

Bridging Fragmented Habitats:

Assessing the Effectiveness of the Green Grid as Wildlife Corridors for Avian Species in an Industrial Environment.

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Study Aim: To assess whether Green Grid corridors support avian species richness and abundance within an industrial landscape.

Declines in Bird Populations

Rapid urban expansion, industrialisation and agricultural intensification¹

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Loss, degradation and fragmentation of natural habitats²

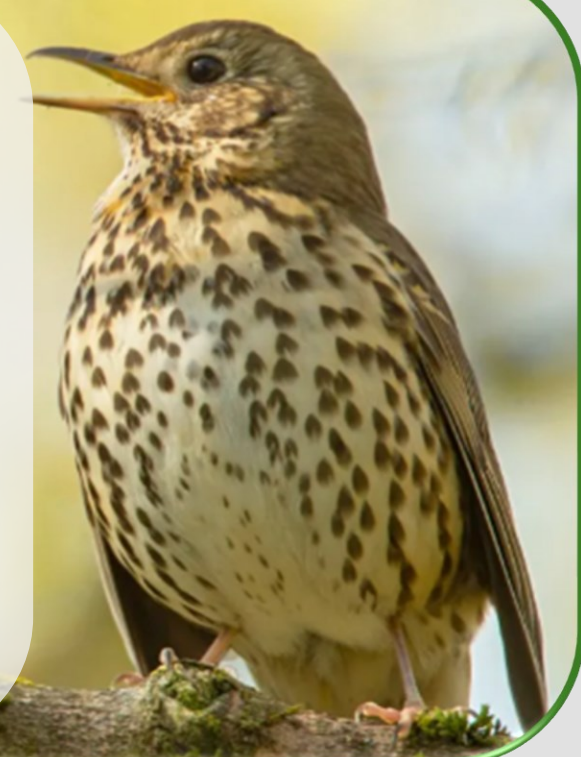
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Global declines in biodiversity³

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Disrupts ecosystem services

Important for ecosystem services⁴

Population declines:

Globally⁵ ~51%
UK⁶ ~16%



Benefits of Green Grid Corridors

Wildlife - Refuge, nesting, food resources, connectivity and genetic variability⁷

Human - Mental wellbeing, quality green space and ecosystem services (clean air, pollination, pest control)⁸

Targets^{9, 10}

- Convention on Biological Diversity
- Environmental Act 2021
- Climate Change Act 2008 (as amended 2019)



Approach

- Site - Toyota Motor Manufacturing (UK) Ltd
- Point count surveys followed standard UK breeding bird census guidelines¹¹
- Per point count - Ten-minute recordings of visual bird species richness and abundance alongside acoustic recordings



Figure 1. Toyota Motor Manufacturing (UK) Ltd.



Figure 2. Green grid corridors at Toyota.

Key Findings

- Grids with greater diversity of vegetated habitat types supported higher bird species richness and abundance
- Increase in vegetated habitat composition was positively associated with increased bird richness and abundance
- Grids dominated by hardstanding supported fewer bird species richness and abundance
- A woodland dominated grid showed lower bird richness and abundance, likely reflecting disturbance pressures (predation risk and road traffic)

Conclusion and Implications

Green Grid corridors can enhance avian diversity in industrial landscapes, but effectiveness depends on design and context.

- Greater diversity of vegetated habitats supports more diverse bird communities
- Disturbance pressures can reduce habitat value, even in otherwise suitable habitats

Planning implication: Prioritise well-designed, connected, low-disturbance Green Grid corridors

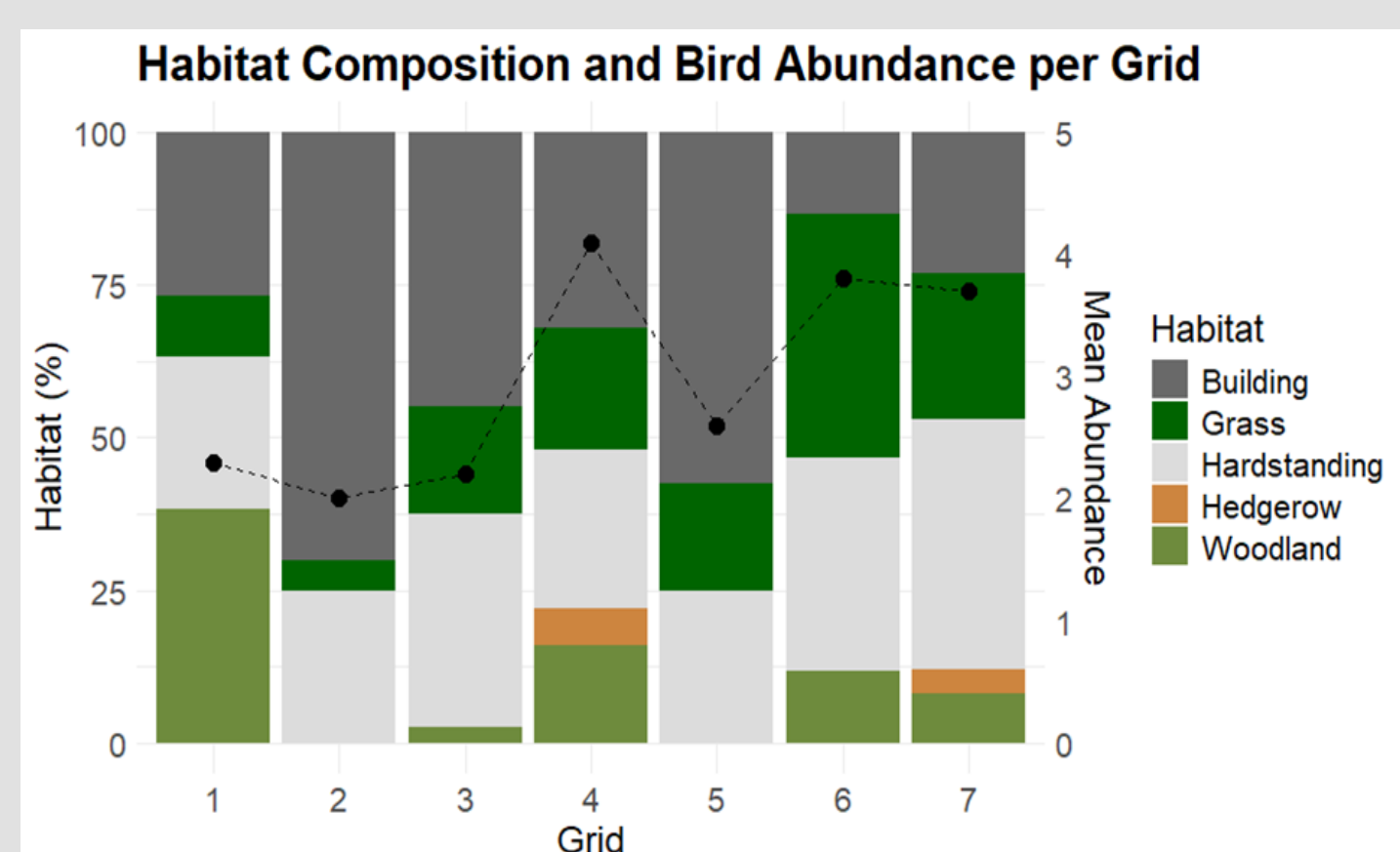
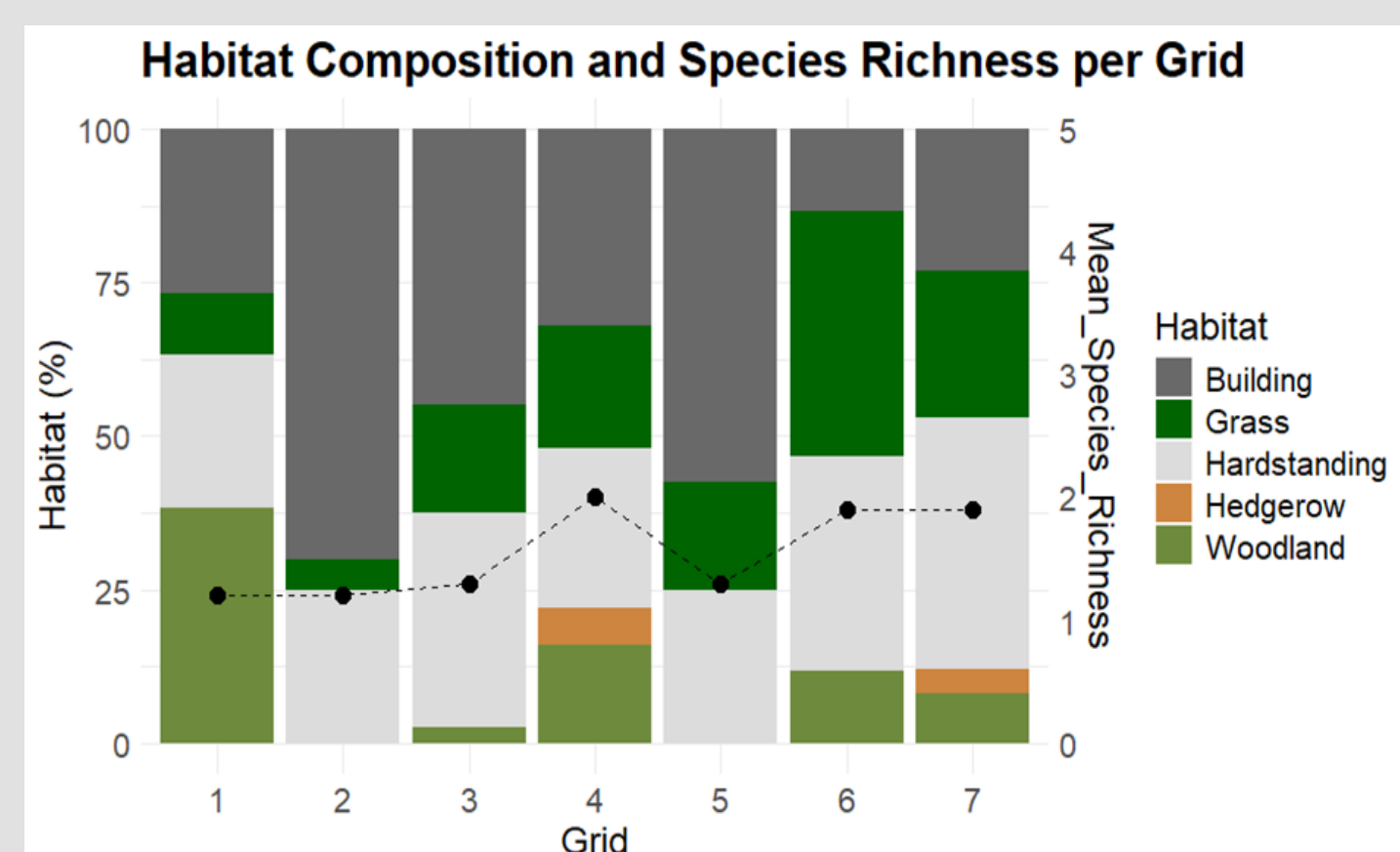


Figure 3. Habitat composition (%) per grid with overlaid mean species richness and abundance.

References

