Department
for Environment
Food & Rural Affairs

England Natural Environment Indicators

May 2014

This revised version of the England Natural Environment Indicators May 2014, published 28ᵗʰ May, replaces the initial version published on 8ᵗʰ May.

The earlier version has been revised to correct the traffic light assessment awarded to indicator 7: raw material consumption. The short term trend for this indicator was incorrectly awarded a yellow traffic light, implying little or no change had occurred between 2006 and 2011. In fact the short term trend should have been awarded a green traffic light as raw material consumption in the UK has decreased by more than three percent over this period. The impact of this change is to increase the total number of measures that improved over the short term from 5 to 6 measures (out of 30) and to decrease the number of measures that show little or no change from 9 to 8.

This document/publication is also available on our website at:

https://www.gov.uk/government/publications/england-natural-environment-indicators

Any enquiries regarding this document/publication should be sent to us at:

Enviro.statistics@defra.gsi.gov.uk

or

Biodiversity Statistics team
Department for Environment, Food and Rural Affairs
Nobel House
17 Smith Square
London
SW1P 3JR

PB 14166

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Introduction

The Natural Environment White Paper[1], published in 2011, set out the Government's strategy for valuing nature in our society and ensuring that it is available for use by future generations. The White Paper outlined four ambitions aimed at mainstreaming the value of nature across society. These were:

> ➢ Protecting and Improving the Natural Environment
> ➢ Growing a Greener Economy
> ➢ Reconnecting People and Nature
> ➢ International and EU Leadership

Within these ambitions there were 92 commitments. The England Natural Environment Indicators (ENEI) publication has been produced under commitment 90 of the White Paper:

> *"We will develop a set of key indicators...to track progress on the ambitions of this White Paper. These will include a new, compact set of biodiversity indicators for the England Biodiversity Strategy. We will consult on them and finalise them by Spring 2012."*

The purpose of the ENEIs, first published in 2013, is to track progress against the broad ambitions of the White Paper as outlined above, to communicate this to stakeholders and interested users and to provide a robust evidence base on which to base future policy interventions. The indicators selected for the publication have been categorised according to one or more of the ambitions.

The 2014 ENEI publication is a summary that provides an update on progress since 2013. A link to the most recent update of each indicator is provided. The next full publication will be released in May 2015.

The updated indicators for the England Biodiversity Strategy, referred to in the second part of the commitment, were consulted on and first published in May 2012. The most recent version can be found here.

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[1] Natural Environment White Paper, 2011

Traffic Light Assessment

Each indicator is composed of one or more measures that, where possible, show trends over time. If possible, data are combined to allow indicators to be represented by a single measure; this is the case for several indicators. Where it is not possible to combine relevant data sets logically the indicators are supported by more than one measure. Each measure is assessed separately using a set of 'traffic lights'. The traffic lights show an assessment of change over time. They do not show whether the measure has reached any published or implied targets or whether the status is 'good' or 'bad'.

The traffic lights are determined by identifying a 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 latest year.

Improving

Little or no overall change

Deteriorating

Not yet assessed due to insufficient or no comparable data

Where possible the assessment has been made by evaluating trends using statistical analysis techniques. The assessment is either 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 a product of random fluctuations. 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.

For some indicators it is not possible to formally determine statistical significance and, in such cases, the assessment has been made by comparing the difference between the value of the measure in the base or start year and the value in the latest year against a 'rule of thumb' threshold. The standard threshold used is three percent. 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 percent, the traffic light has been set at yellow. The choice of three percent as the threshold is arbitrary but is commonly used across other Government indicators and use of this approach is kept under review.

Where data are available, two assessment periods have been used:

Long-term – an assessment of change since the earliest date for which data are available; a long-term assessment is not made if the data run is less than ten years.

Short-term – an assessment of change over the latest five years. In a minority of cases the short term assessment has been carried out over a shorter time period, where the earliest data point is within the past five years but where statistical analysis allows a robust assessment of change over time.

The individual measures also have a third marker showing the direction of change in the last year. This period is too short for a meaningful assessment. However, when it exceeds a one percent threshold, the direction of change is given as an acknowledgement of very recent trends and as a possible early sign of emerging trends.

Summary of Indicator Assessments

Indicator	Measure	Ambition	Long Term	Short Term	Current value	Year	Long term baseline	Long term baseline year	Short term baseline	Short term baseline year	Most recently published
1. Species in the Wider Countryside	Breeding farmland birds	Protecting and Improving	(1970–2011)* Deteriorating ❌	(2006-2011)* Deteriorating ❌	49	2012	100	1970	53	2006	England Biodiversity Strategy Indicator 5a
	Butterflies of the wider countryside on farmland	Protecting and Improving	(1990-2012) Deteriorating ❌	(2007-2012) Deteriorating ❌	51	2012	100	1990	62	2007	England Biodiversity Strategy Indicator 5a
	Widespread bats	Protecting and Improving	(1999-2012) Improving ✅	(2007-2012) Little or no overall change ≈	113	2012	100	1999	114	2007	England Biodiversity Strategy Indicator 5a
	Historical pipistrelle bat populations †	Protecting and Improving	(1977-1999) Deteriorating ❌	Not applicable	100	1999	243	1977			England Biodiversity Strategy Indicator 5a
	Breeding wetland birds	Protecting and Improving	(1975-2011)* Deteriorating ❌	(2006-2011)* Deteriorating ❌	93	2012	100	1975	112	2006	England Biodiversity Strategy Indicator 7
	Wintering water birds	Protecting and Improving	(1975/6-2010/11)* Improving ✅	(2005/6-2010/11)* Little or no overall change ≈	197	2011-12	100	1975-6	218	2005-6	England Biodiversity Strategy Indicator 7

Indicator	Measure	Ambition	Long Term	Short Term	Current value	Year	Long term baseline	Long term baseline year	Short term baseline	Short term baseline year	Most recently published
	Breeding woodland birds	Protecting and Improving	(1970-2011)* Deteriorating ❌	(2006-2011)* Little or no overall change ≈	82	2012	100	1970	81	2006	England Biodiversity Strategy Indicator 6a
	Butterflies of the wider countryside in woodland	Protecting and Improving	(1990-2012) Deteriorating ❌	(2007-2012) Deteriorating ❌	27	2012	100	1990	38	2007	England Biodiversity Strategy Indicator 6a
	Breeding seabirds	Protecting and Improving	(1986-2012) Little or no overall change ≈	(2007-2012) Little or no overall change ≈	102	2012	100	1986	104	2007	England Biodiversity Strategy Indicator 8
2. River Water Quality	Proportion of rivers with good or high biological quality status	Protecting and Improving/ Reconnecting People and Nature	Not yet assessed ⋯	(2009-2012) Deteriorating ❌	33	2012			35	2009	England Natural Environment Indicators 2013: 2a
	Proportion of rivers that pass on chemical status	Protecting and Improving/ Reconnecting People and Nature	Not yet assessed ⋯	(2009-2012) Little or no overall change ≈	80	2012			78	2009	England Natural Environment Indicators 2013: 2b
3. Marine Ecosystem Integrity	Fish size class	Protecting and Improving	(1983-2011) Deteriorating ❌	(2006-2011) Improving ✅	10	2011	23	1983	6	2006	England Biodiversity Strategy Indicator 11

Indicator	Measure	Ambition	Long Term	Short Term	Current value	Year	Long term baseline	Long term baseline year	Short term baseline	Short term baseline year	Most recently published
	Marine Litter	Protecting and Improving	(1992-2012) Deteriorating ❌	(2007-2012) Improving ✅	173 litter items per Km^2	2012	94 litter items per Km^2	1992	353 litter items per Km^2	2007	England Natural Environment Indicators 2103: 3b
4. Priority species and habitats	Number of priority species that are stable or increasing	Protecting and Improving	(1970-2010) Deteriorating ❌	(2005-2010) Deteriorating ❌	42	2010	100	1970	45	2005	England Biodiversity Strategy Indicator 4a
	Number of priority habitats that are stable or increasing	Protecting and Improving	Not yet assessed ⬤	Not yet assessed ⬤	52	2013					England Biodiversity Strategy Indicator 2a
5. Land Use	Land Use (context)	Protecting and Improving/ Growing a Green Economy	Not applicable	Not applicable							Sustainable Development Indicator 2013: 30
	Development on undeveloped land: removed. This indicator was replaced by land use by type over time, presented for indicator 5a.	Protecting and Improving/ Growing a Green Economy	Not applicable	Not applicable							England Natural Environment Indicators 2013: 5b

Indicator	Measure	Ambition	Long Term	Short Term	Current value	Year	Long term baseline	Long term baseline year	Short term baseline	Short term baseline year	Most recently published
	Percentage of woodland in active management	Protecting and Improving/ Growing a Green Economy	Not yet assessed	(2008-2013) Improving	55	2014			48	2008	[Forestry Commission: Corporate Plan Performance Indicators, Headline Performance Update (pg4)](#)
6. Natural Stocks	Sustainable fisheries	Protecting and Improving/ Growing a Green Economy	(1990-2011) Improving	(2006-2011) Improving	47	2011	29	1990	40	2006	[England Biodiversity Strategy Indicator 23](#)
	Water abstraction	Protecting and Improving/ Growing a Green Economy	(2000-2012) Improving	(2007-2012) Deteriorating	96	2012	100	1991	84	2007	[Water Abstraction from Non-Tidal Surface Water and Groundwater](#)
	Forest carbon stock	Protecting and Improving/ Growing a Green Economy	(1990-2010) Improving	(2005-2010) Little or no overall change	3338 million tonnes	2010	2998 million tonnes	1990	3188 million tonnes	2005	[England Natural Environment Indicators 2013: 6c](#)
	Soil carbon concentration	Protecting and Improving/ Growing a Green Economy	(1978-2007) Little or no overall change	(1998-2007) Little or no overall change	75.6g/Kg	2007	74.4g/Kg	1978	79.7g/Kg	1998	[Countryside Survey: Solis Report from 2007 (pg 20)](#)

Indicator	Measure	Ambition	Long Term	Short Term	Current value	Year	Long term baseline	Long term baseline year	Short term baseline	Short term baseline year	Most recently published
7. Raw Material Consumption	Raw material consumption	Growing a Green Economy	(2000-2011) Improving ✓	(2006-2011) Little or no overall change ✓	83	2011	100	2000	94	2006	[UK Environmental Accounts 2013: Raw Material and Domestic Material Consumption 2000-2011 (Excel spreadsheet)](#)
8. National Environmental Accounts	National environmental accounts	Growing a Green Economy	To be developed	To be developed							[England Natural Environment Indicators 2013: 8](#)
9. Integrating biodiversity and natural environment considerations into business activity	Integrating biodiversity and natural environment considerations into business activity	Growing a Green Economy	To be developed	To be developed							[England Biodiversity Strategy Indicator 24](#)
10. Public Engagement with the Natural Environment	Proportion of people visiting the natural environment several times or more a week	Growing a Green Economy/ Reconnecting People and Nature	Not yet assessed ⊙	(2009/10-2012/13) Little or no overall change ≈	34	2012-13			33	2009-10	[England Biodiversity Strategy Indicator 13](#)

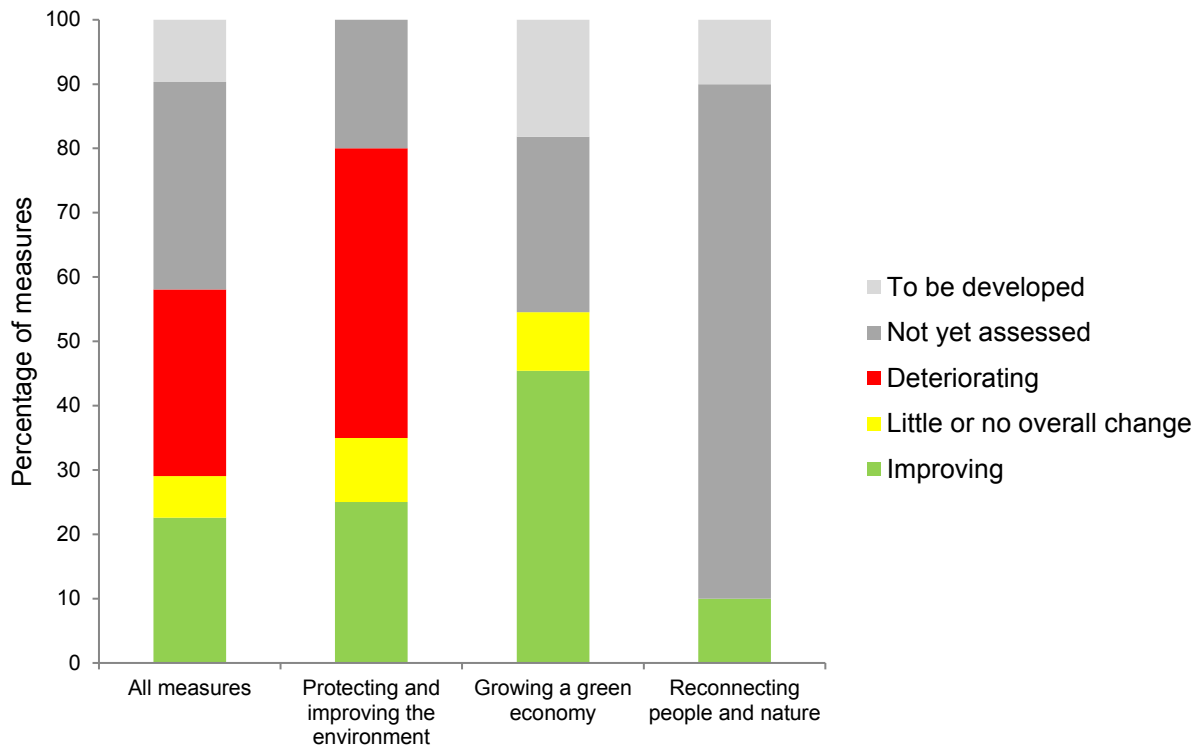| Indicator	Measure	Ambition	Long Term	Short Term	Current value	Year	Long term baseline	Long term baseline year	Short term baseline	Short term baseline year	Most recently published
	Number of visits made by children	Growing a Green Economy/ Reconnecting People and Nature	Not yet assessed ⊙	(2009/10-2011/12) Deteriorating ❌	1230 million	2011-12			1584 million	2009-10	England Natural Environment Indicators 2013:10b
	Conservation volunteering	Growing a Green Economy/ Reconnecting People and Nature	(2000-2012) Improving ✓	(2007-2012) Deteriorating ❌	136	2012	100	2000	147	2007	England Biodiversity Strategy Indicator 14
11. Ease of access to local woodland, green space and countryside	Ease of access to all green space	Reconnecting People and Nature	To be developed	To be developed							England Natural Environment Indicators 2013: 11a
12. Environmental Quality and Health	Number of air pollution days classed as moderate or higher: urban	Reconnecting People and Nature	Not yet assessed ⊙	Not yet assessed ⊙	14	2013			15	2010	Air Quality Statistics in the UK, 1987 to 2013 (pg 7)
	Number of air pollution days classed as moderate or higher: rural	Reconnecting People and Nature	Not yet assessed ⊙	Not yet assessed ⊙	16	2013			10	2010	Air Quality Statistics in the UK, 1987 to 2013 (pg 7)

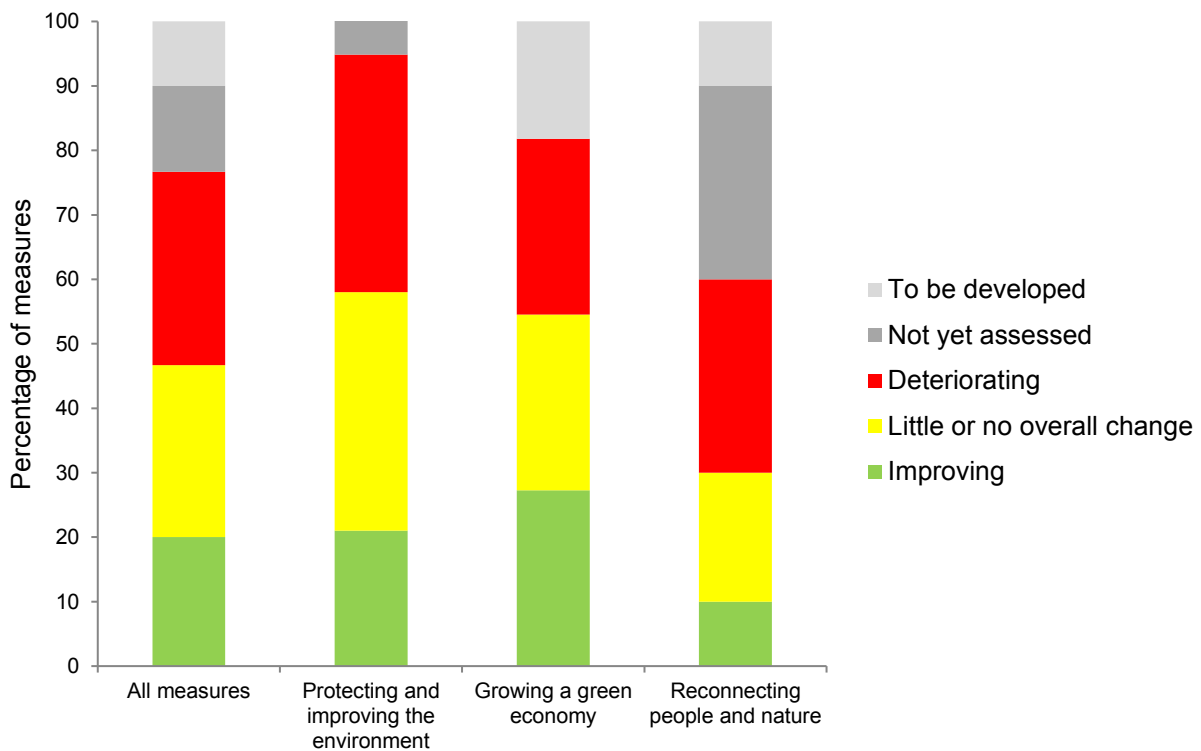| Indicator	Measure	Ambition	Long Term	Short Term	Current value	Year	Long term baseline	Long term baseline year	Short term baseline	Short term baseline year	Most recently published
	Mortality caused by anthropogenic air pollution	Reconnecting People and Nature	Not yet assessed ⊙	Not yet assessed ⊙	5.4%	2011			5.6%	2010	[Public Health Outcomes Framework Indicator 3.01](#)
	People affected by noise – complaints per 1000 people	Reconnecting People and Nature	Not yet assessed ⊙	(2006/7-2011/12) Improving ✓	7.5	2011-12			8.00	2006-7	[Public Health Outcomes Framwork Indicator 1.14](#)
13. International and EU	International and EU leadership	International and EU Leadership	Not applicable	Not applicable							[England Natural Environment Indicators 2013: 13](#)

* assessments are based on the last but one year for which we have data (2011) as the last data point in the series is thought to be uncertain.

† This measure was added to the England Biodiversity Strategy Indicators in 2013 to convey the historic decline of bat populations in England.

Long Term Assessments by NEWP Ambition

Short Term Assessments by NEWP Ambition

Assessment of change

Overall summary of assessments

The 13 indicators present a mixed picture of progress against the ambitions of the Natural Environment White Paper. Despite clear action and some success, notably in the marine environment, many species and habitats are still in decline and public engagement with the natural environment has fallen in the recent past. Across all indicators, seven measures (23%) have shown improvement in the long term; these include consumption of raw materials, water abstraction and forest carbon stock. However, two measures (6%) have shown little or no change and nine (29%), mostly species related, have deteriorated.

Over the short term assessment period six measures (20%) show improvement; several of these are linked to the quality of habitat (marine litter has decreased and the percentage of woodland under active management has increased). Eight measures (27%) show little or no change and nine measures (30%) show deterioration. Almost all species measures fall within these latter two categories.

The picture is different for each of the four key ambitions outlined in the White Paper:

Protecting and Improving the Environment

The number of measures that have improved or showed little or no overall change under the Protecting and Improving the Environment ambition has risen from seven measures (35%) in the long term to eleven measures (58%) in the short term. With the exception of water abstraction, all measures assessed as improving or stable in the long-term were also assessed as improving or stable in the short term. The number of measures showing deterioration has decreased from nine (45%) in the long term to seven (37%) in the short term. Both marine litter and the proportion of large fish in the North Sea have improved in the short term, following a long term decline.

Growing a Green Economy

Under the Growing a Green Economy ambition, all six of the measures that can be assessed in the long term show either improvement or little or no overall change (54%). In the short term, six measures are improving or stable (54%). However, two measures improving in the long term show deterioration in the short term (water abstraction and conservation volunteering). The total of short term measures in improving or stable status is brought up to six by improving assessments of woodland under active management and frequency of visits to the natural environment. Neither of these measures is assessed in the long term.

Reconnecting People and Nature

A high proportion of measures in the Reconnecting People and Nature ambition cannot yet be assessed in the long term due to insufficiently long time series. The one measure that can be assessed, conservation volunteering, has improved considerably in the long term

(although, in recent years, the number of hours people spend volunteering has fallen slightly relative to a peak in 2007-2008). Looking to the short term assessments for this ambition, six measures can be assessed. One measure (10%) shows improvement; percentage of people affected by noise. Two measures (20%) show little or no overall change and three measures (30%) show deterioration. Deteriorating measures include measures of public engagement (conservation volunteering and visits to the natural environment made by children) as well as river biological quality.

International and EU Leadership

At present there are no measures that can be assessed in either the short term or the long term that support the International and EU Leadership ambition.

Indicators in development

Within the current set of indicators three indicators remain in development. Work is ongoing to devise suitable measures for these indicators that can be assessed by 2015. The indicators in question are:

Indicator 8: National environmental accounts

This indicator will account for the services that the environment provides which are not priced in the market place. Over time we will try to measure these in physical and monetary terms so that the value of the environment is fully accounted for. In the near-term this indicator will be based on forthcoming ecosystems accounts for woodlands. The Office for National Statistics plans to publish initial monetary and physical accounts by the end of 2014. Depending upon the quality and scope of the underlying estimates and the availability of updates, an indicator will be developed which monitors the value of different ecosystems services from woodlands in the UK. In the longer term, this work will be expanded to cover other habitats including enclosed farmland and semi-natural grassland.

Indicator 9: Integrating biodiversity and natural environment considerations into business activity

This indicator relates to the NEWP aim of encouraging businesses to use natural capital sustainably and to protect it through day to day operations. The indicator is under development for the UK Biodiversity Indicators and the measures used for NEWP will take a similar approach on an England scale. A consultative workshop with partners to identify possible options for this indicator took place in March 2013. The aim is to develop an indicator on "integrating biodiversity considerations into business decision making" without placing extra burdens on businesses. It is likely that this indicator will be first published in the 2014 publication of the UK Biodiversity Indicators.

Indicator 11: Ease of access to all green space

This indicator relates to the ambition in NEWP that everyone should have the opportunity to access a good quality natural environment. The indicator is in development. It is anticipated that the underlying data will be collected via Natural England's Monitor of Engagement with the Natural Environment (MENE) survey, which will assess people's views on the availability of the natural environment.

The completion of ongoing development work should result in a more complete set of indicators, better able to portray the state of the natural environment and to monitor progress against the ambitions of the Natural Environment White Paper.

Annex A. National Statistics

The following statistics presented in this 2014 update of ENEI are sourced from publications which have been designated as National Statistics:

- Species in the wider countryside: breeding farmland birds
- Species in the wider countryside: breeding woodland birds
- Species in the wider countryside: breeding wetland birds
- Species in the wider countryside: wintering water birds
- Species in the wider countryside: breeding seabirds
- Environmental quality and health: number of air pollution days classed as moderate or higher – urban, and
- Environmental quality and health: number of air pollution days classed as moderate or higher – rural

This means that the UK Statistics Authority, which was given a statutory power to assess statistics against the Code of Practice for Official Statistics in the Statistics and Registration Service Act 2007, has assessed the aforementioned indicators as complying with this code of practice. The code is wide-ranging, but designation can broadly be interpreted as meaning that the statistics meet identified user needs, are well explained and readily accessible, are produced according to sound methods and are managed impartially and objectively in the public interest.

The UK Statistics Authority's assessment of these indicators, alongside other environmental statistics, can be found in its report on [Statistics on Sustainability and the Environment in England and the UK (Department for Environment, Food and Rural Affairs)](), and in the accompanying letter confirming their status as National Statistics.

Designation does not mean that all the individual statistics presented in this publication are National Statistics in their own right; it only relates to the statistics listed above.