

Environment and Sustainability through Community Engagement

WCU, Great Smoky Mountain National Park, & Nantahala National Forest: Measuring & Monitoring Ecosystem Health with Salamander Populations

Faculty Joe Pechman (jpechmann@wcu.edu) and Jeremy Hyman (jhyman@wcu.edu) organized a semester engagement project focusing on long-term monitoring of salamander populations in Great Smoky Mountains National Park and Nantahala National Forest. In this project, they monitor salamander populations at sites in GSMNP and in Nantahala National Forest. They collect data on changes over time in general salamander abundances, spatial distributions of stream salamanders, and movements of salamander hybrid zones at these sites. This project was started 40 years ago by Nelson Hairston Sr. and R. Haven Wiley at UNC-CH, and more recently has been taken on by Drs. Pechmann and Hyman of WCU. This project gives a large number of students the opportunity to gain experiences in field biology and to see real world examples of many of the concepts they learn in class. The project also provides our partners with unique long-term data sets useful in monitoring sensitive species, such as salamanders, which are good indicators of ecosystem health.

About this collaborative project as an example of community engagement, Associate Professor Hyman said, “The primary value of this project is that it gives a large number of students from all areas in biology the opportunity to observe, in real life, biological phenomena that they might otherwise only read about. We also provide our partners with a truly unique long-term data set, which may be useful in monitoring sensitive species, such as salamanders, which can be good indicators of ecosystem health.” Similarly, Associate Professor Pechmann had the following perspective, “The Southern Appalachians support the highest diversity of salamanders in the world. These projects have introduced generations of students to the magical realm of salamanders, and inspired some of them to pursue careers studying ecology, evolution, and amphibians.”

For more information see: [National Park Service Research Permit & Reporting System](#)

If you would like your community engagement work recognized through the *STAR Engagement Projects* program, please submit your proposals through the [Community-based Activities Faculty Survey](#) administered annually in the spring semester from early April – late May.

