



## SCIENCE TO SOLUTIONS

# Conservation Practices Improve Abundance of Declining Grassland Birds

### In Brief:

- In the southern Great Plains, several bird species that depend on healthy grasslands are in decline.
- A recent study evaluated effectiveness of voluntary conservation practices on privately owned agricultural lands for increasing distribution and abundance of grassland birds.
- Researchers found that conservation practices contributed to improved regional abundance for 24 of the 40 grassland bird species studied, over half of which are in decline, amounting to 2.4 million more songbirds.
- Ranches enrolled in prescribed grazing through the NRCS Lesser Prairie-Chicken Initiative showed the greatest variety and abundance of grassland-dependent birds.



Eastern meadowlark | Brandon Trentler 2014

## Background

Healthy prairies are a vital resource for agricultural producers and wildlife. They provide a mix of grasses and forbs that supply protein-rich forage for livestock as well as habitat for numerous grassland birds.

But in North America's Great Plains, this asset is at risk. Development, conversion to croplands, and other intensive land use activities threaten to fragment or degrade our grasslands and prairies.

Birds are an excellent indicator of habitat health. In the southern Great Plains, several species of birds that depend on grasslands are declining. These include the lesser prairie-chicken, lark bunting, grasshopper sparrow, and eastern meadowlark.

Since 95% of the land in the southern Great Plains is privately owned—much of it by agricultural producers—conserving these declining grassland birds hinges on voluntary stewardship by landowners. [Conservation practices](#) that improve and maintain prairie grasslands benefit both birds and agricultural operations.

Many farmers and ranchers in this region are working with partners like the USDA Natural Resources Conservation Service to create resilient, productive, and healthy rangelands. A recent outcome-based

evaluation questioned whether certain conservation practices, such as prescribed grazing, increased the abundance and diversity of grassland birds.

*“Livestock grazing is compatible with maintaining healthy grasslands, as demonstrated by the variety and abundance of birds on well-managed ranch lands.”*

*~ David Pavlacky, Research Ecologist, Bird Conservancy of the Rockies*

## Methods

Researchers monitored birds on ranches that had implemented conservation practices in Colorado, Kansas, Oklahoma, New Mexico, and Texas from 2015 to 2017. The study compared avian population densities on private land enrolled in either the Conservation Reserve Program or that had prescribed grazing plans through the [NRCS Lesser Prairie-Chicken Initiative](#) to reference grasslands. In addition, researchers quantified the vegetation within a 50m radius of each bird point count location to study habitat relationships.

The study was conducted in partnership with the Bird Conservancy of the Rockies and Playa Lakes Joint Venture as part of the [Integrated Monitoring in Bird Conservation Regions Program](#), a collaborative

## SCIENCE TO SOLUTIONS: SONGBIRD ABUNDANCE

partnership between policy makers, land managers, conservationists, scientists, and landowners working together to provide reliable knowledge about bird populations.

### Conclusions

**Grazing management** is an important practice for maintaining wildlife species that depend on healthy, resilient grasslands. **Ranches enrolled in prescribed grazing through the NRCS Lesser Prairie-Chicken Initiative showed the greatest variety and abundance of imperiled grassland-dependent birds.**

The ranches using prescribed grazing plans also had more shrub cover and taller grasses than the reference rangelands, showing that healthy vegetation plays an important role in increasing biodiversity of grassland birds.

Ranches that re-planted vegetation through the Conservation Reserve Program attracted a broad array of both grassland-dependent and generalist species. Taken together, these voluntary practices on private land in the southern Great Plains boost populations of several species of declining birds.

In total, the studied conservation practices contributed to improved regional abundance for:

- 14 of 27 species of grassland generalists, 10 of which are declining
- 10 of 13 species of grassland obligates, 7 of which are declining
- Conservation-related population increases amounted to 2.4 million more songbirds in the study area, including these species-specific gains:
  - » 17% of the Cassin's sparrow population
  - » 21% of the eastern meadowlark population
  - » 16% of the grasshopper sparrow population

### Science In Action

Through the [Lesser Prairie-Chicken Initiative](#), the USDA-NRCS and many other partners have helped 528 ranchers and farmers voluntarily conserve 1.3 million acres of grasslands in the southern

Great Plains. The Farm Bill has funded conservation practices that enhance grassland and prairie habitat, such as woody plant removal, targeted grazing plans, prescribed fire, weed treatments, and more.

The Conservation Reserve Program administered by the USDA-FSA helps mitigate habitat loss in the southern Great Plains by re-establishing valuable grasses and shrubs on rangeland that has been converted to cropland. This practice also improves water quality, prevents soil erosion, and provides forage for livestock.

### Source

Pavlacky, David C., et. al. 2019. Bird Conservancy of the Rockies. [Effectiveness Monitoring of the Lesser Prairie-Chicken Initiative and Conservation Reserve Program for Managing the Biodiversity and Population Size of Grassland Birds](#). Bird Conservancy of the Rockies: Technical Report # LPCI-16-02.

### Cite As

USDA Natural Resources Conservation Service: Working Lands For Wildlife. 2019. *Conservation Practices Improve Abundance of Declining Grassland Birds*. Science to Solutions Series.



*Lesser prairie-chicken* | J. N. Stuart 2012