Spatial Ecology and Density Dependent Processes in the Ecology of Smallmouth Bass *(Micropterus dolomieui)* – the Juvenile Transition Hypothesis

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A long-term study on the ecology of smallmouth bass (*Micropterus dolomieui*) in Lake Opeongo points to some basic spatial processes that appear to be important in their population ecology. In general, this process is based on the spatial spread of juveniles (ages 1-4) within the lake. I develop this hypothesis based on a series of field studies conducted at Opeongo as well as growth and abundance data from the creel census. There are a number of results that are important in this story including: 1) nest site fidelity; 2) young-of-year dispersal from nests; 3) adult home range location and use, and 4) new results on the home range of juvenile smallmouth bass. The creel census reveals that density dependent growth occurs only during the juvenile period in the age range of 2 to 4 years. Together, the information points to the juvenile period as the life stage where bass confront limiting resources in Opeongo. The spatial spread of juvenile bass from spawning areas to other areas of lakes is what I refer to as the juvenile transition hypothesis.