

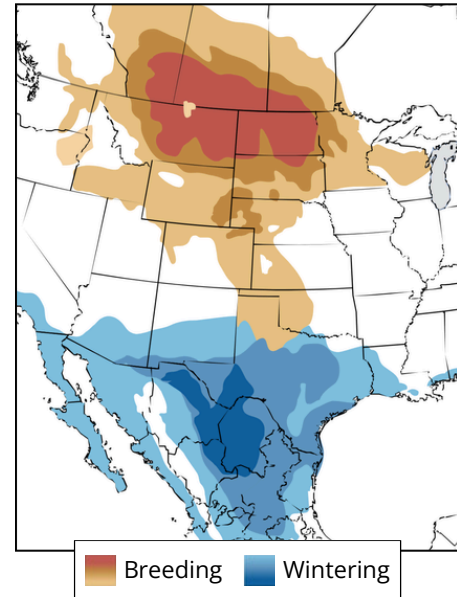
Grassland Birds in Peril



Today there are 50% fewer grassland birds in North America than there were in the 1960's and this decline is likely related to habitat loss and degradation. Many declining species utilize the **Great Plains and Chihuahuan Desert** grasslands that stretch from southern Canada through the central United States into northern Mexico. However grassland birds remain mysterious and we lack information to effectively conserve them and their habitat.

Bird Conservancy of the Rockies and partners have studied migratory grassland birds across their full annual cycle with the goal of filling knowledge gaps and conserving imperiled species such as Baird's Sparrow and Sprague's Pipit .

Some of the remaining gaps are from the nonbreeding season; we know very little about long distance movements, migratory timing, survival, connectivity, and stopover habitat or locations used by these birds.



The Great Plains-Chihuahuan Desert region, where many grassland birds breed and winter.



A Chestnut-collared Longspur wearing a tiny Motus radio transmitter.

Tracking Migration with Motus



We are developing and implementing a collaborative network of automated radio telemetry stations and tagging grassland birds in the Great Plains and Chihuahuan Desert (GPCD) region. This network will function as part of the **Motus Wildlife Tracking System** (more info on back). By utilizing this technology and collaborating with trinational partners, we can begin to fill in knowledge gaps about migratory grassland species and guide conservation efforts that benefit birds, their habitats, and people. Our goals are to:

1. Engage with diverse partners and develop a strategic plan for Motus station placement and maintenance in the GPCD.
2. Install stations following this regional plan and adapt and evolve to meet research and outreach goals.
3. Tag grassland birds including Baird's Sparrow, Sprague's Pipit, Thick-Billed Longspur, Lark Bunting, Grasshopper Sparrow and more with coded radio transmitters that communicate with Motus stations.
4. Provide partners training and assistance with Motus.
5. Collect data and share results to fill in knowledge gaps for declining species.

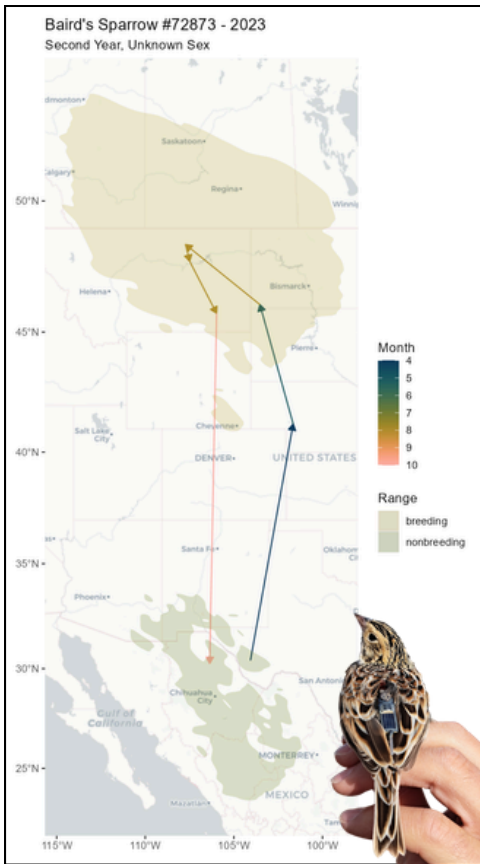
How the Motus Network Tracks Birds



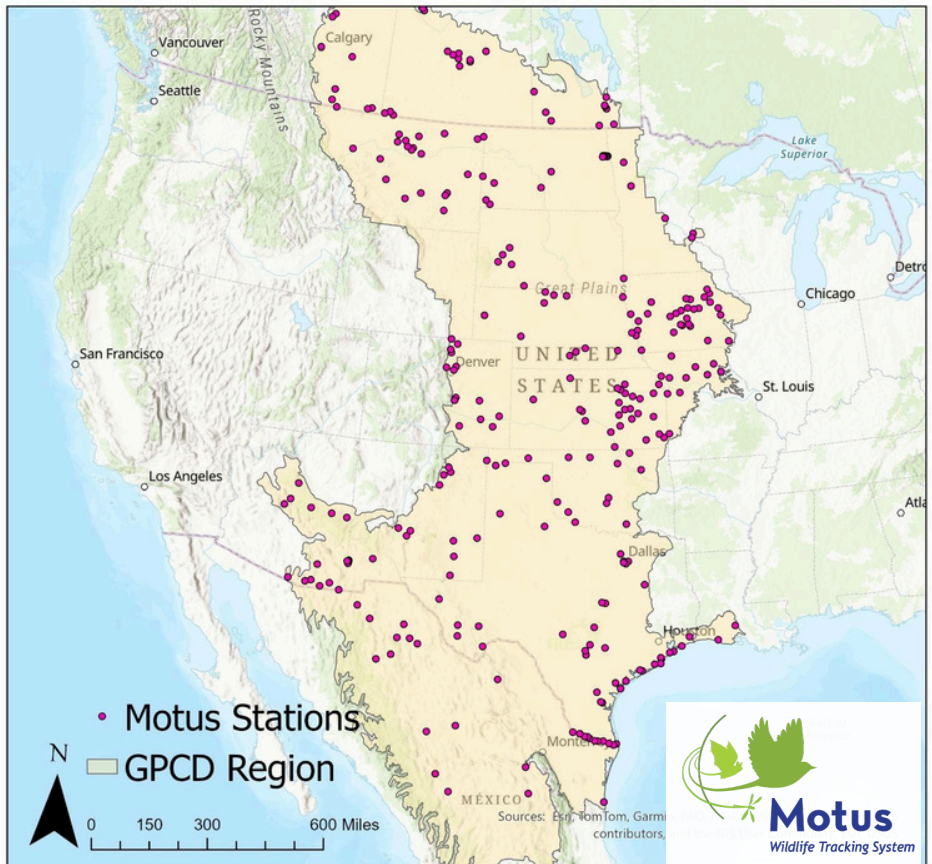
The **Motus Wildlife Tracking System** is an international network of automated radio telemetry stations that offers an effective method to study the movements of small animals tagged with coded radio transmitters. As a tagged bird passes within range of a station's antennas (~15km), a detection is logged and then uploaded to an online database. The tags can last for several weeks or seasons without needing to recapture birds to retrieve data and can be used for on the ground telemetry tracking as well. A single receiver can detect birds tagged by other researchers increasing the potential for new and diverse partnerships. The Motus network is made up of over 1000 stations operated by nearly 900 different organizations, researchers, and private landowners. This collaborative network and its database are managed by Birds Canada and has resulted in over 120 scientific publications that have expanded our understanding of animal movements, habitat requirements, and much more.



A Motus station consists of antennas mounted to a structure (in this case an old telephone pole), connected to a receiver and a computer.



Movements of a Baird's Sparrow tagged in Texas. Each arrow is a detection at a Motus station.



The Motus station network within the Great Plains-Chihuahuan Desert region (GPCD) as of July 2025.



Learn more and support our work

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www.birdconservancy.org/motus