

2018 Hamilton Harbour RAP Fact Sheet

BUI 5 Bird or Animal Deformities or Reproductive Problems

REQUIRES FURTHER ASSESSMENT

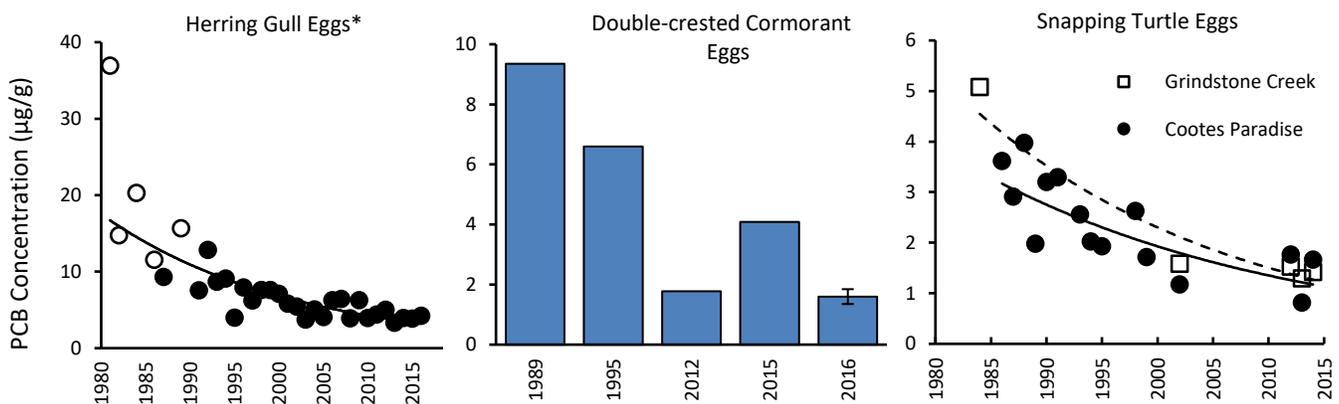
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Delisting Criteria: The types and frequency of deformities and/or reproductive impairments associated with contaminant exposure are similar to those seen at a suitable reference site(s), and do not result in a population level effect as examined through sentinel species (e.g. snapping turtles and herring gulls).



Did you know?

There has been a 30+ year decline in PCB levels (polychlorinated biphenyl) and other contaminants like dioxins, furans, mercury, and organochlorines in herring gull, cormorant and snapping turtle eggs collected from Hamilton Harbour (Hughes et al. 2018 and Hughes et al. in prep).



* Closed circles represent a different estimation method than open circles (see Hughes et al. 2018)

The most recent status update found that concentrations of PCBs and other contaminants were not sufficiently elevated to adversely impact the reproductive success and development of herring gulls and cormorants nesting in Hamilton Harbour (Hughes et al. 2018)

Hatching success and development of snapping turtles at Cootes Paradise and Grindstone Creek were generally similar to that of turtles at the reference location in four study years between 2012–2016 (ECCC in prep.).



What Was the Original Problem?

Deformities such as crossed bills were seen in colonial waterbird colonies in the 1970s. These were considered to be the result of historical industrial and municipal inputs to the Harbour and airborne contaminants falling within the watershed. Snapping turtles had reproduction anomalies and high PCB levels. Cootes Paradise Marsh generally lacks frogs despite the fact that it is a wetland.



Other AOC Comparisons

The Detroit River is the only Canadian AOC with this BUI listed as impaired and include in their criteria that they must maintain conditions for a minimum of three years using the same sentinel species as Hamilton Harbour.

How are Improvements Being Made?

1. The Municipal/Industrial Strategy for Abatement (MISA) has reduced inputs of contaminants directly to Hamilton Harbour. Similar measures to prevent or diminish air borne contaminants getting into the watershed have been ongoing at an international level.
2. PCBs in Windermere Basin have been capped and other known sources of PCBs are being addressed through remedial actions at Strathearne Boat Slip and Kenilworth Boat Slip. See BUI 6 Degradation of Benthos Fact Sheet for more information.
3. A status update of colonial waterbird deformities and reproduction problems was completed in 2018 and recommends a status of not impaired (Hughes et al. 2018).

What Still Needs to Happen?

- Remedial actions for PCBs in the Strathearne Boat Slip and Kenilworth Boat Slip (as addressed under BUI 6 Degradation of Benthos).
- Status updates for snapping turtles and northern leopard frogs are anticipated in 2019. A status change may be proposed for this BUI.
- If a change in status is proposed, the Remedial Action Plan will engage the public and Indigenous communities on the recommended status change as part of an assessment in 2019.



Where Can I Learn More?

Hughes, et al. 2018. Assessment of the Wildlife Reproduction & Deformities Beneficial Use Impairment in the Hamilton Harbour Area of Concern – Colonial Waterbirds. Environment and Climate Change Canada – Ecotoxicology and Wildlife Health Division Report. 37 pp.

BARC. 2017. Toward Safe Harbour Report Card: hamiltonharbour.ca/reportcard

Bishop, et al. 2016. Contaminant concentrations and biomarkers in 21-day old Herring Gulls (*Larus argentatus*) and Double-crested Cormorants (*Phalacrocorax auritus*) from eastern Lake Ontario, and from Hamilton Harbour in western Lake Ontario in 1989 and 1990. Aquatic Ecosystem Health and Management 19(2): 181-191.

Hughes, et al. 2016. Long-term trends in legacy contaminants in aquatic wildlife in the Hamilton Harbour Area of Concern. Aquatic Ecosystem Health and Management 19(2): 171-180.

Hughes, et al. 2010. Current Status and Trends of Aquatic Wildlife in the Hamilton Harbour Area of Concern.

Most references can be provided as a PDF upon request. Visit hamiltonharbour.ca