



Central Grassland Bird Working Group Newsletter

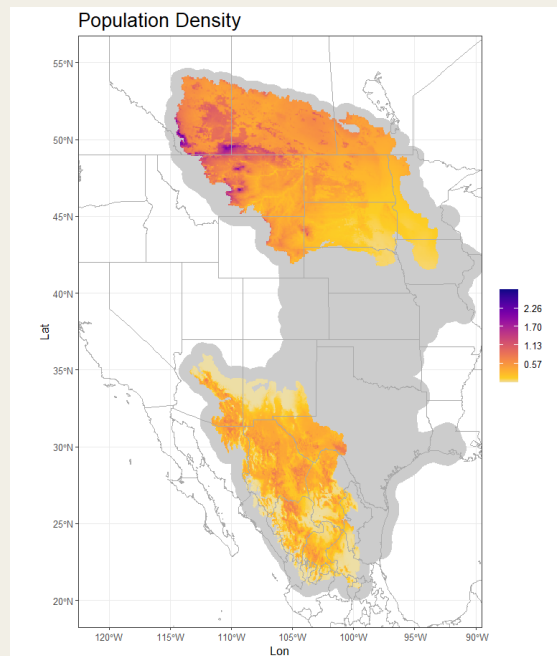
Q2 2024

Welcome to the Central Grassland Bird Working Group (CGBWG) e-Newsletter! The Central Grassland Bird Working (CGBWG) was formed out of the

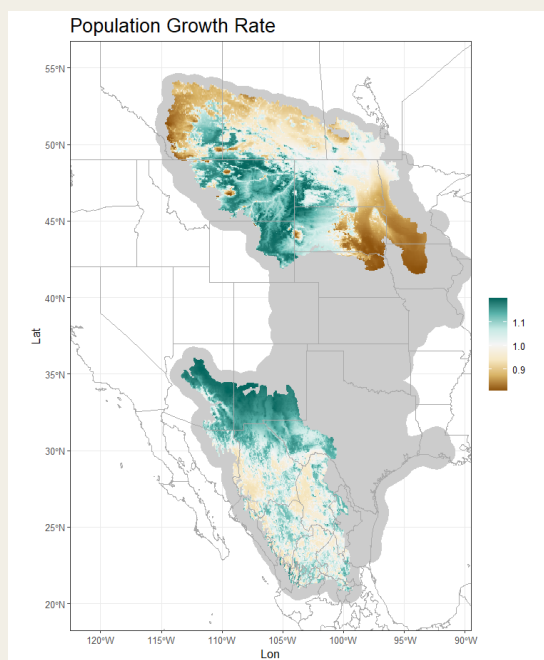
[Central Grassland Road Map Initiative](#) (CGRI) to provide analyses and data to support the goal of stabilizing and recovering steeply declining species of grassland birds in the next 20 years. The CGBWG is a multi-disciplinary group composed of population biologists, social scientists, communications specialists, grassland range experts, climate scientists, economists, Indigenous nations, and conservation delivery specialists. The Central Grasslands span hundreds of millions of acres and are facing the interacting threats of land use conversion, woody plant encroachment and climate-induced drought that challenge conservation goals and human well-being. To address these threats at scale, the CGRI has developed an [assessment map](#) to guide where voluntary conservation investments are most needed by quantifying grassland vulnerability to agricultural conversion and woody plant encroachment. The objective of the CGWBG is to understand how key threats facing grasslands ‘intersect’ with areas of high value for grassland birds, given various socio-ecological factors that may influence the success of conservation actions. As such, our group has been developing data products, a decision-support tool, and outreach to help guide and coordinate strategic investments for grassland bird conservation.

Integrated Bird Models

The foundation of this effort is an integrated multi-species dynamic abundance model that combines data from the [Breeding Bird Survey](#), [eBird](#), and the [Integrated Monitoring of Bird Conservation Regions](#), with analogous non-breeding monitoring data sources. This model advances previous efforts in several ways: First, it moves beyond simple patterns of abundance to quantify spatial variation density, population growth, and movement (emigration) that can be used to estimate the contribution that specific geographies make to overall population dynamics. Second, it characterizes spatial variation in population dynamics across both the breeding and non-breeding



grounds, enabling full-annual cycle conservation planning. These models will be combined with other key socio-ecological data sets to contextualize tradeoffs for different conservation planning scenarios. Grassland conservation opportunity maps and a decision support tool will be developed for 17 species of grassland birds that capture a diverse suite of habitat requirements. Details on the modeling, scenario and prioritization approaches as well as individual data products will be made available upon request.



Objective and Outputs

Objective: Develop spatially explicit data products and a subsequent decision-support tool that facilitates coordinated planning for the conservation and recovery of grassland birds across the full-annual cycle in the Central Grasslands. Maps will identify areas and habitat targets that maximize the contribution to population growth for a fixed proportion of the geography. We will generate optimizations across a range of the proportion of the landscape under conservation to determine the level of investment needed to meet CGRI's target of population stability within 20 years. Stability is defined as zero net loss based on current population size and population growth (λ) greater than or equal to one for grassland birds of conservation concern.

Scenarios: The consensus prioritization scenarios outlined below were developed by the members of the CGBWG. Covariates included in the integrated bird model were identified and selected by the technical sub-committee, including science coordinators and biologists from the JV8, USFWS, ABC, WWF and BCR.

Bird Only: This prioritization will highlight optimal areas across the biome that have high relative contribution to population growth for the whole grassland bird community.

Bird + Land Use Change: This prioritization will highlight optimal areas across the biome that have a high relative contribution to population growth after accounting for the risk of land use/agricultural conversion (LUC). We will generate prioritizations based on no additional grassland loss (current landscape condition), current LUC rate trajectory and a restoration scenario in which a percentage of the converted landscape is restored to native grassland. *This scenario could be used, for example, to prioritize conservation easements or other land protection mechanisms to avoid agricultural conversion in the*

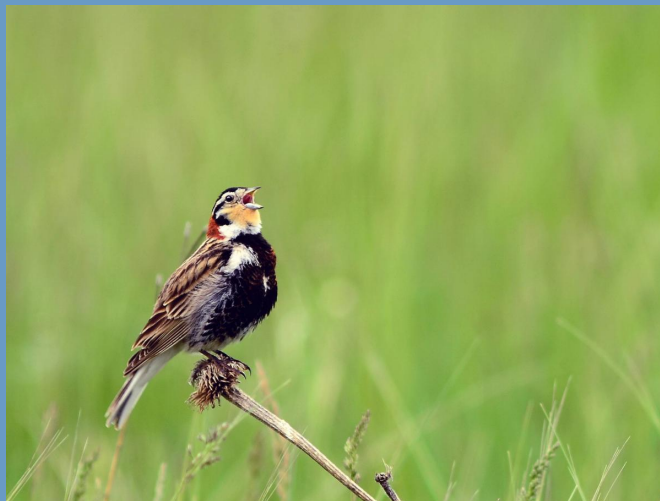
optimal “core” and “vulnerable” places for bird conservation.

Bird + Woody Plant Encroachment: This prioritization will highlight optimal areas across the biome that have a high relative contribution to population growth after accounting for the risk of woody plant encroachment (WPE). We will generate prioritizations based on no additional WPE (current landscape condition), current WPE trajectory, and restoration scenario in which a percentage of the landscape is treated with brush management. *In this scenario, we can optimize brush removal treatments to areas that balance the costs of restoration relative to the benefits they will provide to grassland bird population recovery.*

Climate Change: This prioritization will identify optimal areas for contribution to population growth 20 years into the future under different climate change scenarios (low emission, moderate emission, and high emission). *In this scenario we can optimize conservation investments to the geographies most resilient to climate change.*

Additional Constraints

To ensure that we account for socio-economic factors likely to influence the success of conservation delivery we will include additional data constraints. Specifically, to account for both human willingness and adaptive capacity to engage in voluntary conservation we will consider Natural Resource Conservation Service and Farm Service Association voluntary



conservation practice data (528 grazing, easements, CRP, and brush removal), rural capacity, and agricultural census data. Likewise, to account for the economic cost of land and/or implementing conservation practices we will consider economic valuation data and Global Development Potential Indices sector data. Because data sets are limited by geographic extent, formal prioritizations will be conducted for the 13 U.S. states contained within the CGRI geography.

Decision Support Tool

To ensure maximum utility for data products and grassland opportunity maps under different scenarios, the CGBWG will use an interactive user-friendly web interface. Currently, the Range Informatics Platform developed and maintained by University of

Nebraska-Lincoln hosts both the layers that make up the assessment map (agricultural conversion and woody plant encroachment). Interactive grassland bird opportunity map scenarios will be hosted on this site with the ability to toggle scenarios on and off for comparison as well as an ensemble map that highlights “no regrets geographies” where all scenarios show alignment. Integrated bird modeling data products will be made available through Rocky Mountain Avian Data Center. Individual data inputs into prioritizations can be made available upon request. To ensure we meet user needs, we will host focal user groups for different scales of decision making prior to and during phased roll of the tool (e.g., National/International, State, Joint Venture/ Ecoregion and County/Field Office).



Next Steps



- 1) Share this communication with your partners and networks in grassland conservation. Folks interested in receiving future correspondences can sign-up [HERE](#).
- 2) Stay tuned for an email correspondence and calendar invite for future virtual working group engagement meeting.



Stay in touch!

Contact Brandt Ryder (brandt.ryder@birdconservancy.org), John Carlson(john_carlson@fws.gov), Barry Robinson (Barry.Robinson@ec.gc.ca), or Chris Latimer (chris.latimer@birdconservancy.org) to engage more deeply with the work of the Central Grassland Bird Working Group

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