

# Investigating competition and overlap between different types of Lake Superior lake trout



## CORE QUESTION:

Do juvenile siscowet and lean lake trout compete for food and habitat in Lake Superior?

## COMPETITION COMPLICATES RECOVERY

Historically, Lake Superior has been home to multiple morphotypes (variations within a species) of lake trout (*Salvelinus namaycush*). The lean and siscowet lake trout morphotype numbers dropped due to pressure from invasive parasitic sea lamprey and commercial fishing but have recovered somewhat in recent decades. Some evidence indicates that competition between the two groups might be hampering the recovery of the lean lake trout morphotype population. Though adult lean and siscowet lake trout seek out different food sources and habitats within the water column, juveniles from the two groups might compete for invertebrate food sources on the bottom of the lake.

## LOOKING FOR OVERLAPS

Michigan Sea Grant Graduate Research Fellow Will Otte at Northern Michigan University will work with U.S. Geological Survey research staff to look for overlapping habitat and dietary needs among lean and siscowet lake trout in Lake Superior.

Otte will investigate the spatial distribution, diet similarity, and growth of juvenile lean and siscowet lake trout at six locations near the shore of Lake Superior. After sampling fish at various depths, Otte will analyze gut contents to

see snapshots of what the fish recently ate, in addition to analysis of stable isotopes, which point to longer term diet trends. He will also measure the variation in growth rates for the two morphotypes to assess if competition for prey is a factor influencing population recovery.

He anticipates finding substantial habitat and diet overlap between the two morphotypes at juvenile stages, but that diet overall will vary depending on age, depth, and ecoregion of Lake Superior.

This research will help natural resources professionals understand and manage trends in lake trout populations.

## CONTACT

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