

C3: Interaction with Nature

Ecosystem Service Definition

Provision of opportunities for formal or informal nature-related activities, (e.g. birdwatching, random encounters with wildlife, or feeling ‘connected with nature’). There is some overlap with biodiversity, but access by people can have negative impacts on some wildlife habitats.

Excludes recreational fishing, hunting, shooting, intrinsic value of nature and existence value.

Baseline Methods & Rationale

A relational dataset was produced to map the interaction with nature ecosystem service baseline within Gloucestershire. Overlapping designated sites were used as a modifying dataset following the methods of (Smith, 2020) who states that protected areas are more likely to support a greater amount and diversity of wildlife. Some designated sites may also preserve other natural or semi-natural features of interest (i.e. geological features). Designated sites included: local nature reserves (LNRs), national nature reserves (NNRs), sites of special scientific interest (SSSIs), and special areas of conservation (SACs).

Greater modifier values were applied where a greater number of designated sites overlapped.

These values are given in Table C3.1 and are also derived from Smith (2020).

Table C3.1: Weights assigned for modification of the interaction with nature baseline dataset

Number of Designated Site Overlaps	Modifier
>=3	1.20
2	1.15
1	1.10
0	1.00

Opportunity Methods & Rationale

A relational opportunity dataset was produced to map interaction with nature opportunity in Gloucestershire. This dataset was produced through multiplying the inverse of the baseline dataset by index of multiple deprivation (IMD) data at the lower-layer super output area (LSOA) level. The rationale for using IMD data is that in areas of high deprivation individuals are likely to be less able to travel to access areas where the interaction with nature ecosystem service is provided.

The weighting factor applied to the IMD dataset was calculated by dividing the decile of IMD within a given LSOA by 10 and adding this value to one to produce a range of values from 1.0 to 1.9. Deciles scored 10 for the most deprived LSOAs, and 1 for the least deprived. These deciles were calculated based on data for the whole of England to ensure the outputs are compatible on a national scale, should these methods be applied elsewhere.

Table C3.2: Weights assigned for modification of the interaction with nature opportunity dataset (1st decile is least deprived, 10th most)

IMD Decile	Multiplier
1	1.0
2	1.1
3	1.2
4	1.3
5	1.4
6	1.5
7	1.6
8	1.7
9	1.8
10	1.9

Limitations and Further Development

Using designated sites assumes that greater wildlife amount and diversity are supported by designated sites, however, the condition of these sites has not been accounted for within the analysis.

The use of IMD data assumes that the demand for interaction with nature is greatest in LSOAs where deprivation is highest. However, there are also likely to be additional factors that impact this accessibility alongside deprivation. These may include demographic and public transportation data.

References

Ministry of Housing, Communities & Local Government, 2019. English indices of deprivation 2019. Available at: <https://www.gov.uk/government/statistics/english-indices-of-deprivation-2019>

Natural England, 2003. Accessible Natural Green Space Standards in Towns and Cities: A Review and Toolkit for their Implementation (ENRR526). University of Manchester.

Smith, A., 2020. Natural capital in Oxfordshire: Short report. Environmental Change Institute, University of Oxford.

Figure C3.1: Interaction with nature baseline

C3: Interaction with Nature (baseline, relational)

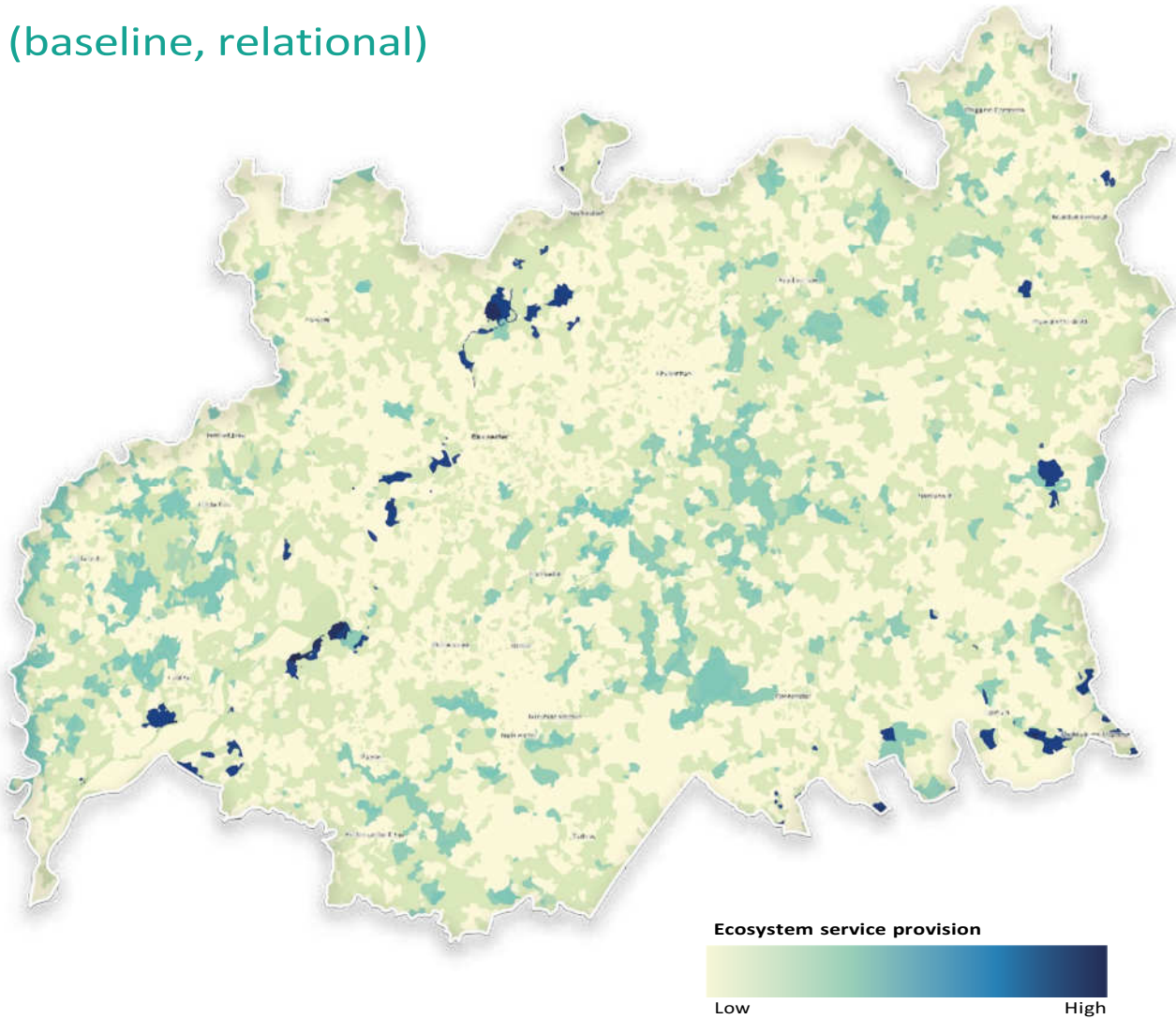


Figure C3.2: Interaction with nature opportunity (relational)

C3: Interaction with Nature (opportunity, relational)

