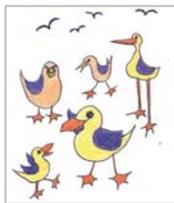


## Hamilton Harbour Remedial Action Plan (HH RAP) Beneficial Uses

i	ii	iii	iv	v	vi	vii	viii	ix	x	xi	xii	xiii	xiv
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## DEGRADATION OF WILDLIFE POPULATIONS



### STATUS

2002 Status (wildlife)	Impaired	Requires Further Assessment	Not Impaired
2012 Status (wildlife)	Impaired	Requires Further Assessment	Not Impaired

### APPROVED BY 2012 RAP STAKEHOLDER FORUM:

- Beneficial Use iii status regarding wildlife populations remain "impaired".
- Beneficial Use iii delisting objective wording regarding wildlife populations be updated as follows:

Beneficial Use iii (wildlife populations) will be considered not impaired when:

#### 1. Colonial waterbirds:

The overall objective is to have a sustainable mixed community of colonial waterbirds. In general are aiming for an increase of the rarer species and a reduction in the number of over-abundant species. Management of colonial waterbirds and achieving specific populations of particular species requires an adaptive management approach be in place to ensure sustainable populations continue to the extent possible after delisting.

#### Targets (Number of Nests)

Ring-billed Gulls < 10,000;

Herring Gulls 200-300+;

Double-crested Cormorants < 2,500;

Common Terns 300-600+;

Caspian Terns 400-600+;

Black-crowned Night Herons 100-200+

#### 2. Other wildlife including waterfowl:

No target will be suggested for other species of birds or animals, but a target for habitat (BU xiv) has been suggested which will enhance wildlife populations generally. In addition, management of some species may be necessary as a result of habitat enhancement.

### 2002 HH RAP Delisting Objective:

#### 1. Colonial waterbirds:

The overall objective is to have a self sustaining mixed community of colonial waterbirds generally with an increase of the rarer species and a reduction in the number of ring-billed gulls which currently nest in the Harbour. These figures are subject to revision once these general levels have been reached. Management of colonial waterbirds is experimental and achieving specific populations of particular species is highly speculative.

#### Suggested Interim Targets (Number of Pairs)

Ring-billed gulls (*Larus delawarensis*) = 5,000;

Herring gulls (*Larus argentatus*) = 350;

Double-crested cormorants (*Phalacrocorax auritus*) > 200;

Common terns (*Sterna hirundo*) > 600;

Caspian terns (*Sterna caspia*) > 200;

Black-crowned night herons (*Nycticorax nycticorax*) = 200

#### 2. Other wildlife including waterfowl:

No target will be suggested for other species of birds or animals, but a target for habitat has been suggested which will enhance wildlife populations generally. In addition, management of some species may be necessary as a result of habitat enhancement.

That fish and wildlife bioassays confirm no significant toxicity from water column or sediment contaminants.

### Why Update the 2002 HH Wording?

#### Reasonable:

Existing targets for colonial waterbird populations were interim targets. New habitat has been constructed in the Harbour and 10 years experience with the bird populations and habitat available allows the refinement of population targets. The reference to bioassay should be removed as there is sufficient community structure data to rely on for the colonial waterbirds (and fish populations).

#### Achievable:

The new targets are best estimates of populations and management practices on constructed habitat have been refined over the past 10 years. The management of colonial waterbirds and achieving specific populations of particular species will need to follow a long term adaptive management plan developed to ensure sustainable populations continue, to the extent possible, after delisting.

#### Measurable:

The IJC delisting criteria asks for "predetermined levels of abundance", therefore HH RAP will continue to set desired population numbers/ranges as part of this BUI. A program of annual monitoring is ongoing.

## What Was the Original Problem in Hamilton Harbour?

Habitat was contaminated and temporary; communities dominated by a few overabundant species; clean permanent and species appropriate habitat preservation, enhancement, and management was required.

### IJC Listing Guideline (1991):

When fish and wildlife management programs have identified degraded fish or wildlife populations due to a cause within the watershed. In addition, this use will be considered impaired when relevant, field-validated, fish or wildlife bioassays with appropriate quality assurance/quality controls confirm significant toxicity from water column or sediment contaminants.

### IJC Delisting Guideline (1991):

When environmental conditions support healthy, self-sustaining communities of desired fish and wildlife at predetermined levels of abundance that would be expected from the amount and quality of suitable physical, chemical and biological habitat present. An effort must be made to ensure that fish and wildlife objectives for Areas of Concern are consistent with Great Lakes ecosystem objectives and Great Lakes Fishery Commission fish community goals. Further, in the absence of community structure data, this use will be considered restored when fish and wildlife bioassays confirm no significant toxicity from water column or sediment contaminants.

### Other AOC Comparisons:

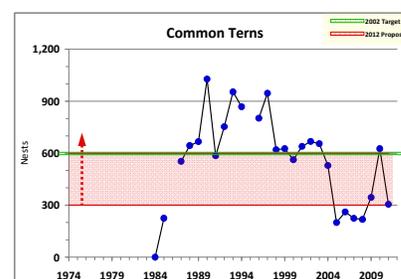
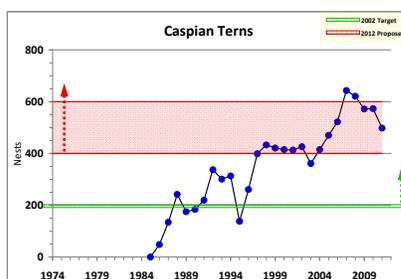
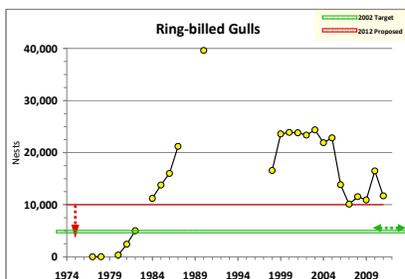
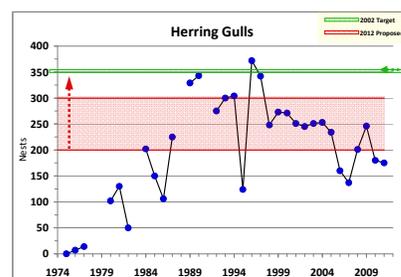
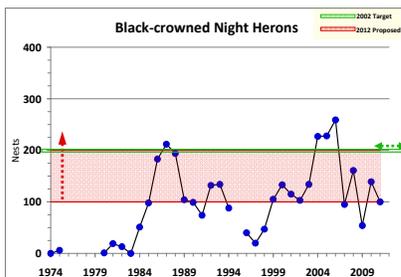
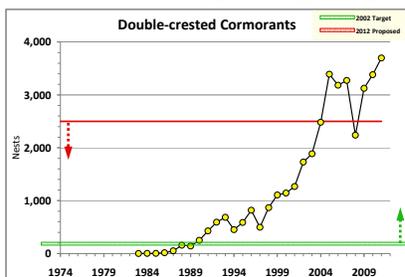
Detroit River AOC targets "self-sustaining and healthy communities of indicator wildlife species" with three listed examples. Wheatley Harbour AOC doesn't specify any species, just there be "no evidence of impacts to wildlife populations". Niagara River AOC and St. Lawrence River AOC list specific species, comparison to reference, but no targeted numbers.

### What Has Been Done?

- Habitat built: NE Islands (1995-96), LaSalle shoals (1995-96); Windermere Basin (2010-12)
- Active management: NE Islands and Windermere Basin; cormorants, gulls and geese throughout Harbour

### How Are Things Today?

- These charts show the population dynamics for the targeted colonial water-bird species with the red shaded area showing the recommended target or target range.



### What Still Needs To Happen?

- Ongoing active management to reduce the numbers of ring-billed gulls and cormorants required at some locations.
- Ongoing active management to support common terns, Caspian terns, and herring gulls.
- Habitat being built for common terns and black-crowned night herons at the Windermere Basin marsh (2013).

### When Will The Status Change?

- All colonial waterbird habitat will be completed by 2013 and management efforts will attempt to meet targets by 2020.

### Where Can I Learn More?

HH Wildlife Management Advisory Committee. 2011. Internal Report: Towards an Integrated Approach to Colonial Waterbird Management in Hamilton Harbour.

BARC. 2004. Toward Safe Harbours: Progress Toward Delisting – Fish and Wildlife

HH RAP Technical Team. 2008. Memo: Recommending the Removal of Bioassays from Delisting Objective iii

*Most references can be provided by the HH RAP Office as a PDF upon request*