

2023 eDNA program results (Just In!!)

In 2023 OLRA Board members collected eDNA samples from some new habitat types in the lake as well as shoreline wetland habitats similar to 2022. The new habitat types sampled were a deep water open lake habitat (below the lake's thermocline, where cold water fish like lake trout seek refuge), shallow wetland habitat at the dam in Little Otter Lake and a rocky shoreline in the lee of Lillie Island. In 2022, the wetland habitats sampled also included samples from the inflowing tributary to that wetland.

Comparing the 2022 results with the comparable wetland samples from 2023, it is apparent that the tributary wetlands and streams to the lake are likely where we found the animal and amphibian species. Fish, reptiles and invertebrates occurred in both inlets and shoreline wetlands.

Results from 2023 collectively showed that fish were the most dominant vertebrates and few terrestrial vertebrates occurred, primarily because our samples were collected totally in lake habitats primarily sampled in the deeper waters in the lake.

We are excited to see lake trout appearing in our samples at both of our deepest sampling sites, as well as some other coldwater species – rainbow smelt and lake whitefish/lake herring. In total there were 21 species (see the chart below) of fish captured, similar to last year and substantially more than the 10 species captured by the OMNR's 2023 netting program. The primary difference between eDNA and conventional netting is that eDNA detects fish species that are not typically captured in nets.

| Types of Fish Detected in 2023 eDNA Samples Taken in Otter and Little Otter Lakes | | |
|--|--------------------------|------------------------------|
| White Sucker | Central Mudminnow | Iowa Darter |
| Northern Redbelly Dace | Rainbow Smelt | Yellow Perch |
| Common Shiner? | Rock Bass | Logperch? |
| Golden Shiner | Pumpkinseed? | Lake Whitefish/Cisco? |
| Bluntnose Minnow | Smallmouth Bass | Lake Trout |
| Creek Chub | Largemouth Bass | Brown Bullhead? |
| Northern Pike | | |

There were no turtles detected in this year's eDNA samples, but green frogs and mudpuppies were found. The invertebrate fauna was quite different from last year and although midges (chironomids) were still dominant, zooplankton (rotifers, copepods, cyclopods), other insects (beetles, mayflies, blackflies) and aquatic worms were much more common. There were also many more midges identified in our samples compared to last year.

Our detection of lake trout, combined with the OMNR's confirmation reinforces our position that Otter Lake continue to be protected from development as one of only a few lake trout lakes in the province.

We will post more information as we "dig" further into these results.