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Protecting biodiversity: Riparian buffers directly affect Appalachian headwater salamanders

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Salamanders are the most abundant invertebrate predator in the southern Appalachians; they have the highest biomass, and they are an important species for scientific investigators. Their permeable skin and eggs makes them a great indicator species. Salamanders thrive in riparian areas; they need both aquatic and terrestrial habitats for their food and reproduction needs. They thrive in streams and damp leaf litter, thus logged areas can make the chances of desiccation and starvation much higher. Logging often occurs around headwater streams. My study specifically looks at how logging and riparian buffers affect salamanders inhabiting head water streams. The purpose of this research was to measure the density and abundance of adult salamanders in five experimental streams in North Carolina; three streams were logged leaving riparian buffers of 0, 9, and 30 meter riparian buffers, while two streams were studied as controls. To measure salamander abundance removal sampling occurred at night in four different 3 meter plots in each of the treatment streams. Nine total visits were made to each plot to collect all of the salamanders present. I identified, weighed, measured, and preserved all of the specimens from each location. Descriptive and inferential statistics were used during data analysis.