

Greenways for Wildlife

NCSU College of Natural Resources

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Salamanders in Greenway Streams

Objectives

The objective of this study is to determine if the abundance and diversity of salamanders in suburban streams associated with greenways varies with (1) the amount of impervious surface in the upstream watershed and (2) the width of the forested riparian buffer along the samples stream reach within the greenway.

Methods

Salamanders will be counted in approximately 45 100-meter stream reaches throughout Wake County. The beginning of each stream reach will be marked with yellow or green dots spray-painted at the edge of the greenway path (as in previous studies). In several sections along the stream reach, all substrate such as rocks, downed wood, leaves, and other debris will be systematically lifted and salamanders will be captured with a small net. Salamanders will be returned to the stream and all substrate will be returned to its original position. Water quality measurements will also be taken, including water temperature, pH, and conductivity. We will be measuring impervious surface area and buffer width using GIS, but will also field check these measures.

What the Public Will See

In March, we will mark the stream reaches. People may see us spray painting the dots on the trail and using GPS units. From April to June and October to December, people are most likely to see one or more of us kneeling in streams picking up rocks and catching salamanders in a small net. We will record the number and age class (larvae, adult, etc) of each salamander before returning it to the stream. We will also be using a thermometer/pH meter to test water quality, and a measuring tape to measure creek and buffer dimensions.

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