

Habitat selectivity of a farmland bird depending on the presence of agri-environment schemes

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Introduction

- European Union's agri-environment schemes (AES) encourage farmers to improve farmland biodiversity.
- Nevertheless, results of the effect of AES on farmland birds vary among different study areas.

Research question

Is habitat selectivity of farmland birds altered by the variation in the habitat availability at the local level?

Methods **Landscape level Local level** Mulde region of Bird Location Northern Saxony, **Transect** Germany species selectivity a farmland Land-use þ Proportions of surrounding Variable 2 Variable 1 Land-use types At the landscape level, a species may show non-selectivity species for both land-use variables 1&2. At the local level, Variable 1: Selectivity change from Land-use positive to negative Variable 2: Selectivity constant Proportions of surrounding Survey methods & period land-use types Line-transect surveys (#transects = 20)**Model species** April – June in 2022 Yellowhammer (*Emberiza citrinella*) (#periods = 4)**Statistical analyses** Poisson distribution models to estimate individual abundance along transect lines Linear models of selectivity coefficients with the respective resource availability

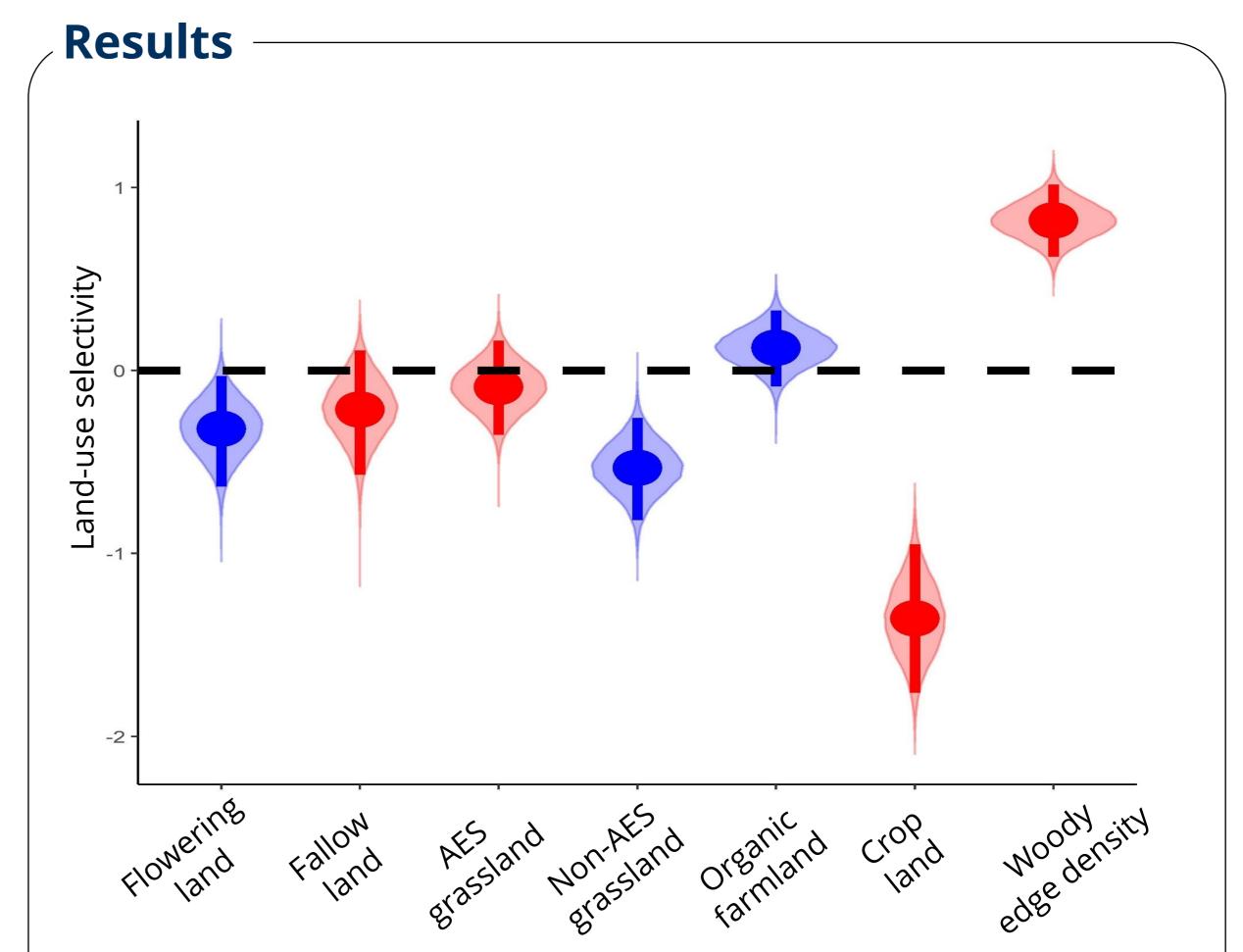


Fig 1. Land-use selectivity of yellowhammers for land-use types. Yellowhammers changed selectivity for red-colored land-use types with the varying habitat availability, while they did not for blue-colored land-use types.

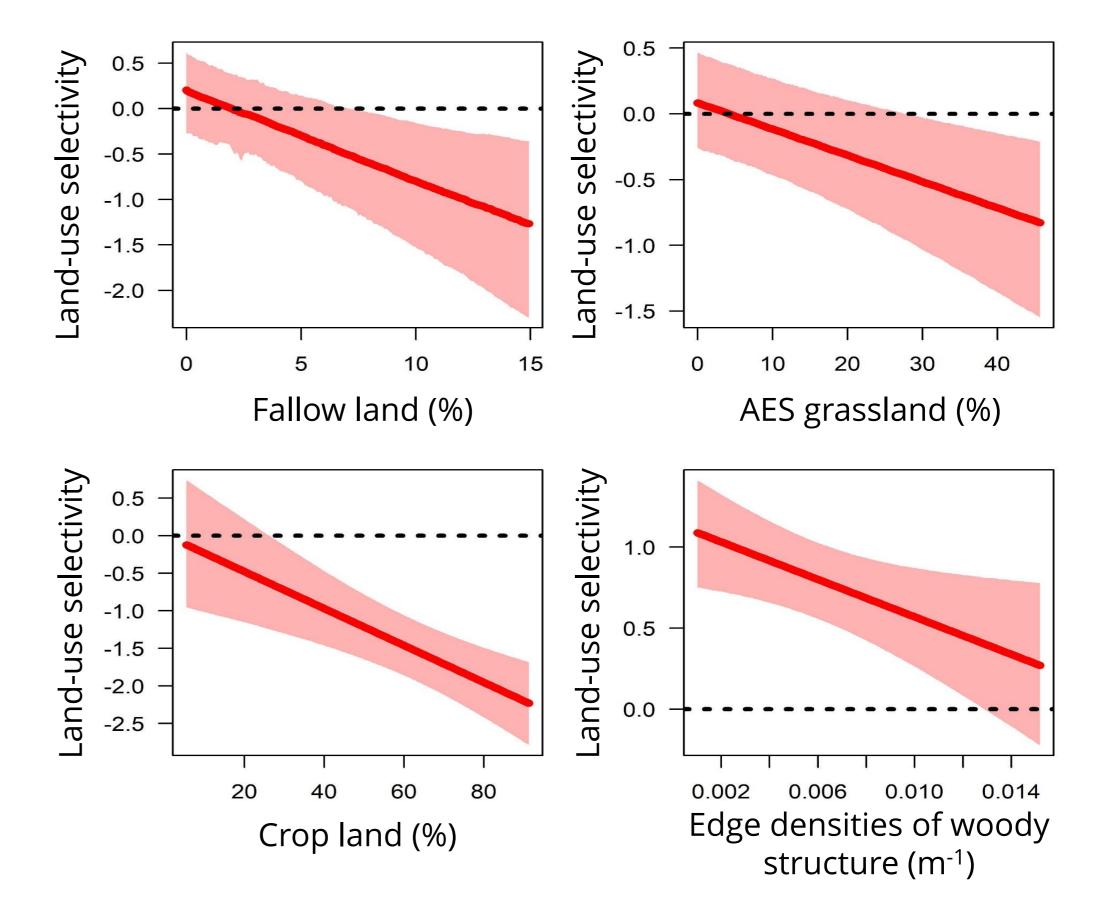


Fig 2. Changes in land-use selectivity of yellowhammer for each land-use type. Yellowhammer reduced the habitat selectivity with the increasing availability.

Conclusion

- Land-use selectivity of yellowhammer changed depending on the habitat availability at the local level (i.e., fallow land, AES grassland, crop land, and woody edge density).
- Our findings will shed light on how AES can contribute to habitat qualities of farmland birds to enhance biodiversity in agricultural landscapes.

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