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Comparing Passerine Presence in an Urban College Town to a Nearby Rural Marsh Sanctuary



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Introduction

- Passerines are found across a vast variety of landscapes
- Rapidly expanding urbanization poses uncertainty for adaptive success

Objective:

To compare passerine counts across urban and rural environments

Hypothesis:

There will be a higher passerine count in rural environments.

Study Area

- Urban sites within Arcata city, CA
- Rural sites within the Arcata Marsh and Wildlife Sanctuary (AMWS), CA

Results

- Higher passerine count at urban sites ($n=203$) than at rural sites ($n=167$) ($P=0.43$) (Fig 1.)
- Passerine presence had a positive relationship with human presence (Fig 2.) and a negative relationship with car presence (Fig 3.).

Fig 1. On average, fewer passerines were observed at rural sites ($n=11.13$) than at urban sites ($n=13.53$).

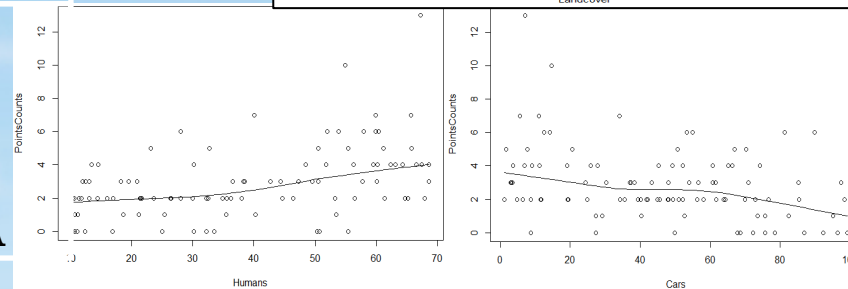
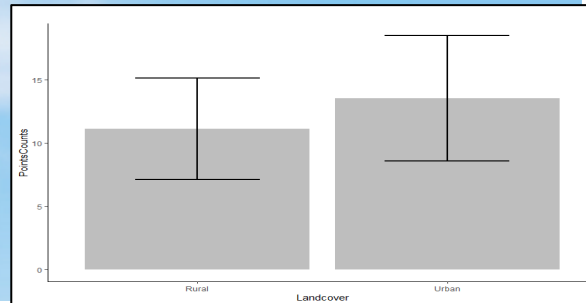


Fig 2. Passerine abundance increases as humans increases

Fig 3. Passerine abundance decreases as cars increase

Field Methods

- Conducted standardized point-counts (Ralph 1995 USDA) at 15 urban and 15 rural randomly selected sites ($n=30$)
- Noted human and car presence
- Midday hours in February-April 2023

Discussion

- Hypothesis was rejected
- Perhaps passerines are shifting to exploit anthropogenic resources
- Further studies might consider species

Management

- Monitor urbanization impacts
- Replicate study for endangered passerine species

Acknowledgements Thank you to Dr. David Sinn for overlooking this study.

Citations

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Raven PNG Mart n.d. Sparrow PNG Arts n.d.