



Migration Ecology and Connectivity of At-Risk Grassland Birds – Year 1

Project # 14-764

Background:

Conservation of natural resources on DoD lands is ultimately necessary to sustain the military training mission by ensuring the long-term availability of training lands (i.e., appropriate habitat conditions). In addition to serving its own mission, conservation fulfills DoD's obligation, as required by the Migratory Bird Treaty Act, the Readiness Rule, Executive Order 13186, and the Sikes Act, to protect and conserve migratory birds on installations through research, habitat management, partnerships, and education. For all of these reasons, management personnel and other resources are aimed at conserving birds and their habitat on installations.

Upland Sandpiper (*Bartramia longicauda*), Grasshopper Sparrow (*Ammodramus saviannarum*), and Eastern Meadowlark (*Sturnella magna*) are three designated At-Risk migratory grassland bird species that occur on many military installations supporting grasslands. All three species have experienced population declines in parts or all of their breeding ranges. Resources can be used more efficiently and effectively if there is an understanding of the events affecting these migratory birds during their entire life cycle, rather than only during the three to four-month breeding season. To address the threats migratory birds face throughout the year, we need a basic understanding of where they go between their summer breeding seasons. This project will provide the basis for understand the movements of these species throughout the year. Understanding the entire annual cycle of migratory birds across their breeding range offers avenues for sharing the burden of protecting declining populations, and provides insights applicable to other installations supporting grassland birds.

Objective:

Our study objective is to reveal the migratory routes and timing, stopover areas, wintering grounds, and population connectivity for three At-Risk grassland bird species.

Summary of Approach:

We are using light-level and GPS geolocators to generate year-round location data for three At-Risk bird species at four to six installations across the

country. We are deploying: 180 light-level geolocators on Grasshopper Sparrows (these need to be retrapped to download the data); 22 GPS tags units on Upland Sandpipers (30 location fixes); four real-time daily location satellite tags of Upland Sandpipers; and 20 GPS tags on Eastern Meadowlarks (30 location fixes). We will also provide count data and grassland bird management recommendations for each installation.

Benefit:

The main objective of the study is to provide support to installations managing for any or all of the three At-Risk migratory grassland bird species by obtaining a continental-wide view of their movements and connectivity between their breeding, migration, and wintering populations. The project will enhance military readiness by defining the role and responsibility of installations in the conservation of these At-Risk species, helping them comply with NEPA actions, the Sikes Act, and adhere to the Migratory Bird Treaty Act. With an understanding of migratory timing, migratory paths, wintering areas, and their connectivity to breeding areas, DoD will be able to: more effectively manage for these At-Risk species; share conservation responsibility with other entities; begin to identify off-site threats to species; and provide the foundation for evaluating the relative efficacy and importance of management at installations supporting breeding, migration, and/or wintering populations of these species.

Accomplishments:

We deployed 180 light-level geolocators (30 at each of six installations) on Grasshopper Sparrows. Project leaders were trained on Upland Sandpiper capture methods to employ during year two field work. We conducted bird counts and generated management recommendations for each participating installation.

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