



# ATTRIBUTION OF POPULATION TRENDS TO RARITY AND FOREST COVER

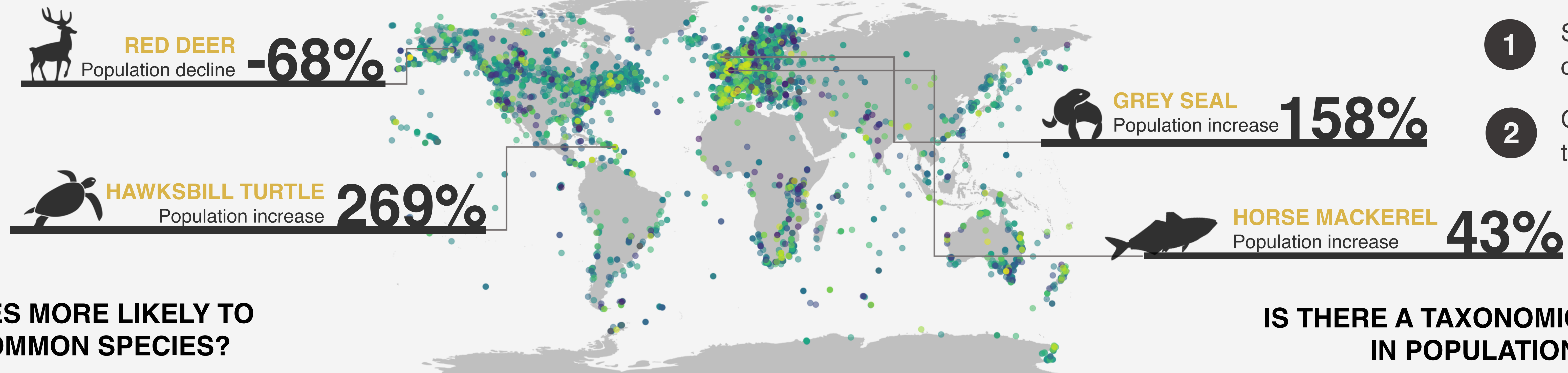
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## IMPACT

- 1 Understand global change drivers
- 2 Advance global population syntheses
- 3 Inform international conservation policy



## POPULATIONS ARE CHANGING AND WE NEED TO KNOW WHY



## ANALYSES

- 1 State-space models to quantify population trends
- 2 Comparison across rarity, taxa and forest cover

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### ARE RARE SPECIES MORE LIKELY TO DECLINE THAN COMMON SPECIES?

Population trends do not vary based on rarity and Red List status<sup>2</sup>.

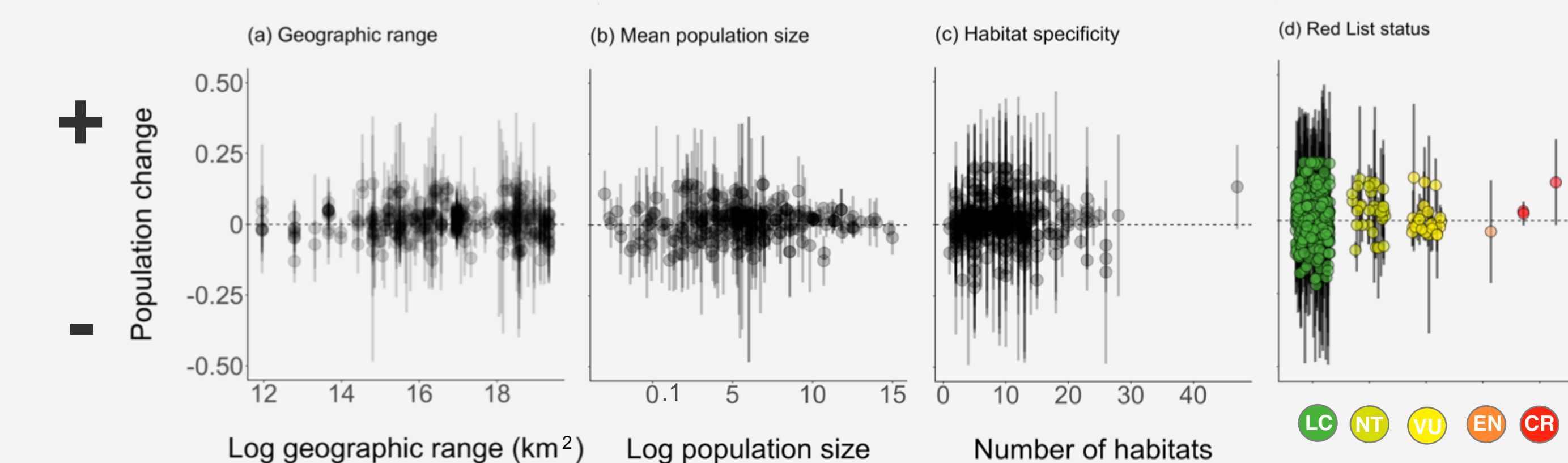


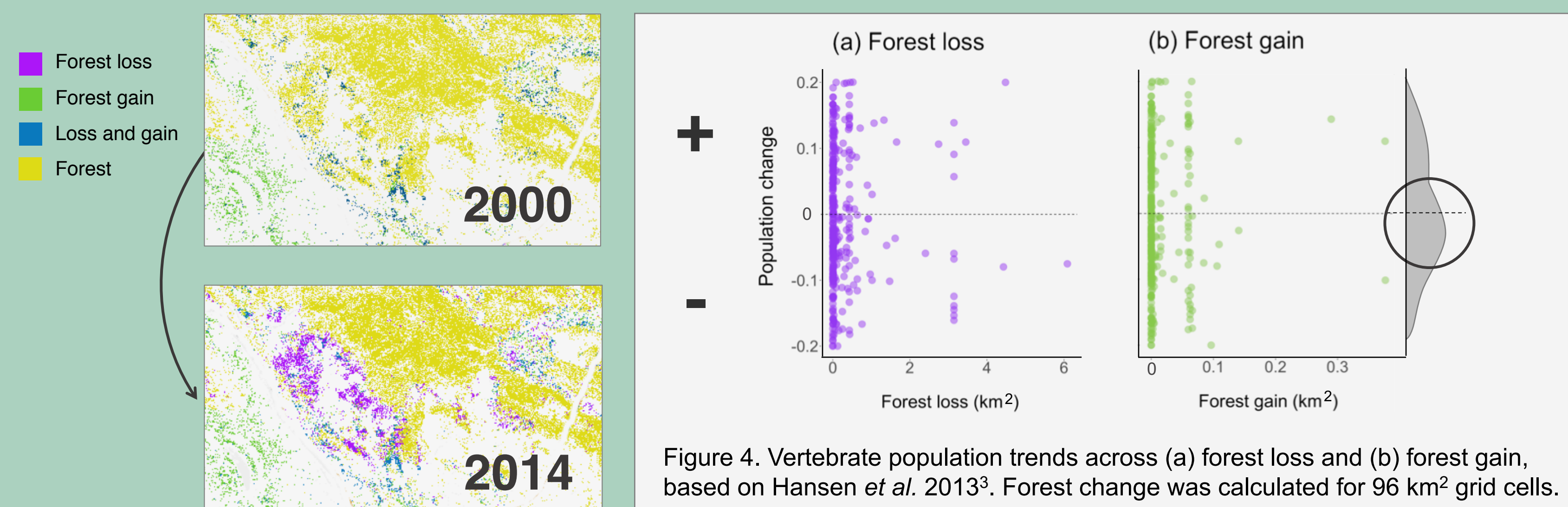
Figure 2. Trends of 381 UK populations from 167 vertebrate species across rarity metrics (a-c) and Red List status (d).

## DIFFERENCES IN TRENDS MAY ALTER FUTURE COMMUNITY COMPOSITION

## VIA LOCAL EXTINCTIONS AND COLONISATIONS

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### DO FOREST LOSS AND GAIN INFLUENCE VERTEBRATE POPULATIONS?



Both forest loss and gain correspond to more negative than positive population trends.



## FUTURE STEPS

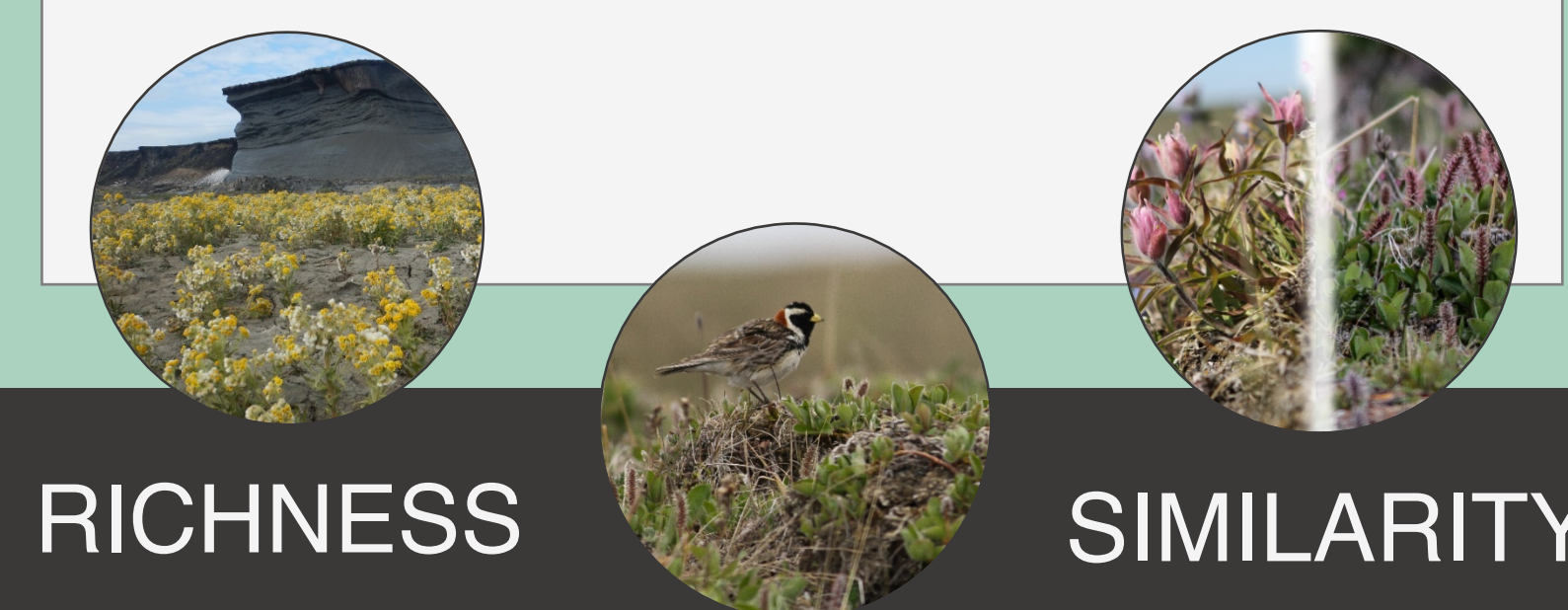
### 1 MULTIPLE DRIVERS

I will test the interaction between land-use and climate change.

**Hypothesis:** Climate change increases the effects of land-use change on populations.

### 2 BIODIVERSITY

Biodiversity metrics will include species richness, beta diversity (changes in composition over time) and community similarity.



RICHNESS

COMPOSITION

SIMILARITY