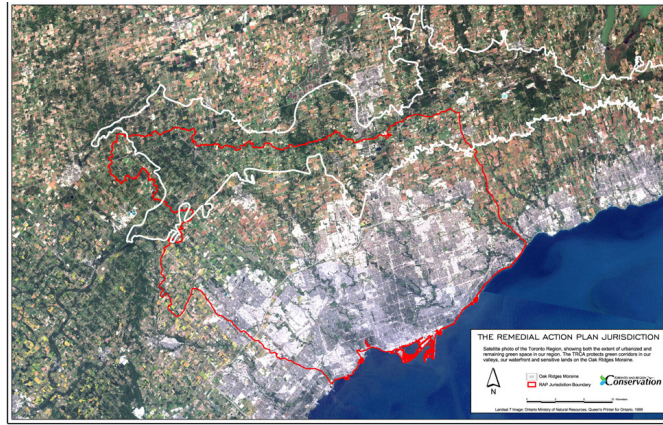




AQUATIC HABITAT TORONTO

Great Lakes Areas of Concerns – Limits to Restoration



Overview

With its size, complexity of governance and the 3 million plus people living in this fast growing area, the ultimate success of the Toronto and Region Remedial Action Plan will be no small feat.

In 1994, very ambitious targets for restoration were established. Setting the bar high is important; however it is essential that we be realistic when determining what is achievable. The information below provides a snapshot of what progress we have made on a few of the RAP targets. Where it is possible to use quantitative results (i.e. fish tumours), it is easier to show progress and determine whether or not we have achieved our target.

Challenges remain when trying to define endpoints for beneficial uses that are:

- Difficult to quantify (how much habitat is enough?;
- Degraded as a result of local and/or broader sources;
- Degraded due to multiple stressors.

The Status: Populations (the Waterfront)

Observations Suggesting Negative Impacts

- Overall reduction in fish abundance (biomass) although reduction in abundance has been greater in open coast and river mouths than in embayments
- High percentage of benthivores (fish that eat from the lake bottom)
- Increase in abundance of non-native (invasive) species
- Increase in biomass of generalist species (i.e. Brown Bullhead)
- Decrease in biomass of specialist species (i.e. Large Mouth Bass)
- Decrease in biomass of cool water fish and increase in warm water fish in embayments

Observations Suggesting Positive Impact

- No significant changes to species richness
- Marked increase in species richness in embayments and gradual increase in open coasts
- Decline in non-native species in embayments and open coasts
- Recent increase in biomass of native species
- Fluctuating dynamics of piscivores (fish that eat fish) (i.e. Northern Pike)
- Relatively large increase in abundance of walleye
- Reduction in the percentage of species that are tolerant of degradation (such as whitesucker and carp)

The Status: Habitat

Waterfront

Habitat improvement and creation are major considerations of the waterfront revitalization effort, resulting in significant gains in fish and wildlife habitat. Aquatic Habitat Toronto, partnership of various agencies, is responsible for implementing the Toronto Waterfront Aquatic Habitat Restoration Strategy, a key component to meeting RAP targets.

Watersheds

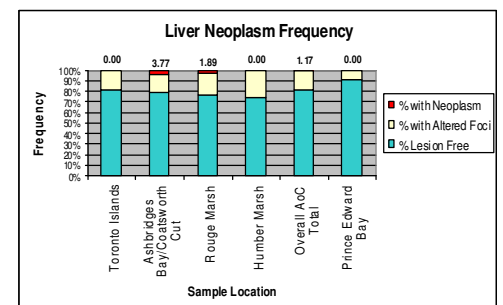
Uplands and upstream riverine habitat continues to decline due to urbanization, in particular in headwater or intermittent streams; however, regulations have recently been strengthened to better protect floodplains and wetlands from development.

Gains from habitat restoration and creation are outweighed by continued urbanization. Need to improve tracking of habitat gains and losses.



The Status: Fish Health

- Fish examined for external abnormalities
- Internal organs also examined and a histopathological examination of the liver was completed
- Results
- Higher levels of external deformities in Toronto than Prince Edward Bay, in Toronto the highest frequency of deformities was found in fish from Ashbridge's Bay.
- **Overall, however, researchers found very low incidence of liver tumours, 3 of the 257 fish or 1.2%**
- Fish tumours are not considered an impaired use in the Toronto and Region AOC



By Kelly Montgomery

The Status: Humans

Levels of contaminants have decreased since the 1980s but the rate of decrease has slowed in the last decade. Consumption advisories persist; generally the larger sizes of some fish species and top predators are of more concern due to the bioaccumulation of toxics. Mercury, PCBs, dioxins and furans cause major consumption restrictions throughout Lake Ontario, further assessments are needed to confirm that these advisories are due to lakewide concern rather than a regional one. While contaminant levels have decline somewhat; Health Canada recently issued more stringent consumption guidelines pertaining to PCBs, dioxin and furans.

