



# Exploring the ecological outcomes of Biodiversity Net Gain using real data

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# SUSTAINABLE DEVELOPMENT GOALS





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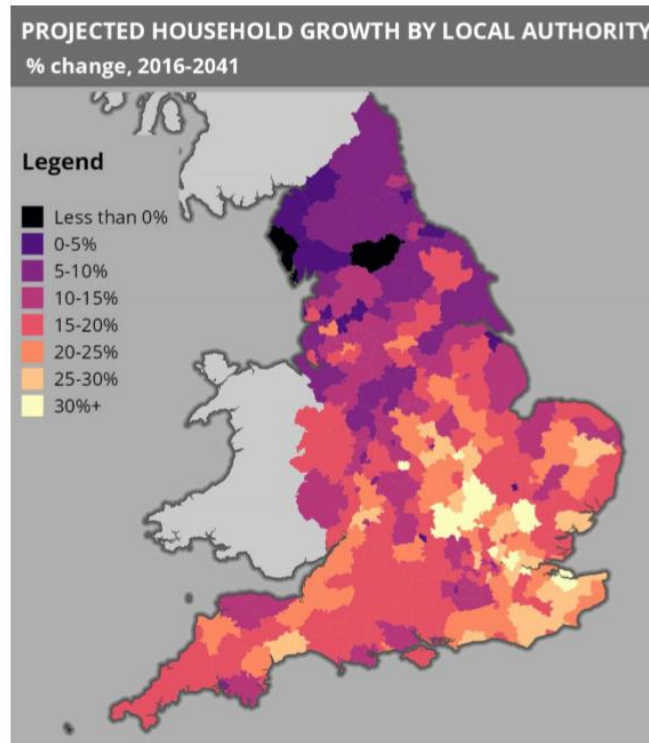


# SUSTAINABLE DEVELOPMENT GOALS

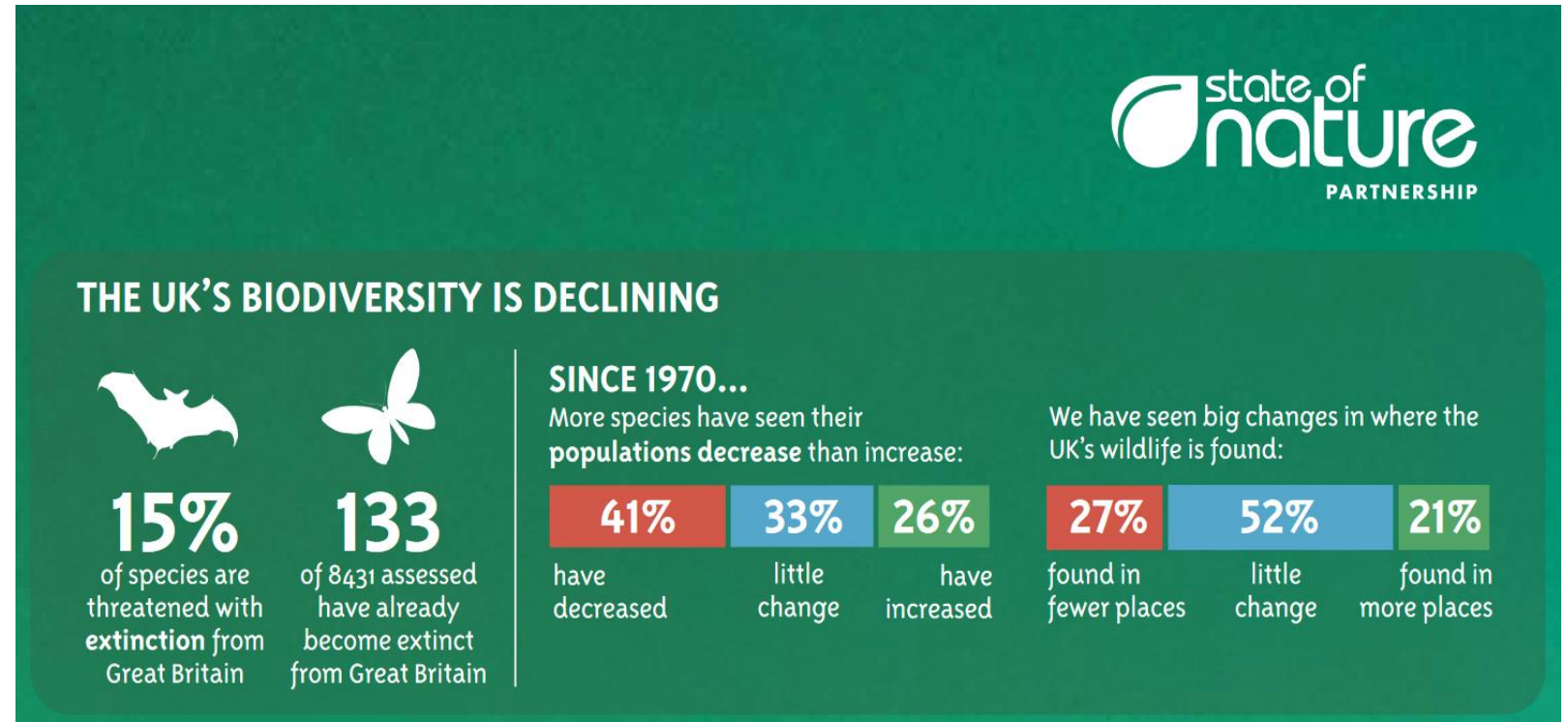




# England's nature, past and future



House of Commons Library, 2020



UK State of Nature Report, 2019

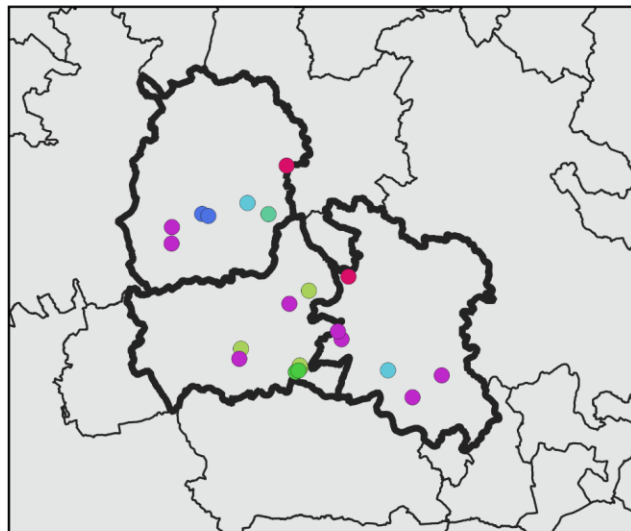




# Hopes for mandatory Biodiversity Net Gain



- Hope BNG will create a market in biodiversity units: attracting private landholders into conservation; sources of funding for habitat bankers and LPAs; investment in Local Nature Recovery Networks
- Hope BNG will reverse biodiversity declines
- Hope BNG will add an economic incentive to not harm nature initially i.e. redirect development towards low-impact areas



### West Oxfordshire, South Oxfordshire, Vale of White Horse District Councils

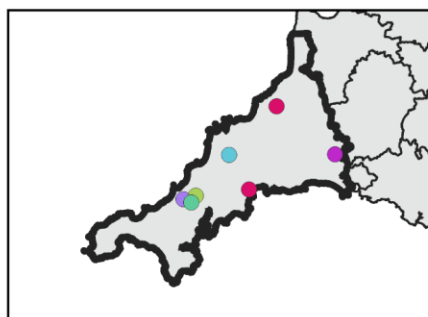
Policy type: Net Gain (10% uplift) for major developments (WO); Net Gain (0-10% uplift) for other developments (WO); No Net Loss (SO, VWH)

Scope: All newbuilds (WO); major developments (SO, VWH)

Offsetting: Third-party offsetting (WO); allow offsetting payments into Council offset fund (SO, VWH)

### Development types

- commercial
- dwelling
- education
- energy
- health / social care
- industry
- recreational
- settlement
- transport

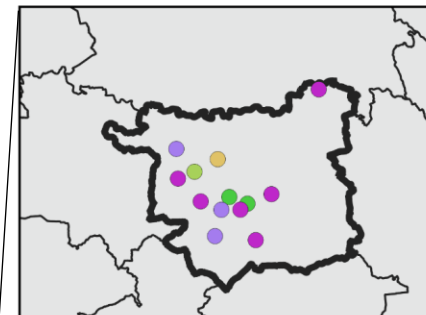


### Cornwall Council

Policy type: Net Gain (10% uplift)

Scope: Major developments

Offsetting: Allow offsetting payments into Council offset fund

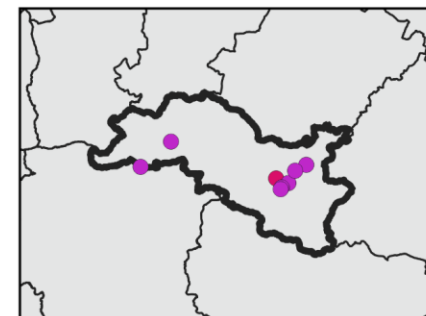


### Leeds City Council

Policy type: Net Gain (10% uplift)

Scope: All newbuilds

Offsetting: Allow offsetting payments into Council offset fund

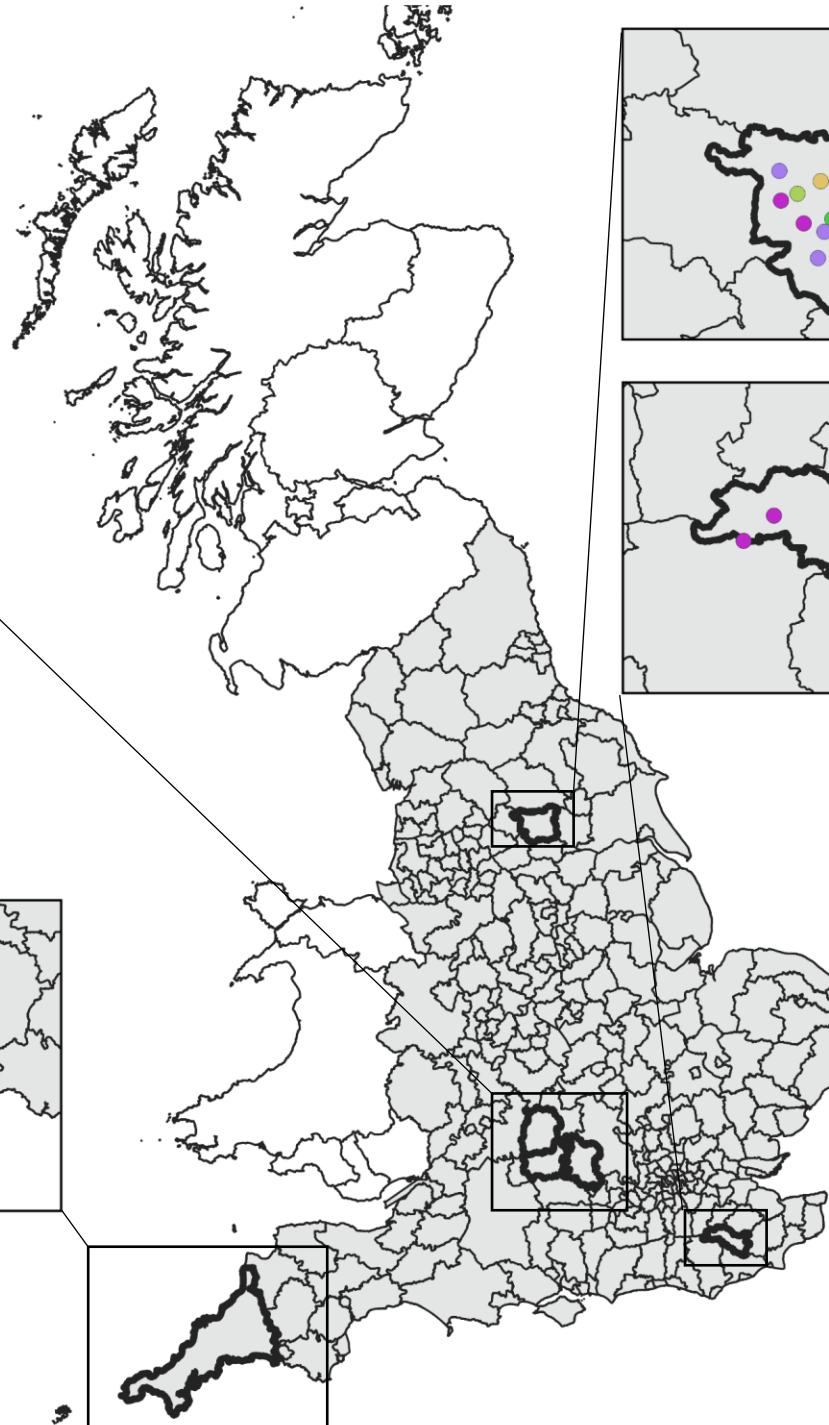


### Tunbridge Wells Borough Council

Policy type: Net Gain (10% uplift)

Scope: All newbuilds

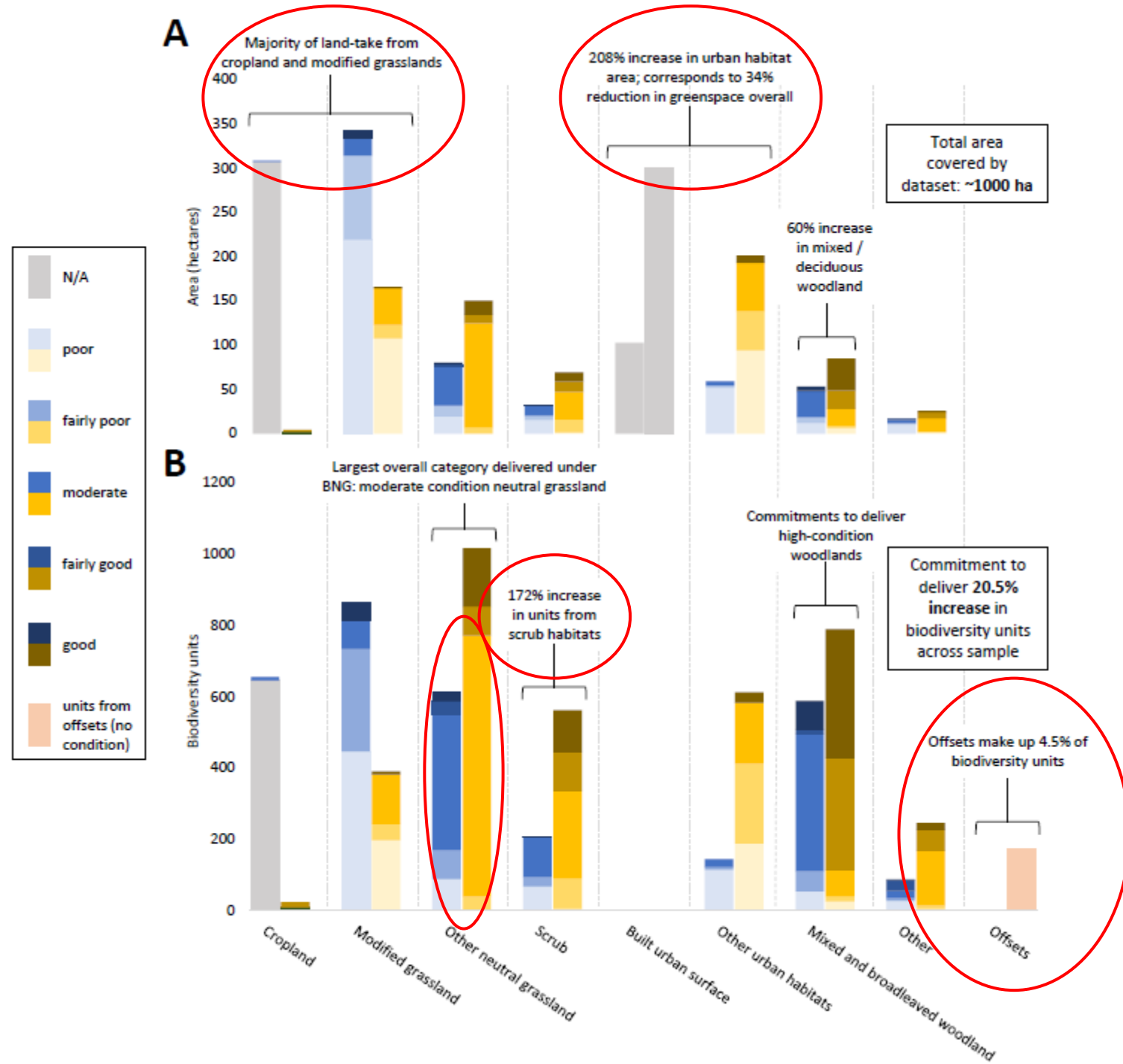
Offsetting: No offsetting fund or offset payments



### Dataset properties

Development types: 10,186 dwellings (~6% annual construction in England), 5 energy, 4 transport, 6 educational, 8 commercial, 5 recreational, 2 industrial and 3 health / social care infrastructures.

Land area: ~1000ha within the development footprints. For reference, on average 14,300ha of land is converted to residential, industrial or transport infrastructure per year in England (Defra 2019b).







# What does this all mean?

- Net Gain is in our sample associated with a **34% loss of non-urban habitats / greenspace**
- Net Gain is **promising** lots of quite **ambitious** future condition gains, with **95% falling within development footprints**
- These are potentially questionable. For example, **27% of the units** predicted to be delivered are through **grasslands or scrub within housing developments**
- The **offset market** may well be **much smaller** than many people hope



# What about condition assessments?

- Survey of 7 grassland experts (PhDs grassland ecology; senior positions in botanical organisations)
- Degree of agreement with judgements made in grassland assessments:
  - Condition and grassland type: 31%
  - Condition alone: 64%
  - Habitat type alone: 42%
- Experts did not universally agree on the habitat type and condition for **any of the grasslands in our sample**



# Governance of biodiversity gains

## Off-site biodiversity units (i.e. through offsets and statutory biodiversity credits)



Serious investment in capacity – 1.3 FTE for every higher-tier local authority in England



Biodiversity credit register, annual reporting, monitoring



Creation of new legal instrument for protection on private land through conservation covenants



Legal powers to prosecute if those delivering credits give false information



Biodiversity improvement

No new measures adequate

**Reactive planning system plus enforcement limited to issues of 'serious harm to local public amenity'**

**Extremely limited governance over 95% of units delivered by policy**





# Our team

- My email: [sz251@kent.ac.uk](mailto:sz251@kent.ac.uk)
- BNG team Sally Marsh, Kate Ryland, Ed Church, Richard Marsh, Dr Joseph Bull. Big thanks as well to Melanie Dodd, Esther Frizell-Armitage and Helen Fearnley
- Funded by NERC, CASE partnership with Balfour Beatty



# What next for BNG?

- BNG as currently implemented **misses opportunities to raise money for investment in the LNRNs**, and delivers biodiversity gains that are:
  - potentially overambitious given they are happening within the built environment
  - potentially unenforceable
- Responses to government consultation supportive of delivering most gains on site. **We now see what these are.** Will this restore England's nature?
- BNG delivering a 34% reduction in non-urban habitats – reintroduce the minimum 1:1 area multiplier originally proposed, or cap how much can be delivered on-site?
- Sort out the **monitoring and enforcement of on-site units**