

From Texas to Tennessee: Burrowing owl makes odd migration, draws attention

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A burrowing owl on the former TVA fossil fuel plant near New Johnsonville, Tennessee. Credit: Scott Rush

Birds migrating from north to south are a given, but migrating from the southwest to the southeast is a little rarer. A burrowing owl is overwintering on a Tennessee River peninsula near New Johnsonville, Tennessee, marking the first sighting of the species in the state, and a Mississippi State wildlife ecologist is researching the fascinating oddity.

As the burrowing owl made its first home on a former Tennessee Valley Authority fossil fuel plant in 2020, Scott Rush, a scientist in the MSU Forest and Wildlife Research Center, was called in by TVA to study the bird of prey found hundreds of miles outside of its range.

"Burrowing owls are found west of Central Texas and Oklahoma, all the way up into Canada. There is also a non-migratory population in Florida, so you'll occasionally see them in Alabama but never in Tennessee," Rush said, explaining that a continuing struggle for the birds is a loss of habitat.

"They live inside burrows created by [prairie dogs](#) and other animals," he said. "They're declining across the range in part because we're losing some of those historic systems like undisturbed prairie dog colonies as more grasslands are being developed."

Rush, an associate professor in MSU's Department of Wildlife, Fisheries and Aquaculture, and his research team have studied the bird and its diet to learn more about where the novel creature came from and why he makes his winter home in the Volunteer State.

The team collected plumage from the owl's feathers and determined it

was a male belonging to the subspecies *A.c. hypugaea*. They studied pellets to determine its diet, identifying six different species including insect, mammalian and plant remnants. They also conducted an isotopic analysis of its feathers to determine the bird's home range. Details from the sightings were recently [published](#) in *Check List*, a journal of biodiversity data.

"We could see from various kinds of elemental components that the bird is probably from Texas, relatively near Dallas, according to our analysis," said Rush, who noted that the bird has been banded, and this year, scientists hope to outfit it with a GPS tracker. "If we can put a GPS tracker on the owl, we can confirm its home range."

The owl, which again has overwintered this season in the same location, was first spotted by a TVA employee, and Liz Hamrick, a terrestrial zoologist with TVA, reached out to Rush.

"A [security guard](#) at the site who happened to be an amateur birder came across it. Once I was alerted of its presence, I connected with our natural resources team who had already been working with Dr. Rush studying ospreys and vultures," Hamrick said. "My role is to review TVA's actions and ensure potential impacts to common wildlife and rare animals are avoided or minimized, and that includes protecting this owl. We need to make sure we follow all the state and federal laws, including the Endangered Species Act and the Executive Order for Migratory Birds."

Hamrick said that as species assemblages change geographies, her team must be vigilant in identifying new species moving to the area like the burrowing owl and doing their best to protect them on TVA sites.

"It's been exciting to learn about a whole new species and try to solve a mystery of why on earth this bird is repeatedly selecting to come to this

industrial site out of its normal range," she said.

More information: Scott A. Rush et al, New overwintering location of Burrowing Owl, *Athene cunicularia hypugaea* (Molina, 1782) (Strigidae) in Tennessee, USA, with diet assessed through pellets, *Check List* (2023). DOI: [10.15560/19.6.863](https://doi.org/10.15560/19.6.863)

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