are considered
- Provide linkages with other stakeholders

## ACTIVITIES

- Identify values and interests associated with TTP
- Discuss existing conditions, concerns and need for management
- Discuss strategies to address concerns
- Help to evaluate any management options
- Help to plan and attend the public meeting
- Advise TRCA on recommended management plan, if appropriate
- If management actions are recommended, provide advice on implementation

# ADVISORY GROUP MEMBERSHIP

**TRCA**
Restoration Services

**Federal/Provincial**
Canadian Wildlife Service
Transport Canada
Toronto Port Authority
Ontario Ministry of Natural Resources

**City of Toronto**
Parks, Forestry and Recreation
Public Health

**Academia**
York University
University of Toronto
University of Minnesota

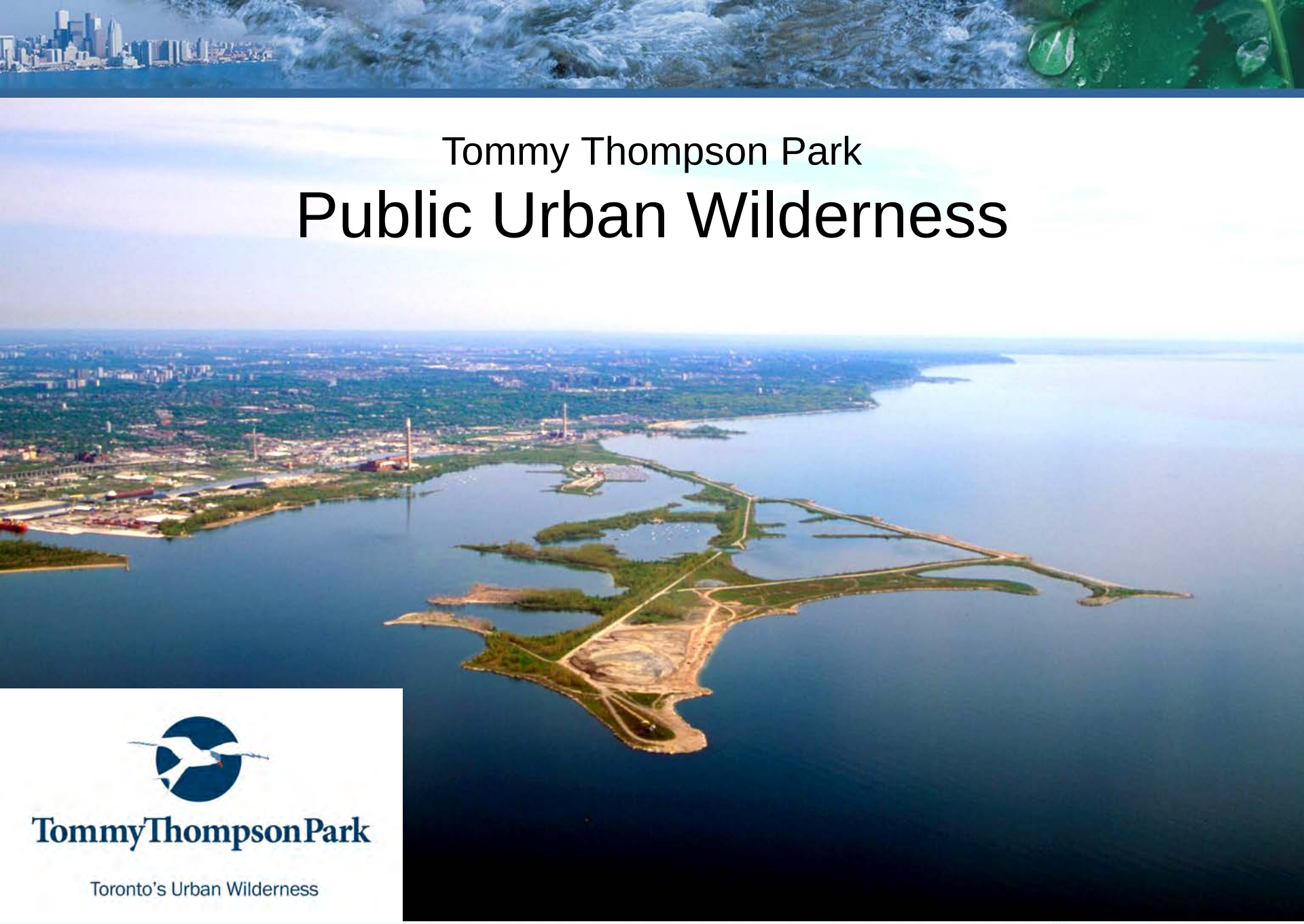
**Interest Groups**
Friends of the Spit
Toronto Ornithological Club
Ontario Nature
Aquatic Park Sailing Club
Outer Harbour Sailing Federation
Local Enhancement and Appreciation of Forests (LEAF)
Toronto Island Residents
Cormorant Defenders International:
- Animal Alliance of Canada
- Zoocheck Canada Inc.
- Canadians for Snow Geese

# PROPOSED TIMELINE

| | | |
|---|---|---|
| **Advisory Group Meeting #1** | Thursday January 24 | • Values and interests<br>• Conditions and concerns<br>• Need for management<br>• Strategies to address concerns |
| **Advisory Group Meeting #2** | Tuesday February 19 | • Evaluate management options<br>• Propose alternative approaches |
| **Public Meeting** | Tuesday April 1 *or* Thursday April 3 | • Present existing conditions, concerns and alternative management approaches<br>• Provide feedback on alternative approaches<br>• Develop consensus on preferred approach if possible |
| **Advisory Group Meeting #3** | Tuesday April 15 *or* Thursday April 17 | • Review public response<br>• Formulate management plan, if any |
| **TRCA Watershed Management Board** | Tbd | • Present report for Authority action |
| **Advisory Group Meeting #4** | Tbd | • Review implementation workplan, if any |

Tommy Thompson Park

# Public Urban Wilderness



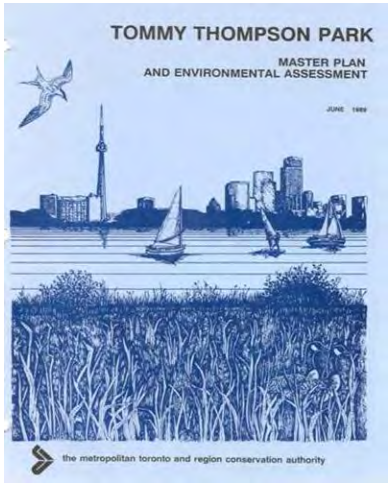
Tommy Thompson Park

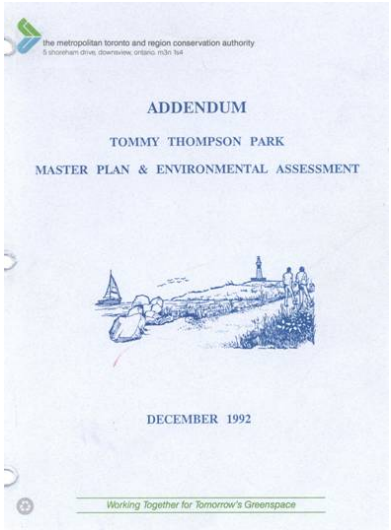
Toronto's Urban Wilderness

- **Construction of the Leslie Street Spit began in 1959**
- **Dispose of rubble and fill from the construction industry**
- **Expand port related facilities**
- **Create opportunities for dredged material disposal**

May 2, 1975. #12554

# Master Plan (1989) and Addendum (1992)




**The goals of the Master Plan are to:**

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

# Tommy Thompson Park

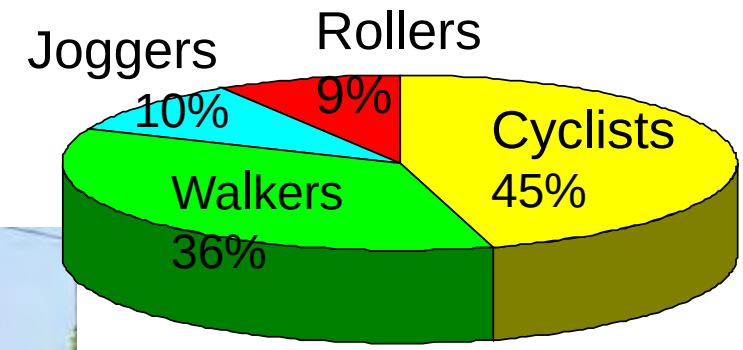

| | |
|---|---|
| Tommy Thompson Park | 247 ha |
| MNR / TPA | 224 ha |
| | 471 ha |

# Tommy Thompson Park
# 2007 Interim Management

- Open to the public weekends and holidays
- Shuttle Van Service from May to October
- Volunteer Naturalist from May to October
- Aquatic Park Sailing Club
- Habitat and wildlife management

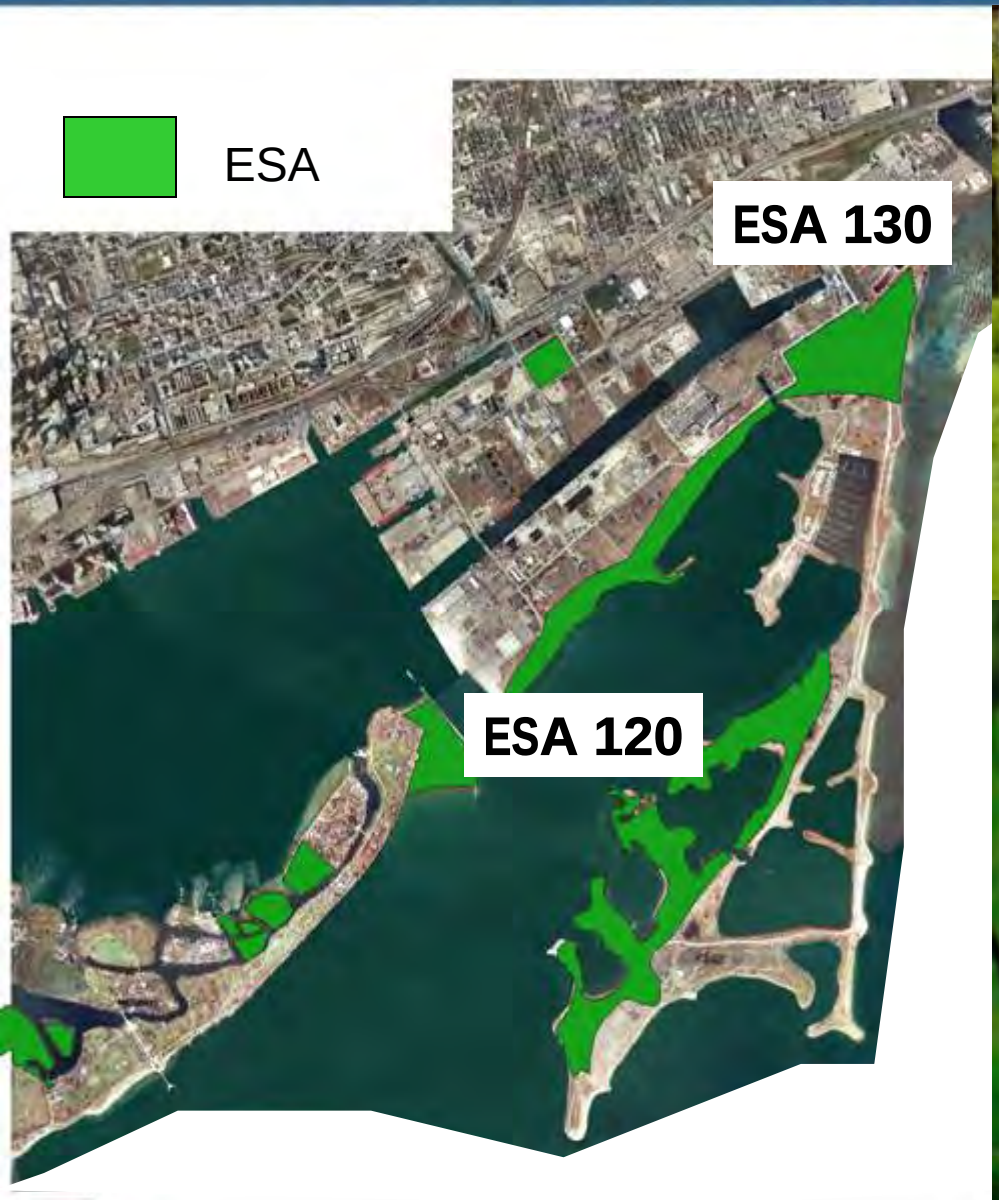

# Interim Management Program

## Approximately 250,000 people visit TTP annually





# Local and Regional Context




IMPORTANT BIRD AREAS OF CANADA

LES ZONES IMPORTANTES POUR LA CONSERVATION DES OISEAUX AU CANADA

# Leslie Street Spit
## Tommy Thompson Park
### Important Bird Area Conservation Plan

Written for the Leslie Street Spit IBA Stakeholders

by

William G. Wilson, Edward D. Cheskey, and the IBA Steering Committee

July 2001

Federation of Ontario Naturalists · Bird Studies Canada / Études d'Oiseaux Canada · BirdLife International · CNF•FCN

*A Natural Legacy 2000 program • Un programme de La nature en héritage 2000*

- Toronto's only ***Important Bird Area*** –globally significant
- 7 Species of **Colonial Nesting Waterbirds**
  The largest colony of Double-crested Cormorants in the Great Lakes
  Largest colony of Black-crowned Night-Herons in Canada!
- Concentration area for **migratory bird species**.
- Significant overwintering area for **waterfowl**.

# Nesting Pairs of Colonial Waterbirds at TTP 2007

Double-crested Cormorant

7,241

Black-crowned Night-Heron

876

Herring Gulls

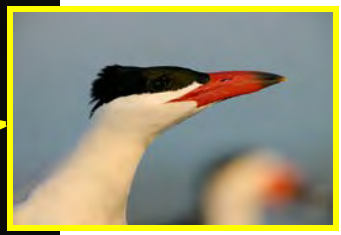
30

Ring-billed Gulls

56,000

Common Tern

376

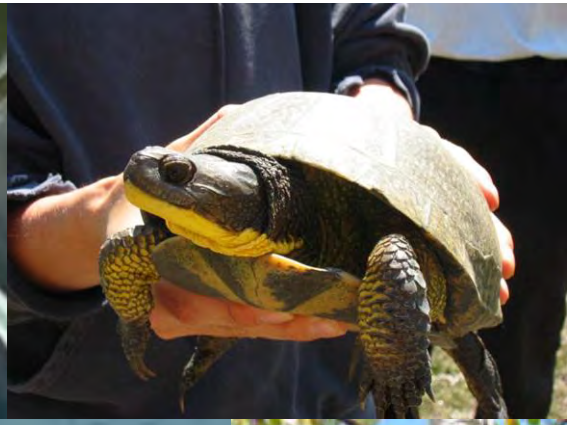


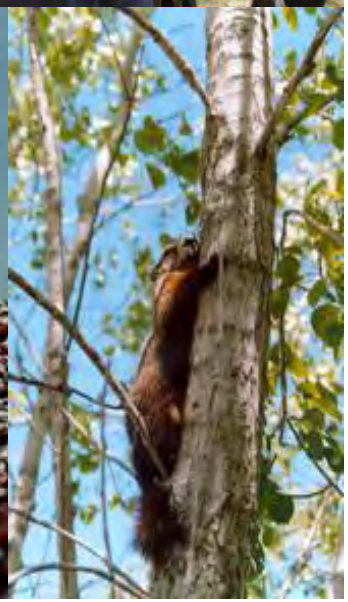
Caspian Tern

few

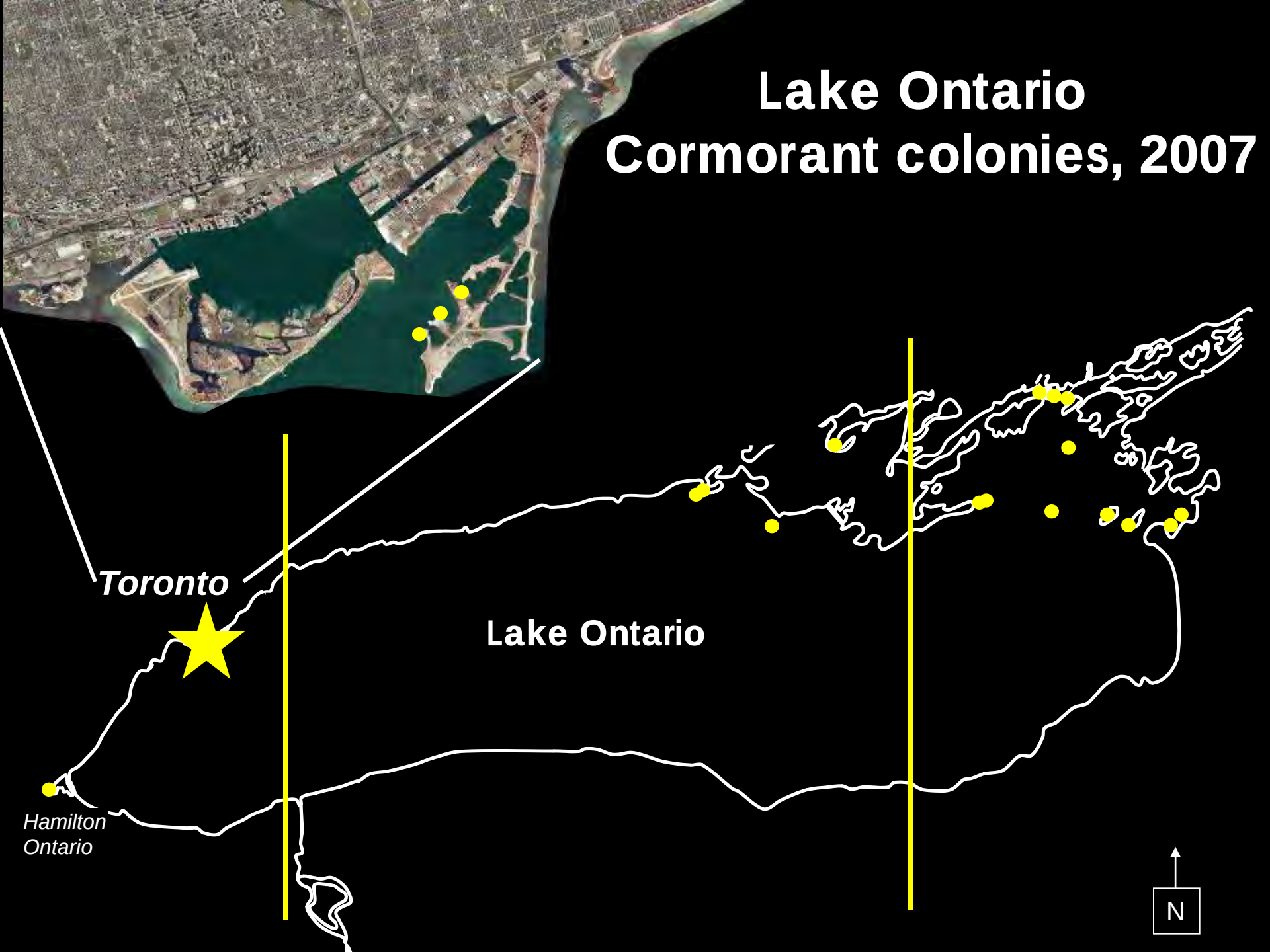
# Wildlife



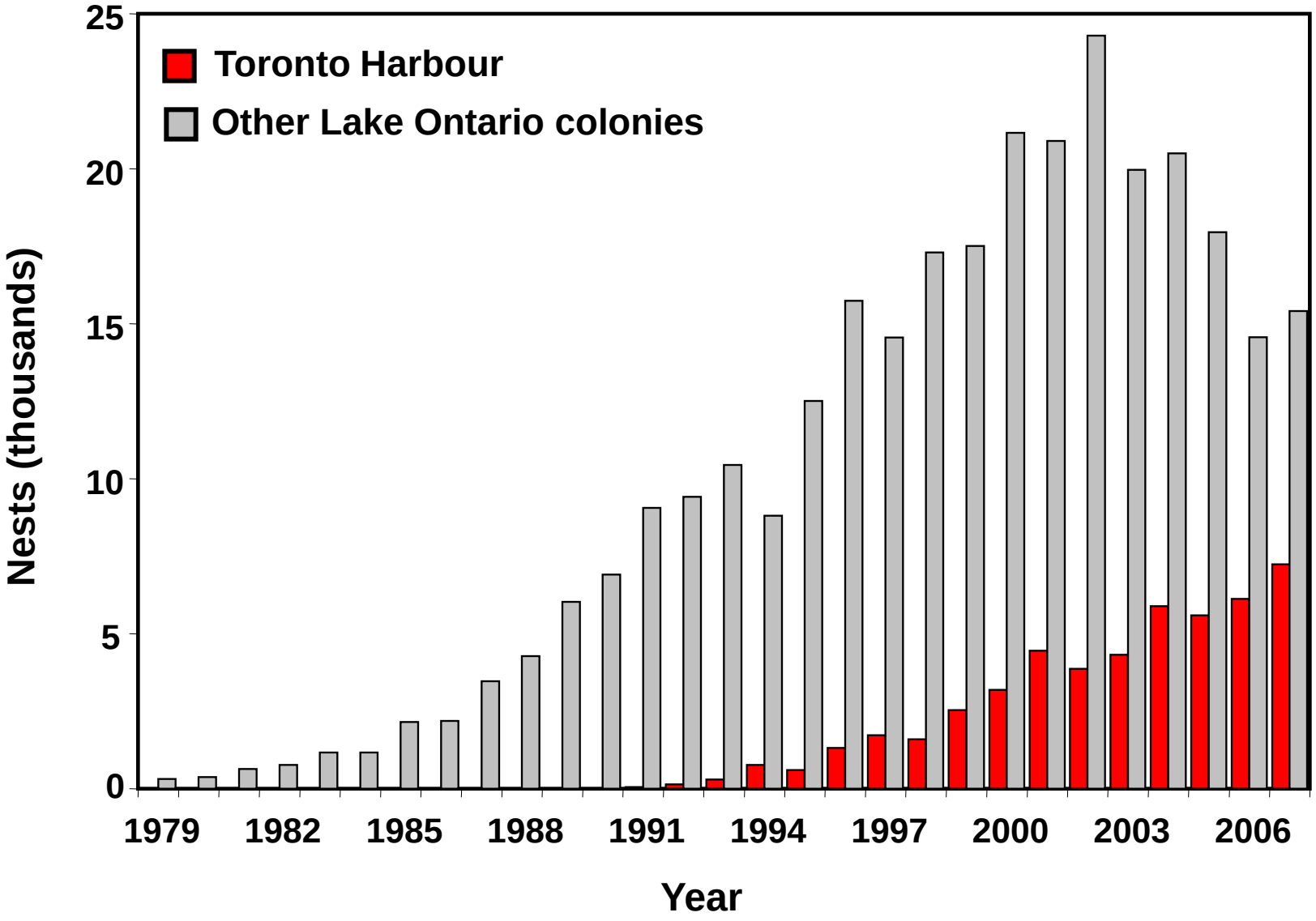


**Lake Ontario and Tommy Thompson Park**
**Cormorant colonies**

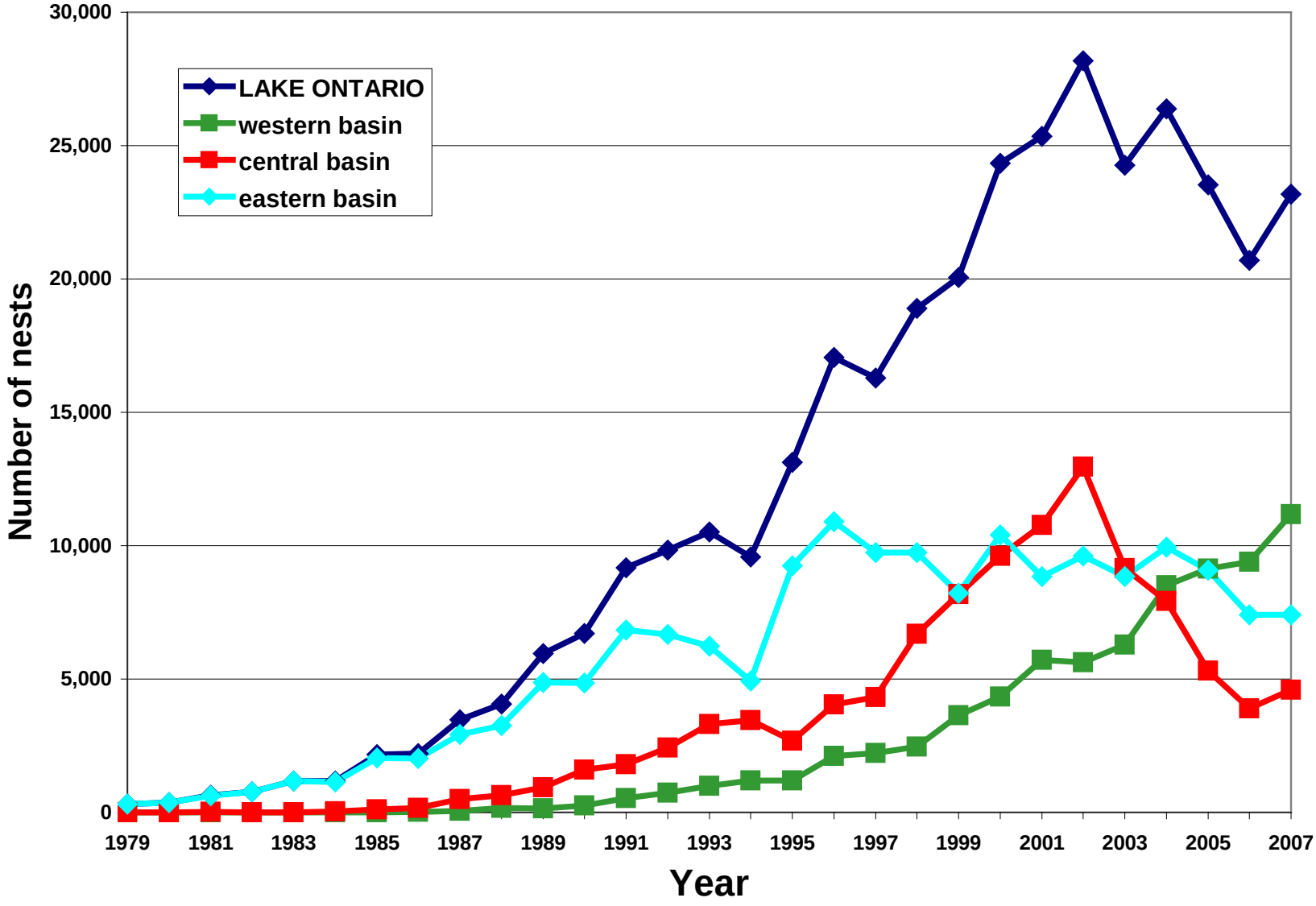

Lake Ontario
Cormorant colonies, 2007
Toronto
Lake Ontario
Hamilton
Ontario
N

# Lake Ontario cormorant nests, 1979-2007.




Source: CWS unpublished data and TRCA

# Lake Ontario cormorant nests by Lake basin, 1979-2007.




Source: CWS unpublished data and TRCA


D
C
B
A

# Nest Count Surveys

- Detailed nest surveys have been completed since 1990
- All nests are identified (DCCO, BCNH, GREG) and counted
- All trees are tagged and surveyed by GPS
- Each tagged tree is checked annually

# Nests Numbers of DCCO and BCNH at Tommy Thompson


8000
7000
6000
5000
4000
3000
2000
1000
0

DCCO
BCNH

1980 1982 1984 1986 1988 1990 1992 1994 1996 1998 2000 2002 2004 2006

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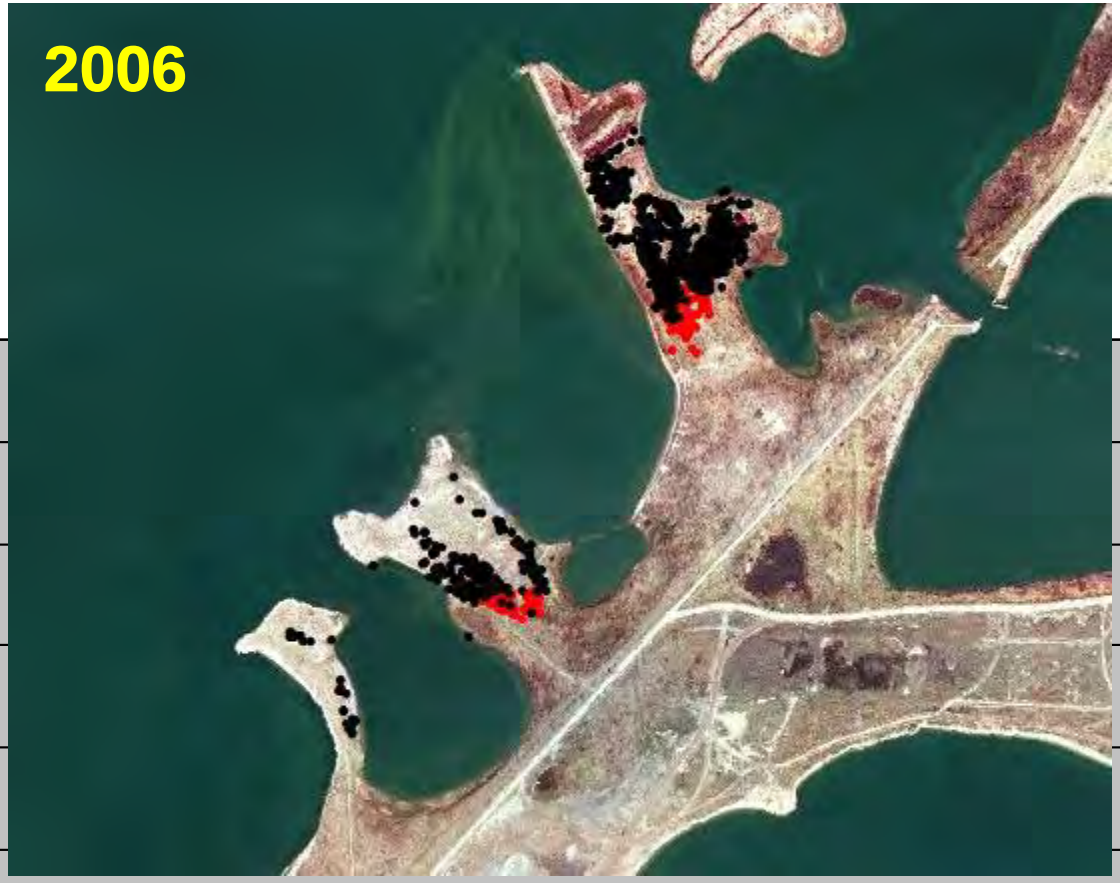


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7000
6000
5000
4000
3000
2000
1000
0

DCCO
BCNH

1980 1982 1984 1986 1988 1990 1992 1994 1996 1998 2000 2002 2004 2006

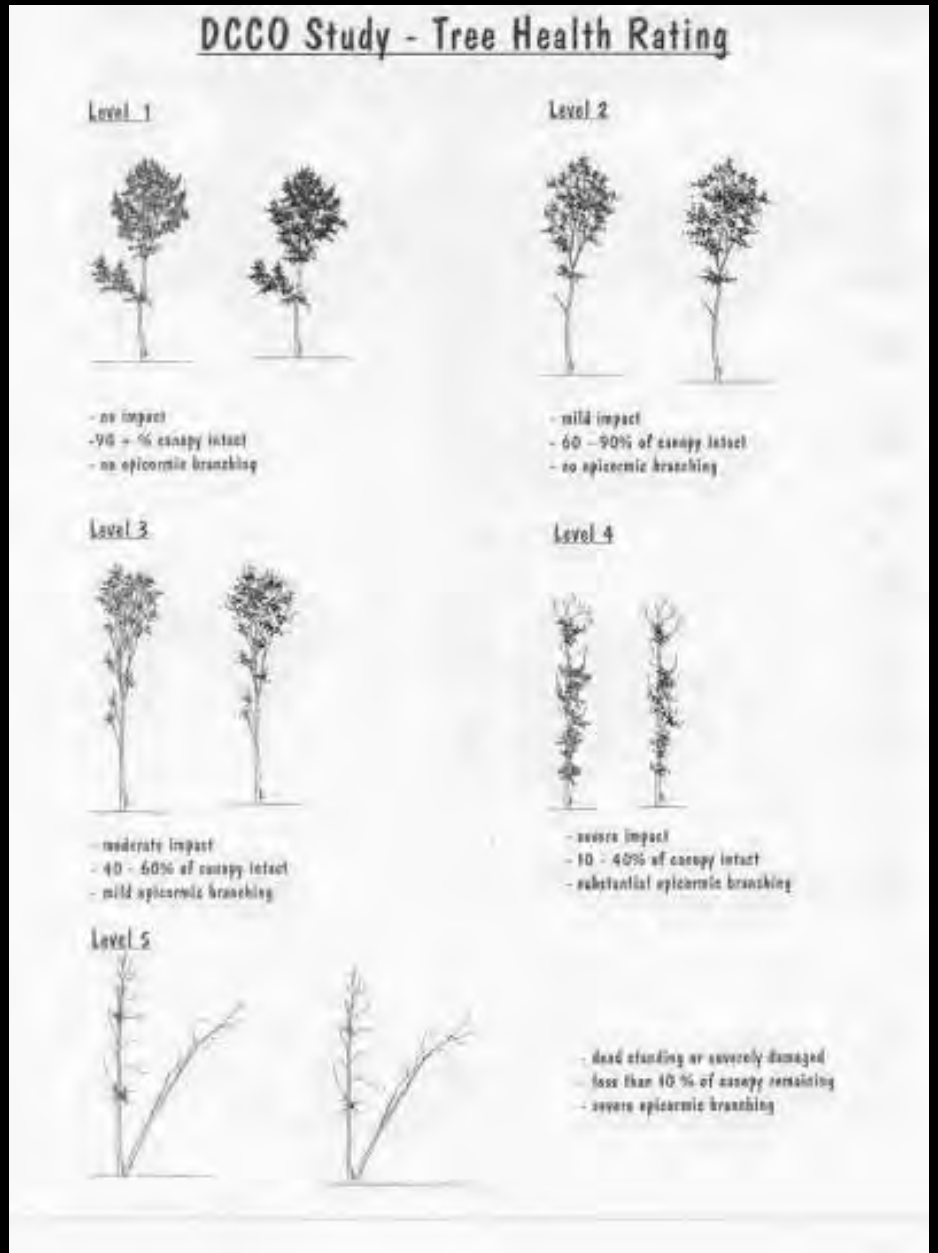
# DCCO Nest Numbers 1998 to 2007

| | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 436 | 695 | 933 | 907 | 730 | 779 | 557 | 311 | 228 | 101 |
| B | 1307 | 1814 | 2071 | 3138 | 1844 | 1582 | 1241 | 1763 | 1535 | 1139 |
| B ground | | | | | 344 | *990 | 809 | 872 | 868 | 1302 |
| C | 0 | 0 | 30 | 281 | 625 | 633 | 2439 | 2728 | 3494 | 4699 |
| Total | 1743 | 2509 | 3034 | 4510 | 3543 | 3942 | 5855 | 5674 | 6125 | 7241 |

- Peninsula A 42, and Peninsula B 948

# Monitoring – Tree Health Surveys

- trees are individually inspected
- Health data is mapped in Arcview and compiled with nesting data



# The Change in Tree Health between 1996 and 2006

- Live Trees (1 and 2 rating)
- Dead or Dying Trees (4 and 5 rating)


# Trees Nested in per Year

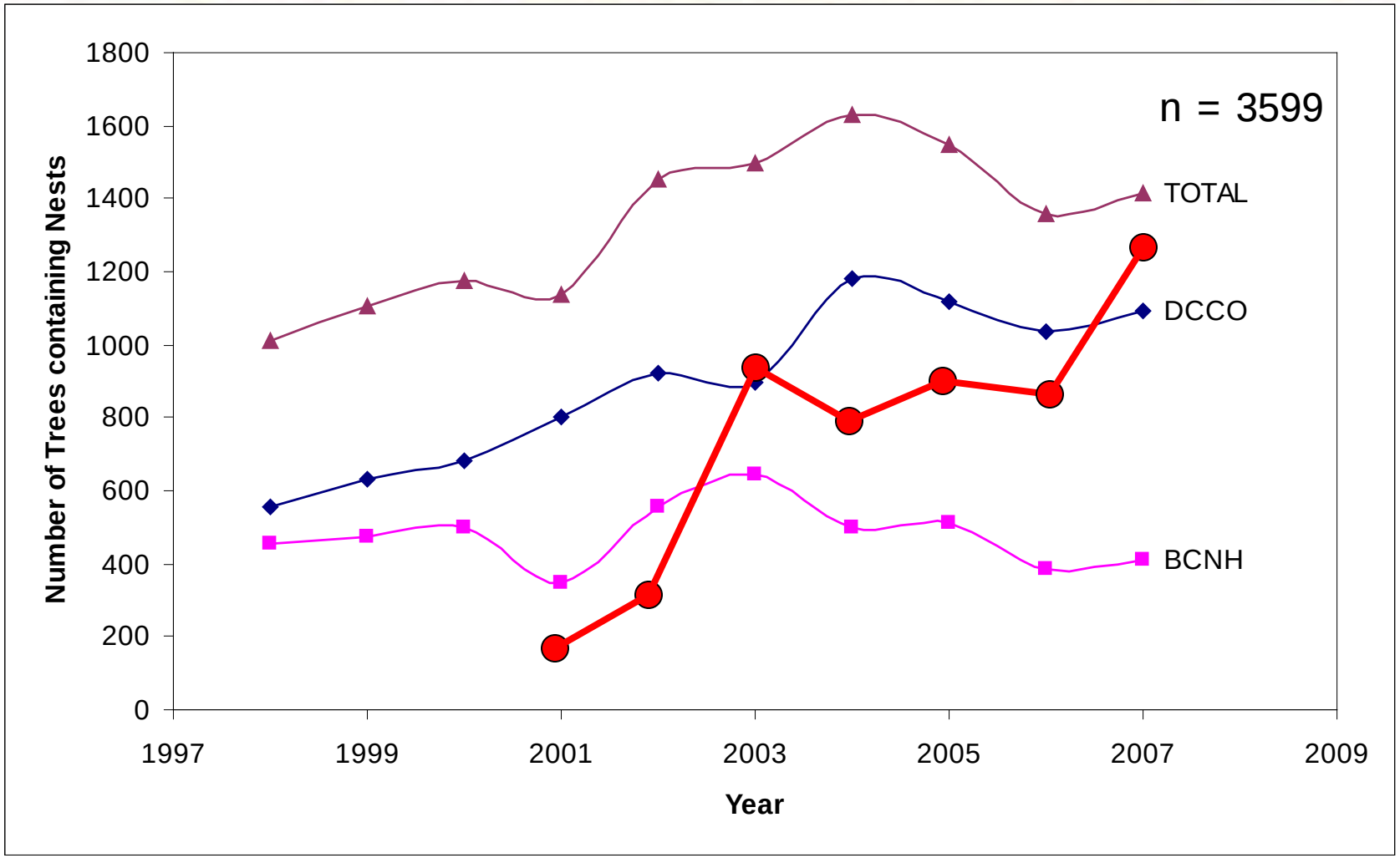



Figure 1: Figure 1: Summary of the number of TRCA trees containing nests

Source TRCA Data produced by University of Toronto (Eric Davies, Michelle Thomas, Mart Gross)

# Black-crowned Night Heron research on Peninsula C, Tommy Thompson Park,

**Gail S. Fraser & Kerresha Khan**
**Faculty of Environmental Studies, York University,**

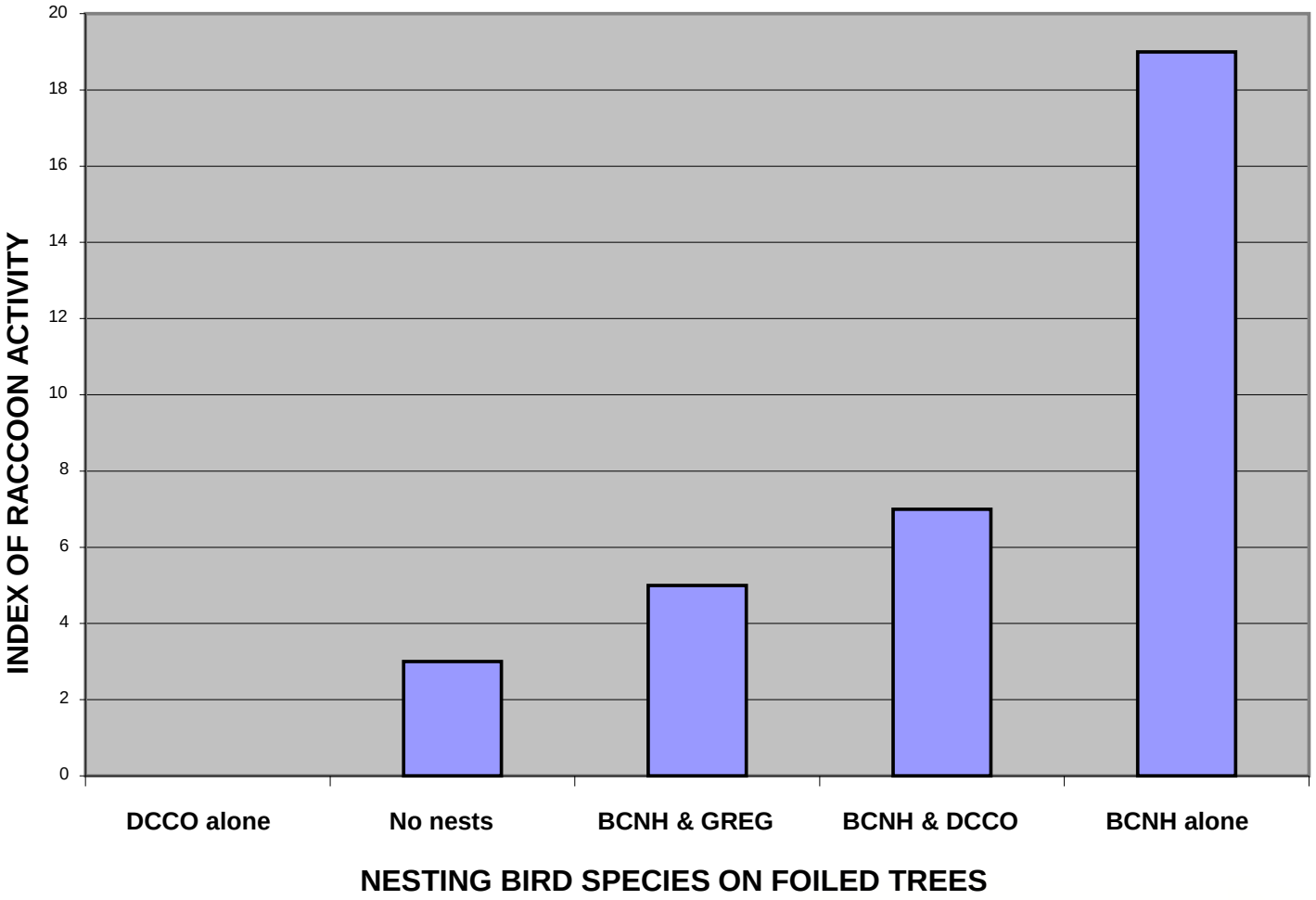
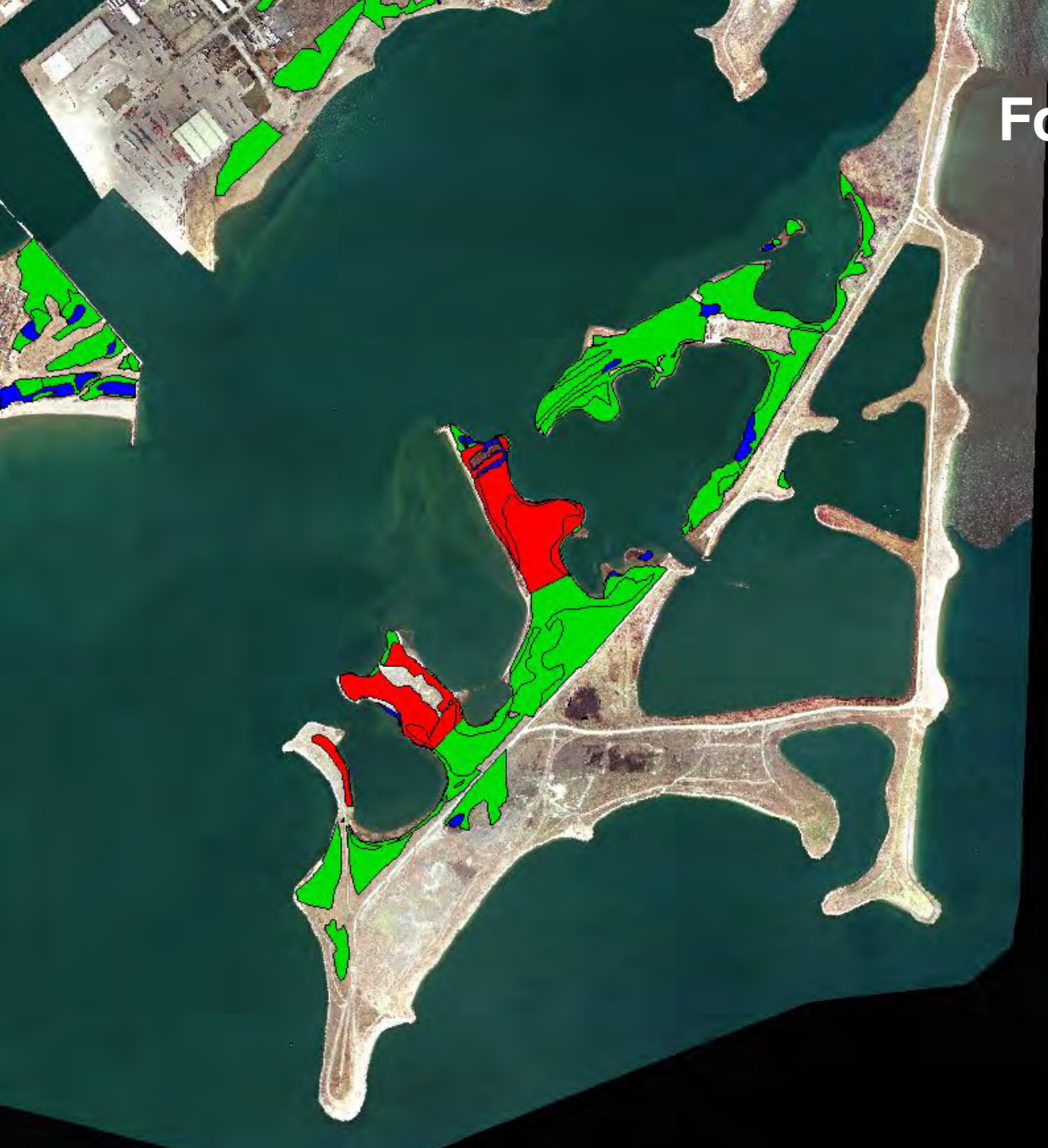



Figure 1. An index of raccoon activity for foiled trees

# Total Forest Cover At TTP

37.3 Ha



**Forest Cover Lost or in Decline**

**9.0 Ha**

**25% of the total forest area**

# Deforestation on Peninsula A from 1990 to 2007

# Deforestation and Erosion on Peninsula B from 1990 to 2006

# Forest Decline on Peninsula C
# 2007

# Recent Partnered Research Projects at TTP

## Canadian Wildlife Service (Environment Canada):

- Embryonic Viability (HERG) – Dr. Craig Hebert
- Stress responses and Vitellogenin Production (HERG) – Dr. Laird Shutt
- Neurological Impairment (HERG) - Doug Crump
- Annual Egg Contaminants Montioring (HERG) – Dr. Chip Weseloh

## National Water Research Institute (Environment Canada):

- Microbial Source Tracking to Determine Fecal Pollution (all colonials) – Dr. Tom Edge

## Wright State University, Ohio

- Immune Function (HERG) – Dr. Keith Grasman

## University of Guelph:

- West Nile virus, Avian Influenza virus and Newcastle Disease (RBGU) – Dr. Sharon Calvin

## University of New Brunswick:

- Insect biodiversity (goldenrod herbivores) – Graham Cox (M.Sc. Student) and Stephen B. Heard (Associate Professor)

# Past Management Efforts

- Scare Tactics including:
  - Laser
  - Walk-through
  - Pyrotechnics
- Nesting platforms built on peninsula A
- Ground Nest Enhancement
- Inactive nest Removal

# Where are we now?

- Trees being lost and there is no regeneration
- Vegetation biodiversity diminished
- Shoreline erosion increasing
- Other colonial species impacts
- Migratory Songbirds stopover and nesting
- Public Use of the park
  - ~250,000 users/year and increasing
- Toronto City Centre Airport concerns
- Water quality and esthetic concerns

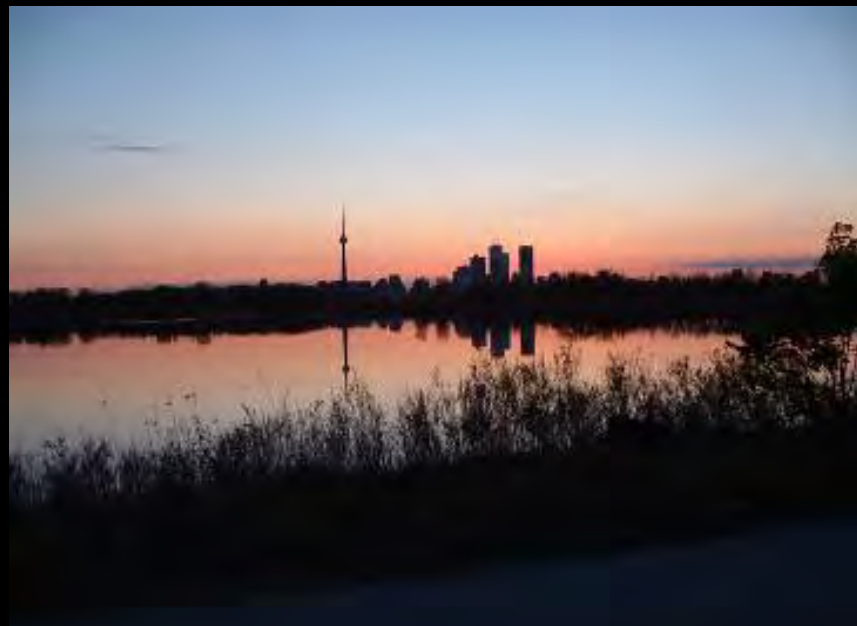
# Tommy Thompson Park Context

- TTP is ecologically significant at a local, regional, and global scale

- TTP is in Toronto – the largest city in Canada extremely high level of public uses and disturbance

- Man-made landform
  urban influences compromises natural function

- TTP supports a variety of recreation users



# Potential Objectives

- **Increase public awareness and knowledge of colonial waterbirds**
- **Limit further forest canopy loss**
- **Maintain park biodiversity**
- **Reduce shoreline erosion**
- **Prevent cormorant expansion to Peninsula D**
- **Investigate potential threat to public health and safety**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