



ONA REPORT

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Avian biodiversity on Florida's rangelands

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- Rangeland Wildlife, Range Cattle REC, Ona

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What does a Florida rangeland sound like? While this may not be a question that most people ask, the answer reflects the role rangelands serve for wildlife in Florida. Outside of the obvious sounds of livestock and farm equipment, we also hear a lot of wildlife from native Florida grassland bird species filling the rangeland soundscape. Rangeland birds such as the Eastern meadowlark (*Sturnella magna*), American kestrel (*Falco sparverius*), loggerhead shrike (*Lanius ludovicianus*), and northern bobwhite (*Colinus virginiana*) are often heard while working these lands (Figure 1). While these species have become iconic for this landscape, recent research has shown that rangeland and grassland birds across the United States are declining, faster than any other habitat type, totaling a loss of approximately 700 million individual birds (70%) since 1970. Understanding the drivers of this decline and what conservation actions are needed to halt this decline and restore grassland bird communities is an ongoing area of research, particularly in Western North America. However, the role and management of Florida's rangelands has been arguably forgotten in this surge of understanding. While previous studies in other regions show the relationship between bird biodiversity and abundance to varying land and cattle management techniques, the same outcomes may not occur in Florida's unique subtropical rangelands.

Florida's subtropical rangelands differ considerably from temperate rangelands in terms of suitable forage, growing seasons, habitat management, and cattle production practices. Even within Florida's rangelands there can be considerable differences based on individual rancher's and manager's preferences. These differences and varying actions have impacts on how Florida rangelands support wildlife by impacting the habitat. Like most birds, grassland species depend on a specific composition, configuration, and structure of vegetation, all of which can be affected by the land management and cattle management actions on working rangelands. As such, ranchers, and the land that they manage can have an important role in avian conservation.

Many working rangelands in Florida are in areas that were historically classified dry and wet prairie ecosystems that were maintained by natural wildfires. Prescribed fire on managed rangelands is an excellent management tool to reduce hardwood tree and shrub encroachment on grasslands while increasing vegetation diversity. The rate and use of prescribed fire on rangelands in Florida can have a direct relationship with species presence and abundance. Other land management strategies in Florida that have an impact on the vegetation structure and composition include mowing, roller-chopping, herbicide, pesticide, and planting techniques.

Prescribed burns and weed control are not the only tools that ranchers have to create a bird-friendly landscape - vegetation structure and composition can also be impacted by the process of cattle production. Cattle on working rangelands could be used to modify the landscape in the absence of fire to create suitable conditions for grassland birds. However, intensive and uniform grazing can lead to a decrease in overall bird biodiversity. Therefore, understanding the impact of different stocking rates and rotational schedules on Florida's grassland birds is critical in recommending appropriate management actions that aid conservation of grassland birds while also maintaining rangeland productivity.

The land and cattle management strategies employed across Florida rangelands often result in a mosaic of different vegetation communities across the state. A mixture of Bahia grass-dominated pasture and semi-native rangelands with pockets of shrub, forests, and wetlands can create a mosaic of mixed habitats that will support a wide variety of birds. Such a landscape can also function as a wildlife corridor for a wide variety of species as they continue to respond to the long-term dual threats of development and climate change. Ultimately, understanding the relationship between rangeland management and avian biodiversity specific to Florida is required to accurately provide meaningful conservation recommendations and cement the role rangelands serve in the face of a rapidly urbanizing state. Our ongoing research is striving to understand these complex relationships and provide private and public land managers with Florida-specific recommendations to aid the ongoing conservation of these species.

Figure 1. Iconic birds that occur in Florida's rangelands, Eastern meadowlark (*top left*), American kestrel (*top right*), loggerhead shrike (*bottom left*), and northern bobwhite (*bottom right*).



Upcoming Events

March 14 - Ona Weed Science Program Highlight with Dr. Brent Sellers, 11:00 – 11:45 a.m. Dr. Sellers will present an update on his broomsedge studies.

April 20 - UF/IFAS Range Cattle REC Field Day, 8:00 a.m. – 3:00 p.m. Register online to attend: <https://rcrec-2023-fd.eventbrite.com>

UF/IFAS Range Cattle REC - 3401 Experiment Station Rd., Ona - <http://rcrec-ona.ifas.ufl.edu/>