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Comparison of diversity and abundance of larval odonate populations in rural and urban streams in the Enoree River watershed, SC.

Land use patterns may affect diversity and abundance of stream invertebrates by changing sediment, nutrient and toxin loads. This study examined larval odonate populations found in four tributary streams of the Enoree River, SC. The Brushy Creek watershed is highly urbanized, in the city limits of Greenville, while Kings and Indian Creeks are rural, with forest, rural highways, and cattle pastures dominating the landscape. Durbin Creek has a mixture of urban and rural land use patterns. Odonates were collected using a backpack electrofisher and a 4'x10'x1/8" seine, with 1-2 people kicking the substrate to dislodge animals. Mean odonate abundance and diversity/stream was higher in the Kings Creek, Indian Creek, and Durbin Creek than in Brushy Creek. Particular species of odonates are broadly tolerant of a variety of chemical and physical stresses. However, cumulative effects associated with anthropogenic land use change may alter odonate community structure. As such, rather than focusing on indicator species, community level responses may be a better gauge of the effect of urbanization on the ecological integrity of stream systems.