

Tennessee River Gorge Trust concluding years-long study on indicator bird populations

March 29th, 2019 | by [Mark Pace](#) | in Local Regional News | Read Time: 3 mins. |



Juan Sandoval, left, Caryn Ross, center, and Eliot Berz use binoculars to scan the trees for Louisiana Waterthrush at Pan Gap Creek on Thursday, March 28, 2019, in Chattanooga, Tenn. The Tennessee River Gorge Trust is concluding a years-long project studying the migratory patterns of the Louisiana Waterthrush.

Photo by Doug Strickland /Times Free Press.

Field work for a cutting-edge technological project to study bird population trends and migratory patterns is coming to a close after nearly four years of work by the Tennessee River Gorge Trust.

A team of researchers is spending most of late winter into early spring this year in the gorge's woodlands along healthy creeks where Louisiana waterthrush and worm-eating warblers are known to inhabit. The group, consisting of graduate students and employees, has been searching for the small waterthrush with their distinct song to reclaim the micro geolocators they attached last year. The waterthrush are early migrators and have been returning over the past two weeks from Guatemala, where they spent the winter.

The process involves setting up nets, placing a 3D printed replica bird made at the Chattanooga Public Library nearby, playing bird songs from speakers and then waiting for the birds to fly into the nets.

There's one key element to the process, said researcher Juan Sandavol: "Patience."

The land trust has been studying the birds since 2016. The first year involved determining whether the small birds, weighing between 0.5 and 0.9 ounces, could safely carry the new, smaller geolocators. Previously, the birds could be tracked by banding but were not safely able to carry the devices that tell researchers more specific information: where an individual bird traveled, its flight path, speed and other information.

Technological improvements made the geolocators smaller and lighter, and the trust became one of the first groups in the world to track the birds in such detail.

The team **recovered the test batch in 2017** and learned the birds were able to safely transport the devices.

So in **2018, the project expanded,**

Populations in Pennsylvania, Ohio, Arkansas and Tennessee — 30 in each state — were outfitted with the geolocators for their migration to Central America.

Researchers are trying to learn about potential problem areas that could explain population trends. In the South, the warbler population is in decline, while the waterthrush population is growing. In the North, it's the opposite.

The birds are indicator species for the health of a habitat and only nest near the healthiest of creeks. Researchers want to learn what's causing the population changes and whether or not it could be indicative of other potential problems.

They have long known the general ranges of where populations travel but will learn exact locations, flight paths and more from the data in the retrieved geolocators. Now, as the birds return, Sandavol, avian and research technician Eliot Berz and graduate student Caryn Ross are out nearly daily to find them.

"It's been quite incredible," Berz said. "Now, I've had some birds three years in a row that I've gotten to hold in the same exact site. It keeps coming back and coming back. It's getting to the point, just from the variations of the songs, we can recognize individual birds. Now we're really learning about their life history."

The data will be gathered and sent to Henry Streby, a faculty member in the Department of Environmental Sciences at the University of Toledo, and a research student to analyze.

Locally, the project then turns to building a relationship between Chattanooga and the area of northern Guatemala where the waterthrush migrate.

The two, seemingly dissimilar, cultures have a tie through their relationship with the bird. Birders and researchers have long watched the waterthrush in both locations, feeling as though the birds were theirs as the creatures had two homes: one in the spring and summer, the other in the fall and winter.

"They see these birds as their birds as we see them as ours," Tennessee River Gorge Trust Executive Director Rick Huffines said. "That's the beautiful thing to me. These two groups who don't know each other share this in common and feel responsibility for them."

Huffines, Eliot and others with the trust traveled to Guatemala in September. They had learned where the birds were traveling during the pilot phase of the project while testing whether the

geolocators were safe, and they wanted to understand more about the area. They met with researchers and visited schools, ancient ruins and the bird's habitats.

On Monday, the three men the group met with in Guatemala will travel to Chattanooga for nearly two weeks. They'll meet with school groups and hold community events. They'll visit the Great Smoky Mountains National Park and Cherokee National Forest. They'll give community presentations at Sewanee: The University of the South (April 11 12-1:30 p.m. Central time in McClurg Dining Hall) and the University of Tennessee at Chattanooga (April 5 at 3 p.m. in the Raccoon Mountain Room).

"It's making a human connection between science and people in two different locations, learning that we share something in two locations," Huffines said.

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