

PRUE, CARIE¹, STACEY GARCIA², AND DENNIS C. HANEY¹. Furman University¹ and Ursinus College². The effects of urbanization on fish diversity and bioindicators of fish health in the Enoree River watershed, South Carolina.

Urbanization negatively affects streams by impacting riparian zone function, reducing allochthonous food sources, and increasing runoff and erosion. We hypothesized that fish diversity and bioindicators of fish health would be lower in urban streams than rural streams. Selected stream sites near Greenville, SC were classified as rural or urban based on land cover, and fish were collected at each site using a backpack electrofisher and seine. There were no statistically significant differences in diversity or bioindicators between urban and rural sites. However, fish from rural sites exhibited an even distribution of lengths while urban fish were predominately from one intermediate size class. When comparing current data to results from 1999 (less urbanization), there was a significant decrease in overall abundance of fish. *Nocomis leptocephalus* were collected on separate trips and brought back alive to the laboratory. Gill, skin, and spleen tissue were used for antimicrobial studies. Liver and visceral masses were used to calculate liver and visceral somatic indices, respectively, and liver tissue was used to determine activity of 7-ethoxyresorufin. Results for fish from urban sites generally were not significantly different from those for rural fish. However, a number of *N. leptocephalus* studied, all from urban sites, were positive for the presence of 7-ethoxyresorufin, indicating exposure to toxins. Although fish abundance has declined as urban land cover has expanded, urbanization does not yet appear to have significantly decreased fish diversity or health. Future studies at sites with greater urban land cover may reveal significant effects.