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Transactions of the American Fisheries Society 1992;121:287–296**Interactions between Native Brook Trout and Hatchery Brown Trout:
Effects on Habitat Use, Feeding, and Growth**

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Abstract.—Habitat use, feeding behavior, and growth of native brook trout *Salvelinus fontinalis* and hatchery brown trout *Salmo trutta* were compared in an experiment in which the two species were held alone and together in laboratory stream channels at 14°C. Microhabitat location and vertical distribution of brook trout within the stream channels shifted in the presence of brown trout, and the frequency with which brook trout initiated aggressive interactions declined. Prey capture rates were higher for brown trout than for brook trout in single- and mixed-species trials, and higher for both species when they occurred alone than when they were together. Brook trout and brown trout in single-species trials maintained weight, but did not grow. In the presence of brown trout, however, brook trout lost weight. Instantaneous growth rates of brown trout in mixed species trials were positive. In the presence of brown trout, 33% of the brook trout contracted the fungus *Saprolegnia* sp. and died; brown trout were never infected nor were brook trout in single-species trials. If these changes in behaviors and growth rates extend to natural settings in which brook trout and brown trout co-occur, they may contribute to an explanation for the observed decline of brook trout abundance in eastern North America.

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