

Assessment of compliance with the Code of Practice for Official Statistics

Statistics on Sustainability and the Environment in England and the UK

*(produced by the Department for
Environment, Food and Rural Affairs)*

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About the UK Statistics Authority

The UK Statistics Authority is an independent body operating at arm's length from government as a non-ministerial department, directly accountable to Parliament. It was established on 1 April 2008 by the *Statistics and Registration Service Act 2007*.

The Authority's overall objective is to promote and safeguard the production and publication of official statistics that serve the public good. It is also required to promote and safeguard the quality and comprehensiveness of official statistics, and good practice in relation to official statistics.

The Statistics Authority has two main functions:

1. oversight of the Office for National Statistics (ONS) – the executive office of the Authority;
2. independent scrutiny (monitoring and assessment) of all official statistics produced in the UK.

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ASSESSMENT AND DESIGNATION

The *Statistics and Registration Service Act 2007* gives the UK Statistics Authority a statutory power to assess sets of statistics against the *Code of Practice for Official Statistics*. Assessment will determine whether it is appropriate for the statistics to be designated as National Statistics.

Designation as National Statistics means that the statistics comply with the *Code of Practice*. The *Code* is wide-ranging. Designation can be interpreted to mean that the statistics: meet identified user needs; are produced, managed and disseminated to high standards; and are explained well.

Designation as National Statistics should not be interpreted to mean that the statistics are always correct. For example, whilst the *Code* requires statistics to be produced to a level of accuracy that meets users' needs, it also recognises that errors can occur – in which case it requires them to be corrected and publicised.

Assessment reports will not normally comment further on a set of statistics, for example on their validity as social or economic measures. However, reports may point to such questions if the Authority believes that further research would be desirable.

Assessment reports typically provide an overview of any noteworthy features of the methods used to produce the statistics, and will highlight substantial concerns about quality. Assessment reports also describe aspects of the ways in which the producer addresses the 'sound methods and assured quality' principle of the *Code*, but do not themselves constitute a review of the methods used to produce the statistics. However the *Code* requires producers to "seek to achieve continuous improvement in statistical processes by, for example, undertaking regular reviews".

The Authority may grant designation on condition that the producer body takes steps, within a stated timeframe, to fully meet the *Code's* requirements. This is to avoid public confusion and does not reduce the obligation to comply with the *Code*.

The Authority grants designation on the basis of three main sources of information:

- i. factual evidence and assurances by senior statisticians in the producer body;
- ii. the views of users who we contact, or who contact us, and;
- iii. our own review activity.

Should further information come to light subsequently which changes the Authority's analysis, it may withdraw the Assessment report and revise it as necessary.

It is a statutory requirement on the producer body to ensure that it continues to produce the set of statistics designated as National Statistics in compliance with the *Code of Practice*.

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1 Summary of findings

1.1 Introduction

1.1.1 This is one of a series of reports¹ prepared under the provisions of the *Statistics and Registration Service Act 2007*². The Act requires all statistics currently designated as National Statistics to be assessed against the *Code of Practice for Official Statistics*³. The report covers the set of statistics produced by the Department of Environment, Food and Rural Affairs (Defra) and reported in:

- *Wild bird populations in England*⁴;
- *Wild bird populations in the UK*⁵;
- *Wild bird populations: Farmland birds in England*⁶;
- *Wild bird populations in the UK and England 1970 to 2010*⁷;
- *Local Authority collected waste management statistics for England*⁸;
- *Air quality indicators*⁹ (provisional and final UK results);
- *UK emissions of air pollutants*¹⁰ (results and additional results);
- *Emissions of air pollutants in the UK 1970-2010*¹¹;
- *River Water Quality indicator for sustainable development*¹²;
- *Life Satisfaction and other measures of Wellbeing in England*¹³;
- *Attitudes and Knowledge relating to biodiversity and the natural environment*¹⁴;
- *Measuring progress: Sustainable development indicators*¹⁵;
- *UK Biodiversity Indicators*¹⁶; and
- *Environmental Statistics – Key Facts*¹⁷.

1.1.2 The Act also allows departments to request an assessment of other official statistics in order for them to gain National Statistics status. This report also covers the set of statistics included in the following publication, in response to such a request:

- *Indicators of biodiversity in England*¹⁸.

¹ <http://www.statisticsauthority.gov.uk/assessment/assessment-reports/index.html>

² http://www.opsi.gov.uk/Acts/acts2007/pdf/ukpga_20070018_en.pdf

³ <http://www.statisticsauthority.gov.uk/assessment/code-of-practice/index.html>

⁴ <http://www.defra.gov.uk/news/2011/01/20/wild-birds/>

⁵ See footnote 4

⁶ <http://www.defra.gov.uk/news/2010/07/29/birds-stats/>

⁷ <http://www.defra.gov.uk/statistics/environment/biodiversity/wild-bird-populations-in-england-1970-to-2010/> and <http://www.defra.gov.uk/statistics/environment/biodiversity/wild-bird-populations-in-uk-1970-2010/>

⁸ <http://www.defra.gov.uk/statistics/environment/waste/wrfg22-wrmswqtr/>

⁹ <http://www.defra.gov.uk/statistics/environment/air-quality/>

¹⁰ See footnote 9

¹¹ <http://www.defra.gov.uk/statistics/files/Statistical-Release-Emissions-of-air-pollutants-in-the-UK-1970-2010-UK.pdf>

¹² <http://www.defra.gov.uk/statistics/environment/inland-water/>

¹³ <http://www.defra.gov.uk/statistics/environment/public-attitude/>

¹⁴ See footnote 13

¹⁵ <http://sd.defra.gov.uk/2010/07/measuring-progress-sustainable-development-indicators-2010/>

¹⁶ <http://www.defra.gov.uk/news/2011/05/20/uk-biodiversity-indicators-2011/>

¹⁷ <http://www.defra.gov.uk/statistics/environment/>

¹⁸ <http://www.defra.gov.uk/news/2011/01/20/biodiversity-2/>

- 1.1.3 *Measuring progress: Sustainable development indicators, UK Biodiversity Indicators, Environmental Statistics – Key Facts and Indicators of Biodiversity in England* are compendium publications. Assessments of compendium publications against the *Code of Practice* relate to the processes involved in preparing the publication, rather than in producing the statistics that are included. Those sets of statistics will normally be subject to separate assessment. Designation of a compendium publication as National Statistics therefore means that the producer body has, for example: identified and met user needs in terms of the content of the publication; considered the appropriateness of each series for inclusion; and written appropriate commentary.
- 1.1.4 This Assessment report is one of a series on environment statistics. The Assessment of Statistics on Sustainability and the Environment in Wales, produced by the Welsh Government has been published in report number 163 (see footnote 1). The Assessment of Statistics on the Environment in Scotland, produced by the Scottish Government has been published in report number 165. Environment statistics in Northern Ireland are not currently designated as National Statistics. It is proposed that they be assessed in due course.
- 1.1.5 This report was prepared by the Authority's Assessment team, and approved by the Board of the Statistics Authority on the advice of the Head of Assessment.

1.2 Decision concerning designation as National Statistics

- 1.2.1 The Statistics Authority judges that the statistics covered by this report are readily accessible, produced according to sound methods and managed impartially and objectively in the public interest, subject to any points for action in this report. The Statistics Authority confirms that the statistics listed under paragraphs 1.1.1 and 1.1.2 are designated as National Statistics, subject to the Defra implementing the enhancements listed in section 1.5 and reporting them to the Authority by April 2012 for Requirements 1-6 and 8-14 and July 2012 for Requirement 7.
- 1.2.2 Defra has informed the Assessment team that it has started to implement the Requirements listed in section 1.5. The Statistics Authority welcomes this.

1.3 Summary of strengths and weaknesses

- 1.3.1 The statistics in this assessment cover a broad range of environment topics. The compendium publications provide a good summary of statistics relating to biodiversity and sustainable development and *Environmental Statistics – Key Facts (ES)* provides charts and commentary on environmental topics. The range of Defra environment releases is good, although they can be difficult to find on Defra's website. Defra could improve the presentation of the environment statistics by including more contextual information in releases and on its website to help the non-expert user. Defra has made some improvements to their website during the course of this assessment and we

suggest that further improvements could be made by developing a framework for the presentation of environment statistics.

1.3.2 Defra engages with users on specific topics, such as waste. Defra engages well with users on biodiversity and sustainable development, specifically in relation to the development of new indicators. During the course of this assessment, Defra published a quarterly newsletter for users on its website. Defra invites users to provide general feedback via its website and a dedicated email address for environment statistics but it has no regular mechanisms for obtaining views from users. For example, public enquiries relating to environment statistics are directed to a general contact number which is outside the environment statistics team.

1.4 Detailed recommendations

1.4.1 The Assessment team identified some areas where it felt that Defra could strengthen its compliance with the *Code*. Those which the Assessment team considers essential to enable designation as National Statistics are listed in section 1.5. Other suggestions, which would improve the statistics and the service provided to users but which are not formally required for their designation, are listed at annex 1.

1.5 Requirements for designation as National Statistics

Requirement 1	Take steps to develop a more complete understanding of the use made of the statistics; publish the relevant information, and use this to better support the beneficial use of the statistics (para 3.1).
Requirement 2	Publish plans for developing and publishing a new set of sustainable development indicators, taking into account user needs (para 3.2).
Requirement 3	Ensure that known future changes to the methods used to produce <i>UK emissions of air pollutants</i> are announced well in advance of the statistical release (para 3.5).
Requirement 4	Promote a culture within which statistical experts can comment publicly on statistical issues (para 3.9).
Requirement 5	Provide links to documents about methods and quality relating to the statistics underlying the sustainable development indicators and include more information about methods in all statistical releases (para 3.10).

Requirement 6	Publish the outcome of the investigation into using statistical analysis for determining indicator statuses (para 3.11).
Requirement 7	Provide information for users about progress with the development of a water quality indicator which will provide consistent data for the UK (para 3.12).
Requirement 8	Explain the distinction between National Statistics and the other types of statistics that are in the compendium publications, and confirm that the non-National Statistics are of adequate quality (para 3.14).
Requirement 9	Improve the published information about the quality of Local Authority collected waste management statistics, including the main sources of bias and other error, and the strengths and weaknesses in relation to use (para 3.15).
Requirement 10	Provide links to comparable waste statistics produced by other UK countries (3.16).
Requirement 11	Ensure and confirm adequate staff resources are available to produce environment statistical releases (para 3.21).
Requirement 12	Improve the commentary in the releases so that it aids user interpretation of the statistics (para 3.22).
Requirement 13	Ensure that users are consulted in planning future releases of the <i>Environmental Statistics – Key Facts</i> publication and that this and other releases can be easily accessed from the environment statistics web pages (para 3.23).
Requirement 14	Document the arrangements for quality audit (para 3.28).

2 Subject of the assessment

Wild Birds

- 2.1 Before 2011 Defra published a single annual release on wild bird populations in England and the UK; since January 2011 it has published separate releases – *Wild bird populations in England* and *Wild bird populations in the UK*. A third release *Wild bird populations: Farmland birds in England* was published in July 2010 as a one-off release, reflecting the earlier availability of data. A regional analysis of bird species *Wild bird indicators for the English regions*¹⁹, was discontinued in 2011. Statistics on wild birds for England and the UK, containing statistics for 1970 to 2010, were published in November 2011²⁰. The releases present wild bird population indices compiled from a range of bird surveys²¹. Defra told us that the annual cost of producing these statistics is approximately £40,000.

Local Authority Collected Waste Management

- 2.2 Defra releases statistics in *Local Authority collected waste management statistics for England* as provisional quarterly data in February, May and August and the final annual data in November each year. Local authorities submit data about the waste that they collect and manage to WasteDataFlow²² (WDF), an online website. The latest data are publicly available on the WDF website once the quarterly statistics are released, and raw data for England are published in annual extracts on the data.gov.uk website. The WDF website was introduced in local authorities (LAs) in April 2004 and replaced Defra's municipal waste management survey in England and similar surveys in Wales and Northern Ireland. Scotland started data collection using the WDF in April 2006. Defra first published experimental statistics using the system in February 2008.
- 2.3 Defra uses data on waste management to assess waste composition and in developing household waste policy. The data collected using the WDF are used by Defra to monitor the EU Waste Framework Directive²³ targets for household recycling, and by LAs to monitor waste composition. Defra uses the WDF data to produce the submission of UK data required under the EU Waste Statistics Regulation²⁴. Defra told us that the compliance costs for the WDF were £270,000 in 2010-11. The annual cost of producing the LA waste management statistics is approximately £390,000 (£82,000 staff costs and £307,000 contractor costs).

¹⁹ www.defra.gov.uk/statistics/files/wdbrds201004.pdf

²⁰ See footnote 7

²¹ Principally the Common Bird Census; the British Trust for Ornithology (BTO), Joint Nature Conservation Committee (JNCC) and The Royal Society for the Protection of Birds (RSPB) Breeding Bird Survey; the joint BTO and Environment Agency (EA) Waterways Bird Survey; the joint BTO and EA Waterways Breeding Bird Survey; the joint BTO, Wildfowl and Wetland Trust, RSPB and JNCC Wetland Bird Survey counts and the Seabird Monitoring Programme and the periodic seabird censuses supplied by JNCC, RSPB, the Seabird Group, Shetland Oil Terminal Environmental Advisory Group and other partners

²² <http://www.wastedataflow.org/>

²³ <http://archive.defra.gov.uk/environment/waste/strategy/legislation/wasteframework/>

²⁴ <http://data.gov.uk/dataset/eu-waste-statistics-regulation-ec-21502002>

Air Quality Indicators and Emissions of Air Pollutants

- 2.4 Defra releases UK statistics on air quality in two annual publications: *Air quality indicators – provisional UK results* in February; and *Air Quality Indicators – final UK results* in April. Defra published *Emissions of air pollutants in the UK 1970-2010*²⁵ in December 2011. The statistics show levels of pollution from particulates and ozone, the two pollutants thought to have the greatest impacts on health. The data are collected from the Automatic Urban and Rural Network²⁶ (AURN) which continuously measures ambient air quality levels for selected pollutants throughout the UK. Current pollution levels and forecasts at UK and local level are available on the UK-AIR website²⁷ which is funded by Defra but produced and maintained by an external contractor AEA²⁸.
- 2.5 The statistics are used to inform the public about air quality in relation to health, to identify long-term trends in pollutant concentrations and to assess the effectiveness of policies introduced to control air pollution.
- 2.6 Defra publishes statistics on emissions of air pollutants annually for the UK in two separate releases:
- *UK emissions of air pollutants – results*, which includes emissions of four pollutants²⁹ known to be damaging to ecosystems and/or human health and covered by the National Emission Ceilings for certain pollutants Directive³⁰, is released in December each year; and
 - *UK emissions of air pollutants – additional results*, which is released the following February. This publication reports emissions of air pollutants that are covered by the UK Air Quality Strategy³¹ and the Convention on Long-range Transboundary Air Pollution³².
- 2.7 The statistics are produced as part of the UK's National Atmospheric Emissions Inventory³³ (NAEI) from data collected by the UK Inventory Agency contracted jointly by Defra and the Department of Energy and Climate Change (DECC). Defra also releases Air Quality Pollutant Inventories for England, Wales, Scotland and Northern Ireland annually as Official Statistics. Defra told us that it costs approximately £3,000 annually to produce the statistical releases.
- 2.8 Defra plans to review the information it publishes on air quality in 2012, and this may result in changes to the frequency and content of *UK emissions of air pollutants (provisional and final UK results)* and *Air quality indicators (results and additional results)*. Defra told us that it would be consulting users and would take account of users' views as part of the review.

²⁵ <http://www.defra.gov.uk/statistics/files/Statistical-Release-Emissions-of-air-pollutants-in-the-UK-1970-2010-UK.pdf>

²⁶ <http://uk-air.defra.gov.uk/networks/network-info?view=aurn>

²⁷ <http://uk-air.defra.gov.uk/>

²⁸ <http://www.aeat.co.uk/cms/>

²⁹ Sulphur dioxide, nitrogen oxides, non-methane volatile organic compounds and ammonia

³⁰ <http://ec.europa.eu/environment/air/pollutants/ceilings.htm>

³¹ See footnote 26

³² <http://live.unece.org/env/lrtap/welcome.html>

³³ <http://naei.defra.gov.uk/>

River Water Quality

- 2.9 The river water quality indicator reported in *River Water Quality indicator for sustainable development* measures biological and chemical river water quality. The indicator represents the proportion of river water (in terms of river length) which is considered to be of 'good' quality for both biological and chemical indicators. Defra releases *River Water Quality Indicator for Sustainable Development* annually for the UK using data collected by the environment agencies in England, Wales, Scotland and Northern Ireland.
- 2.10 The 2009 statistical release of *River Water Quality indicator for sustainable development* included a note which announced forthcoming changes to the way in which river water quality is assessed in the UK. The changes are a result of EU legislation, adopted in 2000, which introduced the EU Water Framework Directive³⁴. In the UK water quality monitoring is a devolved issue, and for historical reasons different approaches to monitoring exist in England, Wales, Scotland and Northern Ireland. The constituent countries of the UK have changed their methods and monitoring schemes in order to meet EU data requirements. The 2009 release (published in September 2010) was the last release to include statistics produced using the previous methods to assess water quality. Defra told us that there have been problems in developing a UK indicator and that the release of water quality data collected using the new methods will only be published once agreement has been reached on an appropriate indicator given the new monitoring regimes across the UK. The river water quality indicator is used by Defra as a measure of sustainable development and as a biodiversity indicator. Defra told us that it costs approximately £2,000 to produce *River Water Quality indicator for sustainable development*.

Survey of Public Attitudes and Behaviour Towards the Environment

- 2.11 The survey of public attitudes and behaviour towards the environment is carried out for Defra as a specially commissioned bespoke survey and as commissioned modules in omnibus surveys. The survey relating to public attitudes and behaviour was first carried out in 1986 and then every three or four years³⁵ until 2001. Since 2007, some data have been collected annually with the 2011 survey results based on over 1,700 face to face interviews in England. The survey includes a range of question relating to satisfaction with aspects of life, the results being published in *Life Satisfaction and other measures of Wellbeing in England* and *Attitudes and Knowledge relating to biodiversity and the natural environment*. Defra told the Assessment team that plans for the next survey are unclear. Defra told us that the 2011 survey cost approximately £16,000.

³⁴ http://ec.europa.eu/environment/water/water-framework/index_en.html

³⁵ Surveys were carried out in 1986, 1989, 1993, 1996/7 and 2001

Measuring Progress: Sustainable Development Indicators

- 2.12 Defra has published progress on 68 sustainable development indicators covering economic, social and environmental themes and comprising 126 measures in the annual publication *Measuring progress: Sustainable development indicators* from 2005 to 2010. Since 2007, the indicators also include measures of wellbeing. Examples of indicators for the theme of protecting natural resources and enhancing the environment include woodland bird populations, fish stocks and chemical river quality. Sustainable development indicators were first discussed at the UN Conference on Environment and Development³⁶ in 1992 and the UK published a national strategy in 1994, followed by a first set of indicators in 1996. A new strategy and set of indicators were published in 1999 which were updated annually. In 2005, another new strategy and a set of indicators was published. The indicators were developed by Defra statisticians who are also responsible for the assessment of progress for individual indicators. Prior to finalisation, the indicators were reviewed by the Sustainable Development Commission³⁷ (SDC), and had been subject to a public consultation, as had earlier sets of indicators.
- 2.13 Defra is in the process of developing a new set of indicators and a consultation³⁸ has been carried out both about the indicators and how to measure progress. Defra plans to produce a provisional set of sustainable development indicators in early 2012. Defra told us that it will carry out a consultation on the new indicators, and that the consultation will end in March 2012. Defra and the Office for National Statistics (ONS) will publish well-being and sustainable development indicators at the same time in 2012. The previous indicators were used by the SDC to review progress in relation to the sustainable development strategy. Defra told us that the cost of producing *Measuring progress: Sustainable development indicators – 2010* was approximately £45,000.

Biodiversity Indicators

- 2.14 Defra first published indicators relating to the 2002 England Biodiversity Strategy³⁹ for England in 2003. The indicators were developed by the England Biodiversity Group⁴⁰ – comprising stakeholders in the public, private and voluntary sectors and chaired by Defra – in order to measure progress with the strategy. Defra carried out a consultation with strategy partners in 2010 on the original set of 52 indicators with a view to reducing the number and complexity of the indicators. As a result of the review a reduced set of 26 indicators was agreed and progress on the indicators were released as official statistics in *Indicators of biodiversity in England*, in January 2011.

³⁶ <http://www.un.org/geninfo/bp/enviro.html>

³⁷ <http://www.sd-commission.org.uk/>

³⁸ <http://sd.defra.gov.uk/2011/09/defra-invites-feedback-on-proposals-for-new-indicators/>

³⁹ http://webarchive.nationalarchives.gov.uk/20110303145213/http://ukbap.org.uk/EBG/england_biodiversity_strategy.asp

⁴⁰ <http://webarchive.nationalarchives.gov.uk/20110303145213/http://ukbap.org.uk/EBG/default.asp>

- 2.15 An updated Biodiversity Strategy for England⁴¹ was published by Defra in March 2011. The existing set of indicators, based on a range of data from Defra's arm's length bodies and non-governmental organisations, are used to measure progress with the new strategy. The *Indicators of biodiversity in England* statistical release presents a summary table of the 'traffic light' system allocated to the 26 indicators.
- 2.16 Eighteen biodiversity indicators for the UK were agreed in 2007 by the UK Biodiversity Partnership⁴². The annual indicators were first published jointly by Defra and the Joint Nature Conservation Committee (JNCC) in *Biodiversity Indicators in Your Pocket 2007*. The name of the publication changed in 2010 to *UK Biodiversity Indicators*, and was published around 4 months after *Indicators of biodiversity in England*. The indicators form part of the UK's formal reporting to the UN Convention on Biological Diversity⁴³ and against EU biodiversity targets⁴⁴. Defra told us that the annual staff costs of producing *UK Biodiversity Indicators and Indicators of biodiversity in England* are approximately £10,000.

Environmental Statistics – Key Facts

- 2.17 Defra published *Environmental Statistics – Key Facts* in October 2011. This replaced *Environment in Your Pocket*⁴⁵, which was discontinued in 2010 as part of Defra's policy of reducing the production of paper releases. *Environmental Statistics – Key Facts* brings together previously published tables and charts available on Defra's website and provides links to more detailed data. Defra told us that it plans to publish *Environmental Statistics – Key Facts* annually but update the tables included in the publication on a regular basis as new data become available.

⁴¹ <http://www.defra.gov.uk/publications/2011/03/29/pb7718-biodiversity/>

⁴² Consisting of Defra, JNCC, Natural England, the devolved administrations in Scotland, Wales and Northern Ireland and a range of non-governmental organisations

⁴³ <http://www.defra.gov.uk/environment/natural/biodiversity/internationally/cbd/>

⁴⁴ <http://ec.europa.eu/environment/nature/biodiversity/comm2006/2020.htm>

⁴⁵ <http://www.defra.gov.uk/publications/2011/03/28/eiyp-2009-pb13319/>

3 Assessment findings

Principle 1: Meeting user needs

The production, management and dissemination of official statistics should meet the requirements of informed decision-making by government, public services, business, researchers and the public.

- 3.1 Defra has a general contact point for users of environment statistics. Defra told us that it occasionally reviews the responses received to identify common themes, and keeps a log of reasons for contacting the department by phone or email. In November 2010 Defra held an internal user engagement day and produced a draft user engagement strategy which it plans to publish. Since November 2010 Defra has published a user survey on its website but has received few responses; the results have not been published. Defra introduced a quarterly stakeholder newsletter⁴⁶ in September 2011. The newsletter reports on feedback that Defra has received, and includes a list of the latest environment statistics releases. In the past, Defra held meetings with users through an Environment Statistics stakeholder group but the issues were considered too diverse and the group was disbanded. Defra told the Assessment team that it now meets users through specialist user groups on waste and biodiversity but that there is no group for users of environment statistics. As part of the designation as National Statistics, Defra should take steps to develop a more complete understanding of the use made of the statistics; publish the relevant information, and use this to better support the beneficial use of the statistics⁴⁷ (Requirement 1). We suggest that Defra refer to the generic classes of use put forward in the Authority's Monitoring Brief, *The Use Made of Official Statistics*⁴⁸ in meeting this requirement.
- 3.2 Defra plans to publish a revised set of sustainable development indicators in 2012. Users have recently been asked for feedback on the current indicators via an online consultation (see paragraph 2.13). The consultation was published on Defra's website on 1 September 2011 and users were given until 19 September to respond. The consultation included questions about the use made of the current set of indicators and asked users for suggestions for alternative indicators. A note on Defra's website informed users that Defra will publish an initial article on the results of the survey on SD Scene⁴⁹ webpage. Defra told us it plans to publish further information in SD Scene before the end of 2011 and that it plans to carry out a further consultation on the new indicators in March 2012, although there is no other information for users about the process for developing the indicators on Defra's website. As part of the designation as National Statistics, Defra should publish plans for developing and publishing a new set of sustainable development indicators, taking into account user needs⁵⁰ (Requirement 2).

⁴⁶ <http://www.defra.gov.uk/statistics/environment/>

⁴⁷ In relation to Practice 1, Principle 2 of the *Code of Practice*

⁴⁸ <http://www.statisticsauthority.gov.uk/assessment/monitoring-briefs/monitoring-brief-6-2010---the-use-made-of-official-statistics.pdf>

⁴⁹ <http://sd.defra.gov.uk/news/>

⁵⁰ In relation to Principle 1, Practice 4 of the *Code of Practice*

- 3.3 A WDF user group was established in 2006; it meets twice a year. The group includes representatives from LAs in England, Defra's waste statistics team, the Environment Agency, and SKM Enviros (contracted by Defra to operate the WDF). Defra carried out a survey of LA users in 2011 as part of a review by Defra to reduce reporting burdens on local authorities. Defra received over 400 responses to the survey and has published a summary of the results⁵¹ on the WDF website. As a result of the survey, and with the agreement of the WDF user group, Defra reduced the amount of data collected using the WDF in April 2011 and further changes are planned for April 2012.
- 3.4 Defra told us that it plans to review the information it publishes on air quality in 2012, and that this may result in changes to the number and frequency of air quality releases. We suggest that Defra consult users about planned changes to air quality releases and publish a timetable for future releases.

⁵¹ <http://www.wastedataflow.org/htm/partners.aspx>

Principle 2: Impartiality and objectivity

Official statistics, and information about statistical processes, should be managed impartially and objectively.

- 3.5 The December 2010 release of *UK emissions of air pollutants* included two substantial changes to methods: firstly, an update to the way shipping emissions are split between domestic and international; and secondly, an update to the methods used to calculate nitrogen oxide emissions from domestic boilers. The changes were made to the data from the NAEI and resulted in large reductions in annual emissions of nitrogen oxides and sulphur dioxide. Defra alerted users to these changes by a note⁵² published on the air quality page of Defra's website a month before the statistical release containing the changes. The note reports the impact of the change to emissions from ships for 2008 but does not include an assessment of the impact for later years. As part of the designation as National Statistics, Defra should ensure that known future changes to the methods used to produce *UK emissions of air pollutants* are announced well in advance of the statistical release⁵³ (Requirement 3). Further information provided in *UK emissions of air pollutants – 2009 Results* states that as a result of the changes to methods, data in the report will not necessarily match data from *UK emissions of air pollutants – 2008 Results* or any previous reports. We suggest that Defra provide users with an assessment of the impact of the changes to the methods for 2009 onwards.
- 3.6 Defra publishes statistics on a number of air pollutants in *UK emissions of air pollutants*. The background notes of the release explain that statistics on greenhouse gases are published by DECC and a link is given to the homepage of DECC's website. The Assessment team suggests that Defra clarify the division of responsibilities between DECC and Defra in relation to air pollutants in the releases and on Defra's website to avoid confusion for users.
- 3.7 Defra last published the statistical release *Wild bird population indicators for the English Regions: 1994-2008* in April 2010 and told us that this release has been discontinued because of lack of resource required to produce the publication, and changes in regional governance. A note⁵⁴ on Defra's website states that regional data are published as part of the Breeding Bird Survey (BBS) and provides a link to the BBS website, however the 2011 releases of *Wild bird populations in the UK* and *Wild bird populations in England* do not point users to where they will be able to obtain future regional wild bird indicators. During the course of assessment Defra published *Wild Bird Populations in the UK 1970-2010* and *Wild bird populations in England 1970-2010*, both of which include an additional paragraph to explain how users can access statistics on regional wild bird indicators.

⁵² <http://www.defra.gov.uk/statistics/files/air-emissions-method-2009.pdf>

⁵³ In relation to Principle 2, Practice 4 of the *Code of Practice*

⁵⁴ http://www.defra.gov.uk/statistics/environment/biodiversity/wdfg04_framind/

Principle 3: Integrity

At all stages in the production, management and dissemination of official statistics, the public interest should prevail over organisational, political or personal interests.

- 3.8 No incidents of political pressures, abuses of trust or complaints relating to professional integrity, quality or standards were reported to or identified by the Assessment team.
- 3.9 Defra told us that all communication with journalists and other media must be handled by its press office. Statisticians do not discuss the statistics with the media directly. As part of the designation as National Statistics, Defra should promote a culture within which statistical experts can comment publicly on statistical issues⁵⁵ (Requirement 4).

⁵⁵ In relation to Principle 3, Practice 7 of the *Code of Practice*

Principle 4: Sound methods and assured quality

Statistical methods should be consistent with scientific principles and internationally recognised best practices, and be fully documented. Quality should be monitored and assured taking account of internationally agreed practices.

- 3.10 The releases contain little information about the methods used to produce the statistics. For example, *Local Authority collected waste management statistics for England* states that data are submitted by LAs to the WDF but provides no description of how the LAs collect the data. The compendium publications include more information about methods as they provide links to the data source – for example, *Indicators of biodiversity in England* includes background information about the data used for each indicator and links to relevant websites. In *Measuring progress: Sustainable development indicators*, the source of the underlying statistics for each indicator is provided in an annex to the report. While it is important to identify the source of the statistics, additional information about the methods used to produce the underlying statistics and their quality is also needed. As part of the designation as National Statistics, Defra should provide links to documents about methods and quality relating to the statistics underlying the sustainable development indicators and include more information about methods in all statistical releases⁵⁶ (Requirement 5). Defra told us during the assessment they have included further information about methods in *Local Authority collected waste management statistics for England* and we welcome this.
- 3.11 The allocation of traffic light status to sustainable development indicators is based on a comparison of the current year with the base year: if there is a difference of 3 per cent or more, a clear trend indicator is allocated. Defra told us the choice of 3 per cent is arbitrary but that it has proved to be effective and that it is accepted by the Environment Audit Committee; it is noteworthy that Eurostat uses a more lenient 1 per cent rule to determine a clear trend. Defra told us that it undertook an informal investigation into potential statistical methods for allocating statuses but decided that the 3 per cent rule was adequate and a working group is currently investigating indicator methodology to provide a common approach across the EU. As part of the designation as National Statistics, Defra should publish the outcome of the working group's investigation into using statistical analysis for determining indicator statuses⁵⁷ (Requirement 6). We also suggest that Defra provide links for users of the sustainable development indicators to any documentation from the European working group on indicator methodology.
- 3.12 Changes to water quality monitoring as a result of the EU Water Framework Directive have meant the new water quality indicator will not be comparable with the existing indicator (see paragraph 2.10). The final year for data using the existing indicator is 2009 for England and Wales, and 2007 for Scotland and Northern Ireland. A date for the publication of the new water quality indicator has yet to be agreed. Defra statisticians have met colleagues from Scottish Government and the Environment Agency to resolve the issue but we

⁵⁶ In relation to Principle 4, Practice 1 of the *Code of Practice*

⁵⁷ In relation to Principle 4, Practice 1 of the *Code of Practice*

were told that there has been little progress so far due to difficulties with developing consistent measures that will be robust over a long time frame. As part of the designation as National Statistics, Defra should provide information for users about progress with the development of a water quality indicator which will provide consistent data for the UK⁵⁸ (Requirement 7).

- 3.13 Defra published a revised revisions policy⁵⁹ in November 2011.
- 3.14 *Measuring progress: Sustainable development indicators* contains an annex which states that most of the data used to compile the statistics are from government sources and are National Statistics. However, the sources which are not National Statistics are not listed. *Environmental Statistics – Key Facts* distinguishes between those statistics which are National Statistics and those produced from other sources by adding the National Statistics logo to the relevant charts, but no additional information is provided to explain the quality of the different sources. As part of the designation as National Statistics, Defra should explain the distinction between National Statistics and the other types of statistics that are in the compendium publications, and confirm that the non-National Statistics are of adequate quality⁶⁰ (Requirement 8).
- 3.15 *Local Authority collected waste management statistics for England* presents data from the administrative source the WDF, but little information is given about the quality of the data. Defra told us that the Environment Agency manages the administrative systems and validates the data provided by LAs. However, there is scope for Defra to publish more information about the quality of the data, including potential sources of bias; in particular, the way in which LAs use waste composition analysis from material recovery facilities. As part of the designation as National Statistics, Defra should improve the published information about the quality of Local Authority collected waste statistics, including the main sources of bias and other error, and the strengths and weaknesses in relation to use⁶¹ (Requirement 9).
- 3.16 Comparable statistics from other UK countries are collected using the WDF but there is no mention of these in *Local Authority collected waste management statistics for England*. As part of the designation as National Statistics, Defra should provide links to comparable statistics on waste produced by other UK countries⁶² (Requirement 10).
- 3.17 Defra publishes a range of statistics on the environment in statistical releases and compendium publications. The statistics relate to the UK on the whole, but in some cases, such as wild birds and waste, the statistics are published for England separately. The Scottish Government and Welsh Government also publish statistics, mainly in the form of indicators in compendium publications. In some cases the indicators, for example for wild birds and water quality, present different statistics on the same topic to those in the Defra publications and these differences are not highlighted. As a result, it can be difficult for the user to compare the statistics. We suggest that Defra engage with statisticians in the Scottish Government, Welsh Government and the Department of the

⁵⁸ In relation to Principle 4, Practice 7 of the *Code of Practice*

⁵⁹ www.defra.gov.uk/statistics/national-statistics/

⁶⁰ In relation to Principle 4, Practice 2 of the *Code of Practice*

⁶¹ In relation to Principle 4, Practice 2 of the *Code of Practice*

⁶² In relation to Principle 4, Practice 6 of the *Code of Practice*

Environment for Northern Ireland, under the auspices of the Government Statistical Service Inter Administration Committee⁶³, to develop a framework for presentation of statistics on the environment.

⁶³ <http://www.statisticsauthority.gov.uk/about-the-authority/uk-statistical-system/history/key-documents-about-the-uk-system>

Principle 5: Confidentiality

Private information about individual persons (including bodies corporate) compiled in the production of official statistics is confidential, and should be used for statistical purposes only.

3.18 Defra has assured us that it receives no confidential data in the production of the statistics covered in this assessment.

Principle 6: Proportionate burden

The cost burden on data suppliers should not be excessive and should be assessed relative to the benefits arising from the use of the statistics.

3.19 The Department for Communities and Local Government (DCLG) has ceased the production of national indicators for LAs and has replacing them with a list of central government reporting requirements *The Single Data List*⁶⁴, which includes the WDF. In response to this and Defra's waste policy review, Defra will be reviewing the response burden of the WDF. This is likely to result in a reduction in the range of data collected using the WDF. We suggest that Defra keep users informed about changes which are likely to arise as a result of changes to the WDF.

⁶⁴ <http://www.communities.gov.uk/localgovernment/decentralisation/tacklingburdens/singledatalist/>

Principle 7: Resources

The resources made available for statistical activities should be sufficient to meet the requirements of this Code and should be used efficiently and effectively.

- 3.20 Defra told us that most of the staff working in statistical areas participate in a group which promotes the development of staff through learning. Defra also has a programme of statistical seminars and specialist training courses. Analytical staff are recruited using the Government Statistical Service (GSS) recruitment processes and uses the GSS competency frameworks.
- 3.21 Defra told us that due to problems with recruitment, the resources available to produce statistics on the environment are insufficient, and that this is impacting on its ability to produce outputs which are compliant with the *Code*. As part of the designation as National Statistics, Defra should ensure and confirm adequate staff resources are available to produce the environment statistical releases⁶⁵ (Requirement 11).

⁶⁵ In relation to Principle 7, Practice 1 of the *Code of Practice*

Principle 8: Frankness and accessibility

Official statistics, accompanied by full and frank commentary, should be readily accessible to all users.

- 3.22 *Air quality indicators (provisional and final UK results) and UK emission of air pollutants (results and additional results)* contain some background information and policy context but no information about the likely use of the statistics. Across all releases, little information is provided about how the data are collected, and there is little explanation of the statistics further than simply describing rises and falls. As part of the designation as National Statistics, Defra should improve the commentary in the releases so that it aids user interpretation of the statistics⁶⁶ (Requirement 12). We suggest that in meeting this requirement Defra should consider the points detailed in annex 2.
- 3.23 *Environmental Statistics – Key Facts* provides a useful summary of statistics on the environment, although it is not clearly signposted on Defra’s website and links to download data are not live. The plans for future editions of *Environmental Statistics – Key Facts* are unclear and users have not been consulted. As part of the designation as National Statistics, Defra should ensure that users are consulted in planning future editions of the *Environmental Statistics – Key Facts* releases and should ensure that this and other releases can be easily accessed from the environment statistics web pages⁶⁷ (Requirement 13).

⁶⁶ In relation to Principle 8, Practice 2 of the *Code of Practice*

⁶⁷ In relation to Principle 8, Practice 4 and Principle 1, Practice 4 of the *Code of Practice*

Protocol 1: User engagement

Effective user engagement is fundamental both to trust in statistics and securing maximum public value. This Protocol draws together the relevant practices set out elsewhere in the Code and expands on the requirements in relation to consultation.

3.24 The requirements for this Protocol are covered elsewhere in this report.

Protocol 2: Release practices

Statistical reports should be released into the public domain in an orderly manner that promotes public confidence and gives equal access to all, subject to relevant legislation.

- 3.25 Before this assessment Defra had no timetable of releases on its website but has now published a timetable⁶⁸ on their environment statistics web pages.
- 3.26 Some of the titles of the releases on the National Statistics Publication Hub do not match the title on the latest release, for example *Wild bird populations in England* is listed as *Wild Bird Populations* which is the name of the previous release prior to the split into two separate releases for England and the UK. We suggest that Defra ensure that when titles of releases change this is reflected in the title on the Publication Hub. Defra told us that work has started to improve this and we welcome this.
- 3.27 Defra has published a pre-release access compliance statement and pre-release access list⁶⁹. During the course of this assessment Defra carried out a review of the pre-release access list.

⁶⁸ <http://www.defra.gov.uk/statistics/environment/>

⁶⁹ <http://www.defra.gov.uk/statistics/national-statistics/prerelease/>

Protocol 3: The use of administrative sources for statistical purposes

Administrative sources should be fully exploited for statistical purposes, subject to adherence to appropriate safeguards.

3.28 Defra has published a Statement of Administrative Sources⁷⁰. During this assessment process Defra amended the list of the administrative sources used to produce Defra's National Statistics to include the WDF, which is populated from LA management information systems. Defra told us that the Environment Agency carries out regular audits on the WDF but that no information about the findings from the audits is available. As part of the designation as National Statistics, Defra should document the arrangements for quality audit⁷¹ (Requirement 14).

⁷⁰ <http://www.defra.gov.uk/statistics/national-statistics/adminsources/>

⁷¹ In relation to Protocol 3, Practice 5 of the *Code of Practice*

Annex 1: Suggestions for improvement

A1.1 This annex includes some suggestions for improvement to Defra's sustainability and environment statistics, in the interest of the public good. These are not formally required for designation, but the Assessment team considers that their implementation will improve public confidence in the production, management and dissemination of official statistics.

- | | |
|---------------------|---|
| Suggestion 1 | Refer to the generic classes of use put forward in the Authority's Monitoring Brief, <i>The Use Made of Official Statistics</i> when documenting use (para 3.1). |
| Suggestion 2 | Consult users about planned changes to air quality releases and publish a timetable for future releases (para 3.4). |
| Suggestion 3 | Provide users with an assessment of the impact of the changes to the methods used to produce <i>UK emissions of air pollutants</i> for 2009 onwards (para 3.5). |
| Suggestion 4 | Clarify the division of responsibilities between DECC and Defra in relation to air pollutants in the releases and on Defra's website to avoid confusion for users. (para 3.6). |
| Suggestion 5 | Provide links for users of the sustainable development indicators to any documentation from the European working group on indicator methodology (para 3.11). |
| Suggestion 6 | Engage with statisticians in the Scottish Government, Welsh Government and the Department of the Environment for Northern Ireland, under the auspices of the Government Statistical Service Inter Administration Committee of the Government Statistical Service, to develop a framework for presentation of statistics on the environment (para 3.17). |
| Suggestion 7 | Keep users informed about changes which are likely to arise as a result of changes to the WDF (para 3.19). |
| Suggestion 8 | Consider the points detailed in annex 2, in seeking to improve the statistical releases (para 3.22). |

Suggestion 9

Ensure that when titles of releases change this is reflected in the title on the Publication Hub (para 3.26).

Annex 2: Compliance with Standards for Statistical Releases

- A2.1 In October 2010, the Statistics Authority issued a statement on *Standards for Statistical Releases*⁷². Whilst this is not part of the *Code of Practice for Official Statistics*, the Authority regards it as advice that will promote both understanding and compliance with the *Code*. In relation to the statistical releases associated with Environmental Statistics, this annex comments on compliance with the statement on standards.
- A2.2 In implementing any Requirements of this report (at paragraph 1.5) which relate to the content of statistical releases, we encourage the producer body to apply the standards as fully as possible.

Appropriate identification of the statistics being released

- A2.3 Statistical releases for *UK Biodiversity Indicators and Indicators of biodiversity in England* do not describe the period to which the statistics relate in the title. There are some inconsistencies in titles between statistical releases and the main publication: the link from the biodiversity and wildlife page refers to *UK Biodiversity Indicators in your Pocket 2011* whereas the statistical release is called *UK Biodiversity Indicators*; similarly the statistical release titled *Indicators of biodiversity in England* refers to a publication called *Measuring Progress: 2010 Assessment*.
- A2.4 The responsible statistician is not named on *Indicators of Biodiversity in England*, *Wild bird populations in the UK*, *Wild bird populations in England* and *Wild bird populations: Farmland birds in England*. *Wild Bird Populations in the UK 1970-2010* and *Wild Bird Populations in England 1970-2010* published in November 2011 include the name of the responsible statistician. Defra has a general phone number for all public enquiries relating to the environment.
- A2.5 The releases are not clearly signposted on Defra's website and in some cases we found them difficult to access. Although labelled as a Defra publication, *UK Biodiversity Indicators* is published on JNCC's website with a link to it provided on the biodiversity and wildlife landing page of Defra's website.
- A2.6 Each release contains a brief account of what is included in the release. Little information is given about how the data are collected, for example, *UK emissions of air pollutants* and *River Water Quality indicator for sustainable development* contain no information about the monitoring systems used to collect the data.

⁷² <http://www.statisticsauthority.gov.uk/news/standards-for-statistical-releases.html>

Include commentary that is helpful to the non-expert and presents the main messages in plain English

- A2.7 The releases include a summary of the main messages under sections called headline results or key results. The language used is clear and straightforward. The compendia include tables which show progress for each indicator assessed using a 'traffic light' system.
- A2.8 *UK emissions of air pollutants* presents results as a list of bullet points which relate to a complex table and chart. Individual points are not linked to a column in the table or the chart which makes interpretation difficult.
- A2.9 *Measuring progress: Sustainable development indicators* presents bullet points and charts to illustrate progress for each indicator. The commentary is a combination of text which describes the latest changes and information about the source of the data.
- A2.10 The charts presented in *Life Satisfaction and other measures of Wellbeing in England* could be better labelled to reflect the possible answers given by respondents – for example one axis shows the 'percentage of respondents who experience these feeling most or every day, or never.'

Use language that is impartial, objective and professionally sound

- A2.11 The text is impartial and evidence-based. Descriptive statements are consistent with the statistics.

Include information about the context and likely uses

- A2.12 *UK emissions of air pollutants* and *Air quality indicators* contain sections which include information about the policy context for the statistics. *Local Authority collected waste management statistics in England* includes some information about relevant policies in the appendix.
- A2.13 None of the releases contain information about the likely use made of the statistics, nor do they include comments on the quality or reliability of the statistics in relation to their likely use.

Include, or link to, appropriate metadata

- A2.14 *Wild bird populations in England, Wild bird populations in the UK and Wild bird populations: Farmland birds in England* present unsmoothed indices and unsmoothed trends but no further information is given in the release about how the indices are compiled using the survey data.
- A2.15 Previous releases are not routinely kept for users to access from Defra's website. For example, only the most recent biodiversity indicators for England are available on Defra's website, although commentary on the page refers to annual reporting on the indicators for England in 2003.
- A2.16 Accompanying spreadsheets are provided for the provisional and final releases of *Air quality indicators*. The spreadsheets contain useful metadata not included in the statistical release, such as the time period that data are available for, the units for the data and information about the source data. The spreadsheet for *Air quality indicators – final UK results* includes a useful comparison of provisional and final results which is not replicated in the release.
- A2.17 *UK emissions of air pollutants* (provisional and additional results) releases include a link to the NAEI's website but only to the home page which contains complex technical information. Defra's landing page for statistics on air quality contains very little contextual information about sources of data and does not include a link to the NAEI, the main source of data on emission.

Annex 3: Summary of assessment process and users' views

A3.1 This assessment was conducted from June to November 2011.

A3.2 The Assessment team – Catherine Barham and Rachel Beardsmore – agreed the scope of and timetable for this assessment with representatives of Defra in June. The Written Evidence for Assessment was provided on 16 August. The Assessment team subsequently met Defra during September to review compliance with the *Code of Practice*, taking account of the written evidence provided and other relevant sources of evidence.

Summary of users contacted, and issues raised

A3.3 Part of the assessment process involves our consideration of the views of users. We approach some known and potential users of the set of statistics, and we invite comments via an open note on the Authority's website. This process is not a statistical survey, but it enables us to gain some insights about the extent to which the statistics meet users' needs and the extent to which users feel that the producers of those statistics engage with them. We are aware that responses from users may not be representative of wider views, and we take account of this in the way that we prepare assessment reports.

A3.4 The Assessment team received 5 responses from the user consultation. The respondents were grouped as follows:

Defra	2
Other government department	1
Academic and research	2

A3.5 The statistics were primarily used to monitor the impact of policies, (such as those about environmental taxes), to develop policy, or to report against EU targets. The users who responded only used one or two specific releases, for example biodiversity indicators or waste statistics.

A3.6 All but one user reported that the statistics met their needs. One user was extremely enthusiastic about *Biodiversity Indicators in your Pocket* saying, '[I] carry it round with me all the time...the publication is excellent'.

A3.7 Other users thought: that the tight timescales for production limited the time available for producing commentary; that more comprehensive data would be useful; and that some biodiversity indicators do not have data as yet. However it was recognised that there would be no improvements without additional resources.

Key documents/links provided

Written Evidence for Assessment document

