

# UK Biodiversity Indicators 2019

This document supports  
C7. Plants of the wider countryside

## Fiche

For further information on C7. Plants of the wider countryside visit [jncc.gov.uk/ukbi-C7](https://jncc.gov.uk/ukbi-C7)

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### C7. Plants of the wider countryside

**Type:** State indicator

#### Summary

No new data since previous publication.

#### Indicator Description

Until 2013, the indicator presented the change in plant species richness in survey plots across Great Britain between 1990 and 2007 for a range of widely occurring habitats. The results from 7 habitat types were presented, grouped into 3 measures for the assessment: arable and horticultural land; woodland and grassland; and boundary habitats. As the data has not been updated since 2007, the data presented previously is considered too out of date to be fit-for-purpose. A new indicator based on the National Plant Monitoring Scheme is being considered, but needs more work before it can be presented as an experimental statistic.

Following the adoption of the [Strategic Plan for Biodiversity 2011–2020](#), the UK biodiversity indicators were [reviewed](#), and a programme of work put in place to develop and refine the indicator set for future reporting to the CBD. A small number of refinements were identified where there are issues with current indicators. Indicators for reporting on plants of the wider countryside were identified as one of the areas requiring refinement.

#### Progress to date

An indicator of plant species richness has been published previously within the biodiversity indicators set, based on analysis of changes in land cover recorded in the Countryside Survey; a detailed periodic audit of a statistically representative sample of land across Great Britain. As the latest Countryside Survey data are from 2007, the data previously presented for this indicator are considered too out of date to be fit-for-purpose and retained within the indicator set as a headline measure: the UK Biodiversity Indicators Steering Group therefore took the decision to move this data and analysis to the background section of this fiche.

During 2015 and 2016, the Centre for Ecology & Hydrology (CEH), Joint Nature Conservation Committee (JNCC) and Defra, investigated the possibility of using Bayesian occupancy models (see indicators [C4b](#) and [D1c](#) for details) to identify trends in plant species. Trials have focussed on species that will be monitored with the National Plant Monitoring Scheme (NPMS; see below). CEH have since developed a novel combined abundance/occupancy model for NPMS data in a Bayesian framework. Simulation tests and applications to real data indicate potential to contribute to a new indicator of UK habitat quality. Further development is needed to extend the model to create annual indices and to give consideration to the method of individual species trend aggregation.

In the slightly longer term it is anticipated that this [National Plant Monitoring Scheme](#), designed by the Botanical Society of Britain and Ireland (BSBI), CEH, Plantlife and JNCC, will provide relative abundance data for around 400 indicator species. This will be more equivalent to the data underpinning the birds, bats and butterfly indicators, allowing a more comparable indicator of plants and habitat trends to be developed. It will not be possible to produce a trend before 2020, as the NPMS was only launched in 2015 and further time is needed to collect enough data to be able to calculate the size and direction of the trend.

### Relevance

Plants provide essential food and habitats for wildlife, and essential ecosystem services for humans such as reduced erosion, nutrient cycling and climate regulation. Furthermore, many plants, such as bluebells (*Hyacinthoides non-scripta*), horse chestnut (*Aesculus hippocastanum*) fruits (conkers), heather (*Calluna vulgaris*) and brambles (*Rubus* spp.) have deep cultural significance and are valued in their own right by the public. Plants also provide oxygen.

### Background

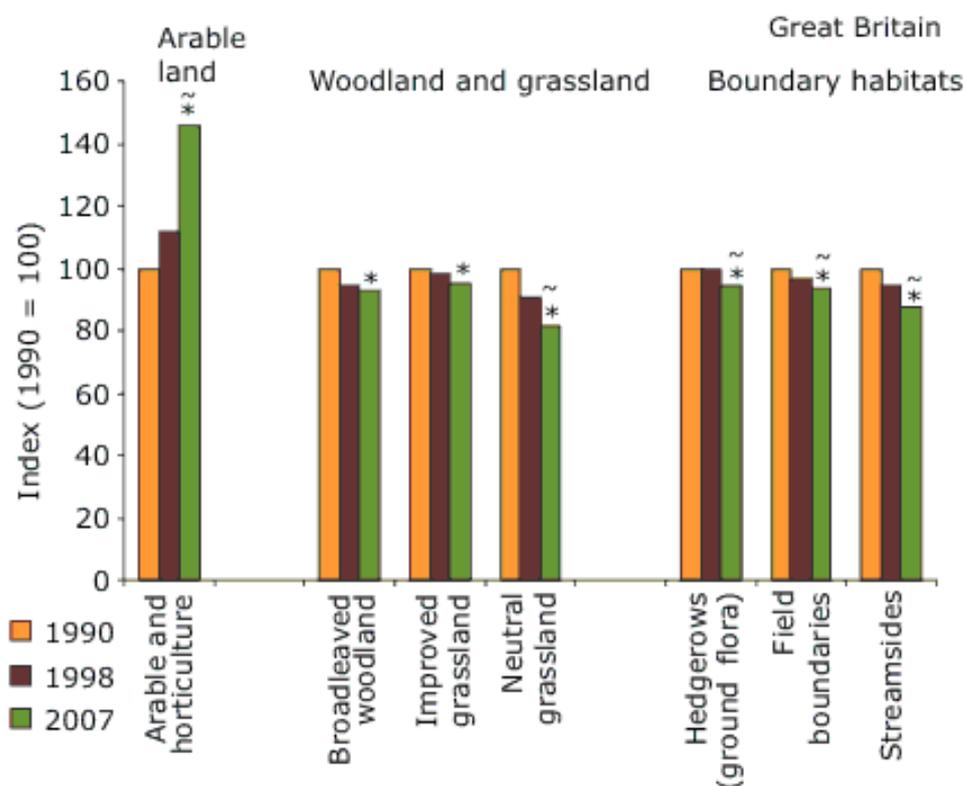
Until 2013, this indicator was based on analysis of the change in plant species richness in the wider countryside. Data were taken from the Countryside Survey. This survey provides a random sample of vegetation plots located in arable and horticultural fields, agricultural grasslands, woodlands and associated boundary habitats in Great Britain. Although there was a version of Countryside Survey for Northern Ireland, there was no equivalent data available for species richness, so the indicator was presented at the Great Britain scale. The start point of the data series was 1990, but it has not been possible to update these data since the last Countryside Survey was carried out in 2007. Given the age of the most recent data and the unlikelihood of any future opportunities to source updates in a consistent way, the UK Biodiversity Indicators Steering Group took the decision to reclassify the indicator as 'under development' and look at new options for a headline measure. Key messages from the previous indicator are presented here; the indicator can be viewed in full by following this [link](#).

The indicator presented the change in plant species richness in survey plots across Great Britain between 1990 and 2007 for a range of widely occurring habitats. The results from 7 habitat types were grouped into 3 measures for the assessment: arable and horticultural land; woodland and grassland; and boundary habitats.

The indicator compared species richness per plot for the exact same plots surveyed in 1990, 1998 and 2007. For each broad habitat type, the data were converted to an index (on a scale of 0 to 100) to compensate for the difference in plot size between habitats.

In the long term (1990 to 2007) and short term (1998 to 2007), the change in plant diversity of arable and horticultural land was assessed as improving; whilst for woodland and grassland and boundary habitats the assessment in both the long- and short-term was declining (see Figure C7i).

Figure C7i. Change in plant species richness in the wider countryside, 1990 to 2007.

**Notes:**

- \* A statistically significant change between 1990 and 2007.
- ~ A statistically significant change between 1998 and 2007.

**Source:** Centre for Ecology & Hydrology, Countryside Survey.

The previous indicator also provided information on the actual species richness in each habitat along with information on the type and size of the survey plots. Supplementary data from the BSBI were also presented.

**Goals and Targets****Aichi Targets for which this is a primary indicator**

**Strategic Goal C.** To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity.



**Target 12:** By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.

### Aichi Targets for which this is a relevant indicator

**Strategic Goal B.** Reduce the direct pressures on biodiversity and promote sustainable use.



**Target 5:** By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.



**Target 7:** By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.

**Strategic Goal C.** To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity.



**Target 11:** By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscape and seascapes.

### Web links for further information

Reference	Title	Website
Botanical Society of Britain & Ireland	Home Page	<a href="http://www.bsbi.org">http://www.bsbi.org</a>
Countryside Survey	Countryside Survey 2000 Countryside Survey 2007	<a href="https://countrysidesurvey.org.uk/content/countryside-survey-2000">https://countrysidesurvey.org.uk/content/countryside-survey-2000</a> <a href="http://www.countrysidesurvey.org.uk/">http://www.countrysidesurvey.org.uk/</a>
National Plant Monitoring Scheme	Home Page	<a href="http://www.npms.org.uk/">http://www.npms.org.uk/</a>

Full details of this indicator, including a datasheet are available at: [jncc.gov.uk/ukbi-C7](http://jncc.gov.uk/ukbi-C7)

Last updated: September 2019

Latest data: 2007