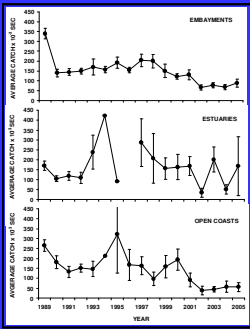




The Fish Communities of the Toronto Waterfront

AQUATIC HABITAT TORONTO



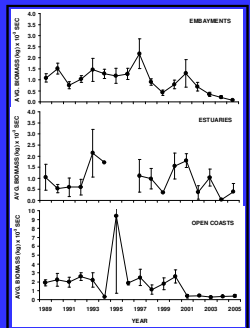
CPUE

Overall – reduction mean annual CPUE (1989 to 2005)

Embayments – lower equilibrium

Estuaries – high variation, recent increase

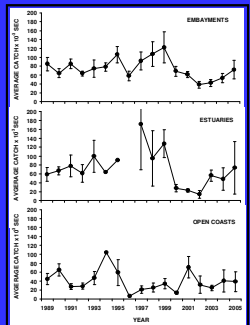
Open coasts – remains low but relatively stable



Alewife

Follows similar patterns to reports issued by OMNR, NYSDEC and USGS that alewife are in decline in Lake Ontario through 2002 – 2005.

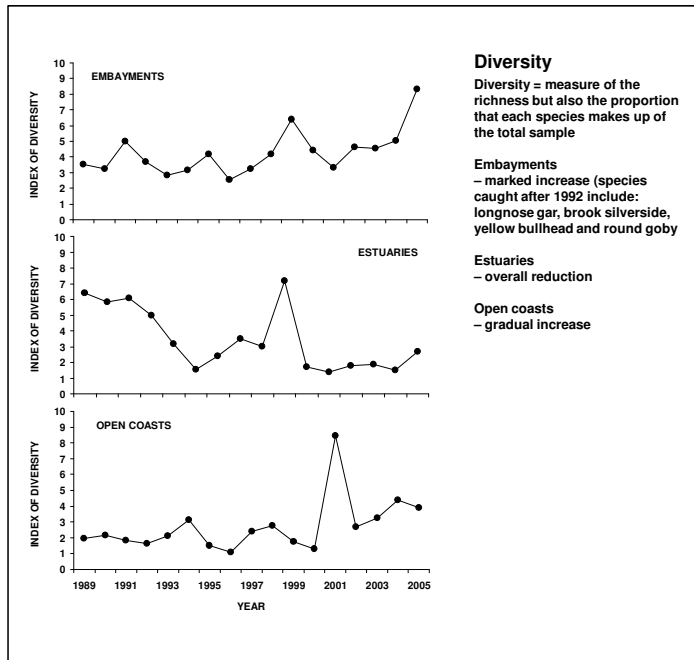
This data helps solidify the hypothesis of this being a lake wide phenomenon



Natives

Over the 16 year period there has been an overall reduction in the CPUE of native species

However in the last four years in all habitats the CPUE for native species has increased



Diversity

Diversity – measure of the richness but also the proportion that each species makes up of the total sample

Embayments – marked increase (species caught after 1992 include: longnose gar, brook silverside, yellow bullhead and round goby)

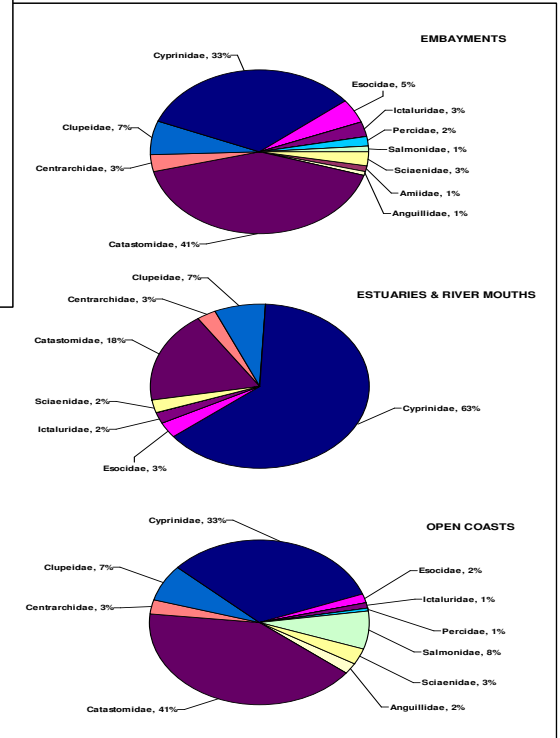
Estuaries – overall reduction

Open coasts – gradual increase

Composition

Composition – family specific proportion of the total biomass

For all habitats the biomass is dominated by catostomids (white sucker) and cyprinids (minnows)



Abstract

Fish community metrics collected for 16 years (1989 – 2005), using standardized electrofishing methods, and throughout the Greater Toronto Region Waterfront were analyzed to ascertain the current state of the fish community with respect to past conditions.

Results that continue to indicate a degraded or further degrading environment include: an overall reduction in fish abundance, a high composition of benthivores, an increase in invasive species, an increase in generalist species biomass, yet a decrease in specialist species biomass, and a decrease in cool water thermal guild species biomass in embayments.

Results that may indicate a change in a positive community health direction include: no significant changes to species richness, a marked increase in diversity in embayments, a decline in non-native species in embayments and open coasts (despite the invasion of round goby), a recent increase in native species biomass, fluctuating native piscivore dynamics, increased walleye abundance, and a reduction in the proportion of degradation tolerant species.

By Jason Dietrich

