

Appalachian salamanders' ecosystem studied

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A University of Missouri study has found more land around Appalachian streams needs to be protected if ecosystems are to be maintained.

Biology Professor Raymond Semlitsch and doctoral candidate John Crawford studied stream-breeding salamanders in the southern Appalachians to determine how much land they used.

The researchers say salamanders are important to ecosystem maintenance since they are biomass transporters, eating insects and worms and then being eaten themselves by snakes and birds. The abundance and diversity of salamanders are also indicators of an ecosystem's general health.

Crawford and Semlitsch found salamanders they studied used 88 to 140 feet of land on each side of a stream and required an additional 164 feet of buffer zone beyond that, totaling 304 feet of land for full protection. Current regulations by the U.S. Forest Service in the southern Appalachians require only a 30-foot buffer around streams.

"Salamanders don't just live in streams," said Semlitsch. "They lay their eggs in streams and babies live in streams but adult salamanders live on the land around streams. It's not enough to protect the streams alone."

Crawford and Semlitsch's study will appear later this year in *Conservation Biology*.

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