

2017

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Recommended Citation

Joos, Cara J.; Fitzgerald, Jane A.; Lituma, Christopher M.; Giocomo, James; and Heggemann, Larry (2017) "Data-driven Planning for the Conservation of Grassland Birds in the Central Hardwoods Bird Conservation Region," *National Quail Symposium Proceedings*: Vol. 8 , Article 38.

<https://doi.org/10.7290/nqsp08onbh>

Available at: <https://trace.tennessee.edu/nqsp/vol8/iss1/38>

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DATA-DRIVEN PLANNING FOR THE CONSERVATION OF GRASSLAND BIRDS IN THE CENTRAL HARDWOODS BIRD CONSERVATION REGION

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ABSTRACT

The Central Hardwoods Joint Venture held two workshops in 2006 to delineate bobwhite focus areas across the Central Hardwoods Bird Conservation Region (BCR) for targeting on-the-ground conservation efforts. From 2008 – 2012, we conducted randomized sets of point counts within counties containing bobwhite focal areas to assess the efficacy of that method for monitoring grassland birds within focal areas, and to assess relationships of conservation practices with bird species occupancy and abundance. We collected data on nine species of Partners in Flight priority species, including northern bobwhite (*Colinus virginianus*). Land cover types within a 200-m buffer of each point were derived from year National Agricultural Statistics Service data, and information related to the location of conservation practices deemed beneficial to grassland birds was attained from the National Resources Conservation Service. We fit occupancy and abundance models for each species using Akaike's Information Criterion adjusted for small sample sizes. We then used the model covariates to map predicted abundances of three species, northern bobwhite, eastern meadowlark (*Sturnella magna*), and Henslow's sparrow (*Ammodramus henslowii*) across the BCR. The spatial patterns of predicted abundance varied among species, suggesting that focus areas should be somewhat species-specific. We will use data collected around the nests of each species at Ft. Campbell, a military base straddling the Kentucky-Tennessee border where grassland management has occurred at relatively large scales over more than two decades, to assess the with-in patch structure preferred by each species to develop grazing practices that will result in the desired structure for the species suite.

Citation: Joos, C. J., J. A. Fitzgerald, C. M. Lituma, J. J. Giocomo, and L. Heggemann. 2017. Data-driven planning for the conservation of grassland birds in the Central Hardwoods Bird Conservation Region. National Quail Symposium Proceedings 8:142.

Key words: *Colinus virginianus*, *Sturnella magna*, *Ammodramus henslowii*, Central Hardwoods Bird Conservation Region, grassland birds

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