

Trophic Interaction and Competition Between Largemouth Bass (*Micropterus salmoides*) and Rainbow Trout (*Oncorhynchus mykiss*) in a Manipulated Lake

James R. Hodgson, Carol J. Hodgson, Scott M. Brooks

Published on the web 11 April 2011.

Canadian Journal of Fisheries and Aquatic Sciences, 1991, 48(9): 1704-1712, 10.1139/f91-202

ABSTRACT

We examined the impact of competition between largemouth bass (*Micropterus salmoides*) and rainbow trout (*Oncorhynchus mykiss*) on diet and condition factor of the two species. Data were collected from Paul Lake (a control lake containing only bass) and Peter Lake (an experimental lake to which trout were introduced) (Michigan, USA). We compared diets of 1988 bass and trout in Peter Lake, 1987 and 1988 bass in both Peter and Paul lakes, and 1988 trout and 1987 bass in Peter Lake. Patterns in diet overlap demonstrated with pooled sample methodology could not always be matched with a random individual pairing technique. With the pooled methodologies, we demonstrated a diet composition shift with significant changes in diet diversity and evenness in the Peter Lake bass after the introduction of trout: such bass ate fewer zooplankton (*Daphnia* spp.) and more odonate naiads than before trout introduction, and their condition factor was reduced. Seasonal divergence in diets between bass and trout was observed. Growth rates of Paul Lake bass did not differ significantly between years, and relative to the experimental lake there were fewer statistically significant dietary differences.