**Abstract**

Conditions of Life of Toronto Brickworks in Comparison to Lake Wannamaker

Introduction

For nearly 100 years, the Toronto Brickworks was a productive industrial site, in Toronto, Canada. Operations closed in the 1980s and naturalisation of the site began in 1994. The Brickworks is now a seemingly thriving urban wetland ecosystem.

Objective

To compare the conditions for life between this restored brownfield site with a pristine Canadian wetland ecosystem, Lake Wannamaker in the woods of eastern Ontario.

Methods and setting

Water samples were collected in washed containers from three sites at each location. At the Brickworks this included two different ponds plus the feeding river of Mud Creek. Two samples were take from the edge of Lake Wannamaker, and one from an adjacent swamp.

Water purity was tested by analysing pH and concentration of ammonia, phosphates, nitrites, and nitrates in each sample. Two different chemical test kits and a pH meter were used for reliability.

Light microscopy was used to examine all samples for protozoa.

Results

pH levels were very similar in Lake Wannamaker (mean pH of 8.2) and the Brickworks (mean pH 8.6 and ammonia concentration was identical - 0.3 mg/L). The phosphate concentration was very similar, mean 0.5 mg/L Lake Wannamaker and 0.4 mg/L Brickworks. Nitrites and nitrates were undetectable at both locations with the notable exception of nitrates in Mud Creek river at 0.75 mg/L.

*Spirostomum, Paramecium,* and *Colpidium* were present in every sample from Lake Wannamaker and Brickworks ponds. One *Euglena* was seen in Brickworks pond water. No protozoa were found in Mud Creek river, nor were any other signs of life evident in the river.

Conclusion

Restoration of a post-industrial urban site has created a life-sustaining ecosystem comparable in many measures to a pristine natural habitat. In contrast, an adjacent feeding river contains higher level of nitrates consistent with pollution from the residential neighbourhood.