



Department for Environment, Food and Rural Affairs

STATISTICAL RELEASE: 29 MAY 2012

UK BIODIVERSITY INDICATORS - 2012

- This release covers a detailed statistical update of twenty-four indicators, providing an overview of biodiversity in the UK.
- The indicators show improvement in some aspects of the natural environment, for instance:
 - conservation volunteering
 - the extent of protected sites both on land and at sea
 - the percentage of woodland certified as sustainably managed
 - sustainable fisheries
 - expenditure on both UK and international biodiversity.
- However, some indicators show long-term deterioration, for instance:
 - populations of farmland birds (and continued deterioration since 2000) and woodland birds (no overall change since 2000)
 - populations of butterflies which specialise in the use of semi-natural habitats (no overall change since 2000)
 - bat populations (improvement since 2000)
 - plant diversity (in woodland and grassland, and in boundary habitats) (continued deterioration since 2000)
- Overall there are 35 individually assessed measures making up the indicators and since 2000 seventeen (49 per cent) show an improvement and 11 measures (31 per cent) show improvement over the longer term.
- A detailed report on the indicators (UK Biodiversity Indicators in Your Pocket) is accessible on the Defra Environment Statistics website and the report and all the indicators are available on the Joint Nature Conservation Committee website:

Defra: www.defra.gov.uk/statistics/environment/biodiversity/uk-biodiversity-indicators-in-your-pocket-biyp/

Joint Nature Conservation Committee: [//jncc.defra.gov.uk/biyp](http://jncc.defra.gov.uk/biyp)

- A separate statistical release and report on biodiversity in England is also published today at:

www.defra.gov.uk/statistics/environment/biodiversity/england-biodiversity-indicators/

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Why have measures of biodiversity?

Biodiversity is the variety of all life on Earth. It includes all species of animals and plants, and the natural systems and habitats that support them. Biodiversity matters because it supports the vital benefits we get from the natural environment. It contributes to our economy, our health and wellbeing, and enriches our lives.

The UK is a signatory to the Convention on Biological Diversity (CBD) and is committed to the new biodiversity goals and targets agreed in 2010 and set out in the Strategic Plan for Biodiversity 2011-2020¹. The Strategic Plan has five goals, each with a number of targets (the focus of each goal is shown by the words in bold type below):

- A. Address the underlying causes of biodiversity loss by **mainstreaming** biodiversity across government and society
- B. Reduce the direct **pressures** on biodiversity and promote sustainable use
- C. To improve the **status** of biodiversity by safeguarding ecosystems, species and genetic diversity
- D. Enhance the **benefits** to all from biodiversity and ecosystems
- E. Enhance **implementation** through planning, knowledge management and capacity building

(The indicators are shown with a letter prefix to show the goal they relate to.)

Biodiversity policy is a devolved responsibility in the UK, and England, Scotland, Wales and Northern Ireland have each developed or are developing their own biodiversity or environment strategies. Indicators are being developed to track progress with the respective commitments in each country. The UK indicators have a specific purpose for international reporting and were selected following consultation and agreement between the administrations. The indicators provide a flexible framework and a common set of methodologies which in some cases can also be used for country reporting. The UK biodiversity indicators will form a major part of the UK's 5th National Report to the CBD in 2014 but will be supplemented with other information relating to UK biodiversity and implementation of the Strategic Plan for Biodiversity 2011-2020.

Understanding biodiversity indicators

Biodiversity is not quantifiable in a single measure, so it is necessary to look at different aspects of the natural environment and identify a set of measures that can highlight the direction of change in the state of the environment, the pressures on the environment, or our responses and actions. The indicators cannot cover all aspects of biodiversity, but they have been selected to monitor key issues and provide high-level outcome views of progress.

¹ www.cbd.int/doc/strategic-plan/2011-2020/Aichi-Targets-EN.pdf. The targets are known as 'Aichi' targets, after the province in Japan where they were agreed.

Indicators are useful tools for summarising and communicating broad trends. They are not intended to incorporate all the relevant information available. They are best seen, as their name suggests, as indicative of wider changes.

Some indicators act as proxies for wider changes, for example bird populations are of course important to monitor in their own right, but more widely bird populations give an insight into the 'health' of biodiversity because birds are generally at the top of food chain and cover a wide range of habitats. Birds populations are therefore affected by the state of the wider environment and changes in bird populations may give an indication of the 'health' of that wider environment.

The intended use for the indicators includes to provide a summary for Ministers and policy officials in Government and to provide the wider community with a means of understanding biodiversity, the priorities, and whether or not progress is being made.

The indicators are dependent on a wide variety of data, provided by Government, research bodies, and the voluntary sector. Their selection has been informed by responses to a public consultation, workshops with key stakeholders, and on the advice of data owners.

Whilst there are 24 indicators, several are made up of more than one component measure and overall there are 35 measures. Each measure is summarised or assessed separately using a set of 'traffic lights'. The traffic lights show 'change over time'. They do not show whether the measure has reached any published or implied targets, or indeed whether the status is 'good' or 'bad'.

The traffic lights are determined by identifying the period over which the change is to be assessed and comparing the value of the measure in the base or start year with the value in the end year.

-  = improving
-  = little or no overall change
-  = deteriorating
-  = insufficient or no comparable data

Where possible the assessment has been made by evaluating trends using statistical analysis techniques. The assessment may be made by Defra statisticians in collaboration with the data providers, or undertaken by the data providers themselves. A green or red traffic light is only applied when there is sufficient confidence that the change is statistically significant and not simply a product of random fluctuations.

For some indicators, it is not possible to formally determine statistical significance and in such cases the assessment has been made by comparing

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the difference between the value of the measure in the base or start year and the value in the end year against a 'rule of thumb' threshold. The standard threshold used is three per cent, unless noted otherwise. Where the data allow it, a three year average is used to calculate the base year, to reduce the likelihood of any unusual year(s) unduly influencing the assessment. Where an indicator value has changed by less than the threshold of three per cent, the traffic light has been set at amber. The choice of three per cent as the threshold is arbitrary but is commonly used across other Government indicators, and use of this approach is kept under review.

The traffic lights only reflect the overall change in the measure from the base to latest year and do not reflect fluctuations during the intervening years. Where data are available, two assessment periods have been used:

1. Long-term – an assessment of change since the earliest date² for which data are available
2. Short-term – an assessment of change since 2000³

Results

Overall there are 35 individually assessed measures making up the indicators. Since 2000:

- 17 measures show an improvement;
- 10 measures show little or no overall change;
- 6 show a deterioration:
 - Marine invasive species
 - Terrestrial invasive species
 - Farmland birds
 - Wintering water birds
 - Plant species richness (woodland and grassland)
 - Plant species richness (boundary habitats);
- 2 have insufficient data for an assessment.

Over the longer-term:

- 11 measures show an improvement;
- 2 measures show little or no overall change;
- 10 show a deterioration:
 - Freshwater invasive species
 - Marine invasive species
 - Terrestrial invasive species
 - Farmland birds
 - Woodland birds
 - Insects of the wider countryside (butterflies): semi-natural habitats specialists
 - Plant species richness (woodland and grassland)
 - Plant species richness (boundary habitats)
 - Mammals of the wider countryside (bats);
 - Biodiversity and ecosystem services (marine fish size classes in the North Sea)
- 12 have insufficient data for an assessment.

² although if data do not precede 1996 a long-term assessment is not made

³ or the closest date for which data are available.

The table below summarises the assessments of change for all the indicators.

Indicator number, title, and measures where applicable			Long-term change ¹	Change since 2000 ²
A1. Awareness, understanding and support for conservation			Under development, no interim measure(s) available	
A2. Taking action for nature: volunteer time spent in conservation			⊕	✓
A3. Value of biodiversity integrated into decision making			Under development, no interim measure(s) available	
A4. Global biodiversity impacts of UK economic activity / sustainable consumption			Under development, no interim measure(s) available	
B1. Agricultural and forest area under environmental management schemes	B1a. Area of land in agri-environment schemes	B1a(i). Higher-level / targeted schemes	✓ 1992-2011	✓
		B1a(ii). Entry-level type schemes	⊕	✓ 2005
	B1b. Area of forestry land certified as sustainably managed		⊕	✓ 2001
B2. Sustainable fisheries			✓ 1990-2010	✓
B3. Integration of biodiversity considerations into business activity			Under development, no interim measure(s) available	
B4. Pressure from climate change (currently the spring index)			Not assessed	Not assessed
B5. Pressure from pollution	B5a. Air pollution	B5ai. Acidity	✓ 1996-2007	✓
		B5aii. Nitrogen	✓ 1996-2007	⊖
	B5b. Marine pollution (heavy metals)		✓ 1990-2010	✓
B6. Pressure from invasive species	B6a. Freshwater invasive species		✗ 1960-2008	⊖
	B6b. Marine invasive species		✗ 1960-2008	✗
	B6c. Terrestrial invasive species		✗ 1960-2008	✗
B7. Water quality			✓ 1990-2009	✓
C1. Protected sites	C1a. Total area of protected sites: on land		✓ 1980-2011	✓
	C1b. Total area of protected sites: at sea		✓ 1980-2011	✓
	C1c. Condition of A/SSSIs		⊕	✓ 2005-6
C2. Habitat connectivity	C2a. Broad-leaved, mixed and yew woodland		⊕	⊕ 1998
	C2b. Neutral grassland		⊕	⊕ 1998

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Defra National Statistics Release: UK Biodiversity Indicators - 2012

Indicator number, title, and measures where applicable		Long-term change ¹	Change since 2000 ²
C3. Status of threatened habitats			1999
C4. Status of threatened species			1999
C5. Birds of the wider countryside and at sea	C5a. Farmland birds	1970-2010	
	C5b. Woodland birds	1970-2010	
	C5c. Wetland birds	1975-2010	
	C5d. Seabirds	1970-2010	
	C5e. Wintering water birds	1975/6-2009/10	
C6. Insects of the wider countryside (butterflies)	C6a. Semi-natural habitat specialists	1976-2011	
	C6b. Species of the wider countryside	1976-2011	
C7. Plants of the wider countryside	C7a. Change in plant species richness (arable and horticultural land)	1990-2007	1998
	C7b. Change in plant species richness (woodland and grassland)	1990-2007	1998
	C7c. Change in plant species richness (boundary habitats)	1990-2007	1998
C8. Mammals of the wider countryside (Bats)		1978–1992	
C9. Genetic resources for food and agriculture	C9a. Native sheep breeds		
	C9b. Native cattle breeds		
D1. Biodiversity and ecosystem services (marine fish size classes in the North Sea)		1982–2010	
D2. Biodiversity and ecosystem services (other)		Under development, no interim measure(s) available	
E1. Biodiversity data for decision making		Under development, no interim measure(s) available	
E2. Expenditure on UK and international biodiversity	E2a. Expenditure on UK biodiversity		
	E2b. UK expenditure on international biodiversity		

¹The earliest available year is used as the baseline for assessment of long-term change. The base year used for each measure is shown in the table. Where data are available, or do not precede 1996, a long-term assessment is not given.

² Change since 2000, or if no data are available in 2000, the nearest alternative year has been used and is stated next to the traffic light.

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A Defra National Statistics publication

National Statistics are produced to high professional standards set out in the Code of Practice for Official Statistics. They undergo regular quality assurance reviews to ensure they meet customer needs.

Responsible Defra statistician: Stephen Hall

Main notes

1. A detailed report, providing charts, data, commentary, policy context, other supporting measures, and links to further information is published at:

<http://www.defra.gov.uk/statistics/environment/biodiversity/uk-biodiversity-indicators-in-your-pocket-biyp/>

and at:

[//jncc.defra.gov.uk/biyp](http://jncc.defra.gov.uk/biyp) (including more detailed reporting)

2. The compilation of the report has been undertaken by the Joint Nature Conservation Committee⁴, Defra Biodiversity Science and Defra Environment Statistics, in collaboration with a range of Governmental and non-Governmental data providers.
3. A separate statistical release and report on biodiversity in England (Strategy for England's Wildlife and Ecosystem Services, Biodiversity 2020 Indicators – 2012 Assessment) is also being published today by Defra in collaboration with Natural England⁵ at:

www.defra.gov.uk/statistics/environment/biodiversity/england-biodiversity-indicators/

The England and UK indicators cover many of the same issues, and show similar trends. However, owing to data availability and or differences in strategic priority at the England and UK level, in some instances different indicators have been used.

4. The UK indicators were comprehensively reviewed during 2011 and 2012 to ensure they continue to be based on the most robust and reliable available data; and remain relevant to the new international goals and targets⁶. The review identified a small number of gaps where there were no indicators for particular targets, or where the existing indicators were only indirectly linked to the Aichi targets. A number of further refinements to existing indicators were also identified to improve their relevance, make them easier to understand, or to address concerns over data quality or availability. As a result, the set of 18 indicators originally developed for reporting against previous international targets has been expanded to 24, as set out in this document. Where previous indicators remain relevant and robust, they have been retained. Others have been revised or replaced. Where possible each of the indicators has been updated with the most recent data, but in some cases development work is ongoing, and where this is the case, the work to develop them over the next two to three years has been described briefly. The indicators may be subject to further review and development, particularly as the reporting requirements of

⁴ [//jncc.defra.gov.uk/](http://jncc.defra.gov.uk/)

⁵ www.naturalengland.org.uk/

⁶ This review involved wide consultation with the UK Biodiversity Indicator Forum involving key stakeholders.

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the EU Biodiversity Strategy and the EU Marine Strategy Framework Directive are clarified. The indicators should therefore be regarded as an interim set.

5. Indicators are useful tools for summarising and communicating broad trends and high-level messages. They are not intended to incorporate all the relevant information available in the UK. They are best seen, as their name suggests, as indicative of these wider changes. The UK biodiversity indicators will form a major part of the UK's 5th National Report to the CBD in 2014 but will be supplemented with other information relating to UK biodiversity and implementation of the Strategic Plan for Biodiversity 2011-2020.
6. Biodiversity policy is a devolved responsibility in the UK, and England, Scotland, Wales and Northern Ireland have each developed or are developing their own biodiversity or environment strategies. Indicators are being developed to track progress with the respective commitments in each country. The UK indicators have a specific purpose for international reporting and were selected following consultation and agreement between the administrations. The indicators provide a flexible framework and a common set of methodologies which in some cases can also be used for country reporting.
7. The indicators are dependent on a wide variety of data, provided by Defra, its Arms Length Bodies and Non-Governmental Organisations. Defra Statisticians work with the data providers to ensure that methodologies and reporting of results are fit for purpose. The presentation and assessment of the indicators has been cleared by the data providers, and the production and editing of the indicators has been overseen by Defra statisticians. The production of the indicators has been undertaken in line with the Code of Practice for Official Statistics, and the compilation has been undertaken free from any political interference.
8. User consultation: Users' comments on any issue relating to this statistical release and the detailed report are welcomed and encouraged. Contact details are provided in the report, or comments can be addressed to the email address below.

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