KEATON, MOLLY[1], JULIO BONILLO[2], DENNIS HANEY[1], AND C. BRANNON ANDERSEN[1]. [1]Furman University and [2]Universidad Metropolitano – Impact of drought upon fish assemblages in two South Carolina piedmont streams

The effects of drought on fish assemblages were studied in the Indian Creek (228 km^2) and Kings Creek (46 km^2) watersheds located in the piedmont of South Carolina. Water and fish samples were collected at 13 localities during drought conditions in 2000 and again under post-drought conditions in 2003. Abundance, species richness, and Simpson's diversity were calculated for each locality, and the masses and lengths of individual fishes were measured to determine total biomass and length distributions for each species. Assemblages were significantly different from 2000 to 2003 (chi-square test for association; $p < 0.05$). Generally, dominance of the Cyprinidae (minnows) declined following the drought due to lower numbers of *Nocomis leptocephalus* and *Notropis lutipinnis* in 2003 collections. Abundance of Catostomids (suckers) and Ictalurids (catfish) was also decreased post drought. Conversely, Centrarchids (sunfish) increased in dominance in 2003. Many more juveniles and young of the year were observed in 2003 collections, suggesting that most species exhibited greater reproductive success following the drought. The significant differences in water chemistry observed between the two years were not associated with any change in fish assemblage structure. Instead, we attributed the observed differences to changes in habitat structure associated with higher rainfall during post-drought conditions. Finally, sample localities showed high variability in common measures of assemblage structure, including abundance, species richness, and diversity. We hypothesize that the observed variability in community structure is caused by the heterogeneous habitat structure and morphology of these small piedmont streams.