

## **THE CONDUCT OF THE 2011 CENSUSES IN THE UK STATEMENT OF AGREEMENT OF THE NATIONAL STATISTICIAN AND THE REGISTRARS GENERAL FOR SCOTLAND AND NORTHERN IRELAND**

*The passages in italics are a commentary on progress at August 2012.*

### **Introduction**

1. This is a statement of agreement between the National Statistician and the Registrars General for Scotland and Northern Ireland about the conduct of the 2011 Censuses which it is the intention to conduct simultaneously throughout the UK in 2011. *All three censuses were conducted on 27 March 2011 and all three UK Census offices continue to work together on Census outputs.*
2. A Census is taken by the Statistics Board (UK Statistics Authority) and the Registrar General for Scotland under the Census Act 1920 and by the Registrar General for Northern Ireland under the Census Act (Northern Ireland) 1969. The necessary subordinate legislation, relating to the specific arrangements for the Census in each country, requires the approval of the UK Parliament in Westminster for England and Wales the Scottish Parliament and the Northern Ireland Assembly respectively. Welsh Ministers are consulted on the Census for England and Wales, and are responsible for making Census Regulations for Wales. *The Census Orders and Census Regulations for the respective Censuses were all put in place in 2010.*

### **Principles**

3. Each country will be autonomous, with the final decision lying with the National Statistician and the relevant Registrar General, Ministers and legislature.
4. Subject to that autonomy, the National Statistician and Registrars General agree that the three Census Offices (the Office for National Statistics (ONS), National Records of Scotland (NRS) and the Northern Ireland Statistics and Research Agency (NISRA)) will aim to work in unison to ensure that the 2011 Censuses are a success in providing high quality population and housing statistics, meeting the needs of data users and reflecting UN-ECE and Eurostat requirements.

5. In particular, the National Statistician and the Registrars General have agreed that the three Census Offices and the Welsh Assembly Government will work together and will reach mutual agreement wherever possible on the points in this Statement of Agreement, which will facilitate harmonisation where that is in the interest of Census users. Other points may be added over time where that would facilitate harmonisation.

### **Harmonised Aspects**

6. The National Statistician and Registrars General have, subject to the need for approval where appropriate by the relevant legislatures, agreed the following aspects of the Census where they will aim to achieve harmonisation:-
  - **Date.** The three Censuses should be carried out on the same date in 2011. *The Census took place on 27 March 2011.*
  - **Population Base.** A common population base should be agreed. *A common population base (usual residents plus visitors) has been agreed.*
  - **Topics and Questions.** Common questions should be agreed wherever possible, diverging only in response to clear user needs, with such divergences minimised and the scope for cross-comparison maximised. *Extensive consultation was carried out with users and other interest groups by each of the three Census Offices and a good degree of harmonisation was achieved, helped significantly by the decision to include a fourth page of questions per person. The questions were approved by the relevant legislatures. There were 65 questions asked in at least one of the census questionnaires. These included questions relevant to only one country, such as knowledge of Welsh or proficiency in Gaelic. There were 43 questions which were asked throughout the UK and in 33 of these the wording of the question and the response options were identical. Of the remaining ten where the question wording or response options differ, seven could be aggregated to provide consistent statistics across the UK.*
  - **Census materials.** The design of the Census forms and other materials should be co-ordinated. *A common design was agreed for census questionnaires. Field support materials were developed as required for each country.*

- **Definitions.** Common definitions and classifications should be agreed and published. *Key definitions were published alongside the proposals to the UK legislatures on census topics in December 2008.*
- **Disclosure Control and Estimation Methodology.** Common methodologies for disclosure control and for estimation should be evaluated, tested and agreed in advance of the Census. *A disclosure control policy was agreed by the National Statistician and the Registrars General, which was received well by users. The policy statement forms an Annex to this agreement. Record swapping was agreed as the primary method of statistical disclosure control.*
- **Publicity.** A common approach to publicity, tailored to local needs, should be agreed. *Publicity for the Census Tests and Rehearsals was approached separately, but a coordinated strategy was developed for 2011.*
- **Procurement of Systems and Services.** The different scale of the Census Offices may dictate different procurement solutions but a common strategy should be adopted and a common approach generally taken where that maximises value for money, operational effectiveness and (especially) consistency of outputs. *A single contract, with core elements and variations for each Census Office, for the key operational services for England, Wales and Northern Ireland was awarded to Lockheed Martin UK in August 2008. A separate Scottish contract was awarded to CACI (UK) Ltd. in June 2008. [Each of the three Census Offices has contracted with Space Time Research for the table production software.](#)*
- **Outputs.** The final product should be consistent, coherent and accessible statistics for the UK and for each component country, a joint database (and/or a common data schema) being a desirable way of facilitating that outcome, with a common approach taken to output specifications, quality, data format and timing of releases. *A joint statement on Output Aims has been agreed by the National Statistician and Registrars General and forms an Annex to this agreement. Each Census Office has published an output strategy. All countries are taking part in consultations on the detailed content of the census outputs, including the content of a set of UK outputs, which will be produced and published by ONS from a single unit record file to ensure harmonisation.*

### **Cost Sharing**

7. The costs, both contractor and Census Office, of systems and services will normally be shared between the Census Offices on an actual cost basis, where appropriate, or apportioned according to the population totals (2001 Census). Differences in approach will be kept to a minimum.

### **Governance and dispute resolution**

8. To promote UK harmonisation, every effort will be made to reach agreement through the cross-working mechanisms of the three Census Offices and any differences of opinion will be discussed and resolved at the UK Census Committee.

**Office for National Statistics  
National Records of Scotland  
Northern Ireland Statistics and Research Agency  
February 2005, Revised July 2012**

**Nb. Blue text indicates that an update has been added.**

## **Annex to the Registrars General's Agreement**

### **2011 CENSUS OUTPUTS: AIMS**

#### **1 INTRODUCTION**

The **National Statistician and the Registrars General for Scotland and Northern Ireland** have collectively committed to joint working on the 2011 Census with the aim of maximising harmonisation across the separate Census operations. Their objectives are set out in the **National Statistician and the Registrars General's Agreement**. This document is an annex to that agreement and sets out key high level aims for ensuring, so far as practicable, that the outputs from the 2011 Census meet user needs.

#### **2 UK CONSISTENCY**

The **National Statistician and the Registrars General** of Scotland and Northern Ireland have, subject to the need for approval where appropriate by the relevant legislature, agreed to aim for harmonisation on a number of key aspects of the 2011 Censuses. These include:

- a common population base;
- common questions to be agreed wherever possible, diverging only in response to clear user needs, with such divergences minimised and the scope for cross-comparison maximised;
- common methodologies on disclosure control and estimation;
- consistent, coherent and accessible statistics for the UK and for each component country, with a joint database (and/or a common data schema) seen as a desirable way of facilitating that outcome; and
- a common approach to output specifications, data quality, data formats and timing of releases

#### **3 DATA ACCESS**

##### **3.1 Aim: Outputs free at point of delivery**

A key aim underpinning user access to 2011 Census outputs is that all standard output will be free to users at the point of delivery.

Through the Census Access project (England and Wales), SCROL (Scotland) and NICA (Northern Ireland) the three Census Offices delivered all standard 2001 output free to users at the point of delivery. The funding mechanism for these projects differed across the Census Offices; for example the bulk of the England and Wales project was funded through the Invest to Save Budget (ISB) initiative with further funding from a consortium of stakeholders – Department of

Health, Local Government Association, Economic and Social Research Council, Office of the Deputy Prime Minister (ODPM).

Further work is required to determine which outputs will be laid before the Parliaments, and to develop the funding model for standard outputs from the 2011 Census that are not laid before Parliament.

*In 2012 ONS, NISRA and NRS will lay the first results from their 2011 Census before their own respective parliaments, under section 4(1) of the respective Census Acts, comprising population and household estimates. ONS and NISRA have published. The report laid before the Westminster Parliament by ONS will also be laid before the Welsh Assembly, although there is no legislative requirement to do so.*

*All published Census outputs will be available free of charge via the Open Government Licence, with charges being made to recover the costs of producing commissioned tables. Information on charges to recover costs are provided in the outputs prospectus for each office at:*

ONS - <http://www.ons.gov.uk/ons/guide-method/census/2011/census-data/2011-census-prospectus/index.html>

NISRA - <http://www.nisra.gov.uk/Census/2011CensusProposedOutputs.html>

NRS - <http://www.gro-scotland.gov.uk/files2/the-census/progress-reports/census-2011-outputs-prospectus.pdf>

### **3.2 Aim: Dissemination methods and media to keep up to date with technological innovation**

An overarching aim for the dissemination of 2011 Census outputs is that methods and media keep up to date with technological innovation. However a balance will need to be struck between taking account of any future technological innovations and developing the necessary dissemination tools and systems in sufficient time. Research will also be needed to establish the extent to which Census requirements may be met by corporate dissemination solutions and tools.

The current assumption is that standard pre-planned outputs will be disseminated via a number of media - paper reports, on-line, and writable media (CD, DVD) but with dissemination likely to be web dominated and paper reports kept to the minimum to meet the legal requirements for reports laid before parliament under section 4.1 of the two Census Acts. The user requirement for outputs on writable media will need to be established.

*While the census offices share the principal objective of free online dissemination, each office will use their own dissemination solutions. ONS will deliver an Application Programming Interface (machine to machine), NISRA will*

*use the redeveloped NINIS solution while NRS are developing a new online solution as a replacement for the SCROL system used for 2001.*

*User consultation has established that there is also a demand for writable media (such as DVD for bulk delivery) and these will be available with a possible charge for cost recovery.*

### **3.3 Aim: Flexible table generation on-line**

In addition to pre-planned outputs, the aim is to provide the facility for flexible table generation on-line . This would be at two levels;

- User-defined extractions from, and tallying of, standard tables whereby users can specify sub-groups and/or geographical areas from within published tables to construct tables of interest. (Facilities of this type are already available for local 2001 Census statistical output currently disseminated on the NeSS/SCROL/NICA websites);
- The facility for user-defined tables utilising standard variables but used in a bespoke fashion. Such tables could be generated via hyper-cubes or from protected micro-data. Software that enables this functionality has already been developed and is available as part of the 'Space Time Research' package of tools, which includes the Super-cross tabulation package used for 2001 Census outputs.

The facility of flexible table generation online has the potential to reduce the user requirement for standard output and commissioned output from the 2011 Census. Approximately 80 per cent of commissioned output from the 2001 Census involved standard variables used in a bespoke fashion.

Clearly, this aim is subject to the development of sufficiently robust statistical disclosure control methodology and security systems.

*ONS is currently developing facilities for user-generated bespoke tables from a set of standard variables, subject to statistical disclosure control, and will be consulting expert users on the selection of the variables for this purpose.*

### **3.4 Aim: On-line facility to produce graphs and maps of standard and user-defined output**

The facility for on-line mapping and graphing of 2011 Census output disseminated on the NeSS/SCROL/NICA websites is already available. There are also interactive maps and charts on the NS on-line web pages. If the facility for on-line user defined output is developed there is the potential for joining up all this functionality to provide on-line charting and mapping facilities for both standard and user defined 2011 Census output.

*All three census offices will produce a range of visualisations, mapping and dynamic content to accompany online data releases.*

### **3.5 Aim: Comparisons between 2001 and 2011 Census outputs**

The aim is to produce comparisons between 2001 and 2011 Census outputs following research into reliability of measures of change taking into account issues such as changes to:

- definitions or questions;
- the geography for Census outputs; and
- statistical disclosure control methodology

Areas of poor coverage in either or both Censuses may mean that comparisons over time at OA level would not be robust for some areas.

Further research will be needed to determine what time series are meaningful and at what geographical level and additionally whether it will be possible to enable on-line user defined comparisons between 2001 and 2011 Census outputs.

*ONS and NISRA will each publish a comparability report on comparisons between 2001 and 2011 Censuses in 2012.*

*NRS is considering publishing a similar report for Scotland, details of which will be published in the NRS outputs prospectus.*

### **3.6 Aim: To maximise data utility**

Different levels of access for different Census outputs are being considered in order to maximise data utility. Census tables for small populations, for example some ethnic groups particularly at low geographical levels, would be very sparse. Statistical disclosure control can compromise data utility because of the need to suppress detailed breakdowns. The aim is to make all tabular output 'fit for purpose' within disclosure control constraints. Data likely to be compromised could be subject to lower levels of statistical disclosure control and made available to users only under special licence or accessed in data labs with outputs checked prior to removal. An example could be the Origin/Destination tables which are very sparse. It may be appropriate to make these matrices available publicly at Super Output Area (SOA)/Data Zone level, and available under special agreement at Output Area (OA) level, and allow users interested in specific journeys access to detailed micro-data in a safe setting.

Clear and equitable criteria for access would govern this arrangement.



*Work is underway to assess how best to provide access to microdata and detailed flow data from the 2011 Census. It is planned to release a public use microdata sample which would be available under the Open Government Licence. A series of microdata samples, similar to those produced in 1991 and 2001 are also planned.*

### **3.7 Aim: Output prospectus and timetable to be published pre-release**

A pre-release outputs prospectus and timetable for statistical outputs and metadata will be published. Every endeavour will be made to keep to the published timetable but quality will not be compromised. Any unforeseen problems likely to result in an inability to meet the published timetable will be explained and communicated to users as early as possible, with revised publication dates.

*The 2011 Census Outputs prospectus for England and Wales was published in March 2012 providing timetables and information about outputs. <http://www.ons.gov.uk/ons/guide-method/census/2011/census-data/2011-census-prospectus/index.html> The prospectus will be updated once release dates are finalised, users can register for updates: [sign up for prospectus email alerts](#)*

*The prospectus for Census Outputs from Northern Ireland and Scotland's censuses respectively have also been published: <http://www.nisra.gov.uk/Census/2011CensusProposedOutputs.html> <http://www.gro-scotland.gov.uk/census/censushm2011/producing-delivering-data.html>*

### **3.8 Aim: Concurrent first release of statistics across the UK**

This aim is in accordance with the National Statistician and the Registrar Generals' agreement.

*The first releases for E&W and NI were published in July 2012. The first release for Scotland will be later in 2102. It was agreed across the three offices that the issuing of the first releases for ONS and NISRA, as soon as the statistics were judged ready for publication, would take priority over concurrent release across the UK.*

### **3.9 Aim: Statistics will be released concurrently for all areas within England and Wales/Scotland/Northern Ireland**

It is probably inevitable that publication of statistics will be staged, for example in 2001 there were separate releases for population estimates, Key Statistics, Census Area Statistics, and Standard Tables. As in 2001, even though there may be a staged approach to the release of different geographies (this will be the

case for England and Wales) at each stage statistics will be released concurrently for all areas.

*Due to the breadth and depth of the 2011 Census results, the statistics on the main resident population base (usual residents) will be released in four stages, details of which can be found in the outputs prospectuses.*

### **3.10 Aim: Concurrent publication of appropriate metadata with associated statistical outputs**

Not all quality measures will be available at the time of statistical release, however the intention is to publish quality measures such as response rates and imputation rates concurrently with associated statistical outputs. Other more specialised evaluation will be published later in accordance with the published timetable.

The detail of what is available at each release is published in the Census Output Prospectuses.

### **3.11 Aim: Joined-up and comparable UK outputs**

There will inevitably be some differences in questions across the UK countries to reflect local data needs and the decisions of devolved administrations. However, where differences do occur the aim will be to map results to a common framework to enable UK comparability at some level.

*A comparability report on harmonised outputs across the UK will be published in 2012.*

### **3.12 Aim: Joining-up Census outputs with other statistical outputs**

A high level aim is to join-up 2011 Census outputs with other statistical outputs. However, this could range from simply a link from census tabular output to other data on same topic through to the production of topic-specific reports that draw on Census and other data. One example would be building on the 2001 'Focus On' Reports.

Further discussion is required to determine which sources should contribute to topic output in the future and the extent to which Census outputs should be joined with other statistical outputs. If the Census Offices were to put significant resources into this it is likely that topic experts would need to spend less time on other activities and hence other outputs in the two year period around the Census may not be produced.

*Each of the Census Offices has conducted public consultation during 2011-12 on their plans for further work to provide analytical reports using the Census outputs*

*and setting these in the wider context of other statistical outputs. The plans for producing these analytical products are included in the Census Outputs prospectuses and will be updated as they become firmer.*

## **4 STATISTICAL DISCLOSURE CONTROL**

### **4.1 Aim: Common UK statistical disclosure control methodology for Census 2011 outputs that minimises disclosure risk whilst maximising data utility**

The Registrars General's statement of agreement for 2011 UK Census includes aiming for a common Statistical Disclosure Control (SDC) methodology.

2001 Census outputs were subject to differing SDC methodologies across the UK which led to much discontentment amongst users and impeded UK compatibility.

The goal for 2011 Census is for a common SDC methodology to be adopted across the UK which protects against the risk of disclosure whilst maximising data utility (taking into account user output requirements) and which complies fully to the commitment to confidentiality on the Census form and to the legislatures.

In 2001 there were different disclosure control methodologies across the UK because of different views about the level of acceptable risk and the perception of what constitutes disclosure. High level discussions across the UK offices on these SDC policy issues are planned with the intention of coming to an agreed view on these risks and perception issues as the base for all further methodological research for 2011 Census outputs.

Further research will cover SDC methodological issues for all Census outputs including pre-planned tables, flexible outputs, commissioned output and micro-data and for different levels of access (public, licensed and safe setting)

Common SDC methodologies will be fully evaluated in terms of a utility/risk continuum and in the context of the agreed SDC policy position.

It is intended that this work will be completed before consultation on detailed output requirements commence.

*A recommended SDC strategy for all types of 2011 Census outputs was finalised in summer 2009 and the National Statistician and the Registrars General for Scotland and Northern Ireland have agreed to a harmonised method. Further work on the details has continued since, and this has included public consultation. A Question and Answer document on the NS website explains the method that is being implemented.*

<http://www.ons.gov.uk/ons/guide-method/census/2011/the-2011-census/processing-the-information/statistical-methodology/index.html>

## **5 GEOGRAPHY**

### **5.1 Aim: An effective and flexible approach to output geographies**

In 2001, each office introduced an output geography hierarchy that enabled users to create outputs for areas of specific interest in a flexible way. The intention for 2011 is to develop an output geography that is optimal for 2011, retains flexibility and maximises comparability with 2001.

*The census offices have kept output geography as stable as possible. Some modification of the previous output areas (and for ONS and NISRA super output areas also) has taken place where significant population changes have occurred since 2001. For England and Wales in particular, ONS set an upper limit of 5% on the number of changes to Output Areas.*

## **6 ADJUSTMENT AND QUALITY ASSURANCE**

### **6.1 Aim: Fully adjusted database**

The aim is for a database fully adjusted for missing responses to specific questions, (with the exception of any voluntary questions) and adjusted for estimated under and over coverage. It is also planned to undertake full (100 per cent) coding of questions.

However, a cost/benefit analysis and confirmation of funding will be required before a final decision is reached.

*Census Outputs will be produced from a database that has been fully adjusted for missing responses (apart from voluntary questions) and adjusted for estimated under and over coverage. There has been 100 per cent coding of questions.*

### **6.2 Aim: No revisions**

Census output tables contain some 2 billion individual counts and take 2 years to produce. It would not be possible to update all of these counts, so the aim is to make no revisions to the 2011 Census outputs. (*Revisions* refer to changes to headline census counts as a result of coverage error). This aim is underpinned by a commitment to put even greater effort into the quality assurance of results (see 6.4 below). Any necessary subsequent revisions will be made to mid-year population estimates if required.

While the timing of initial output release is likely to be similar to that of 2001 Census, the current plan is to capture and process data more quickly and complete coverage assessment processes faster than was the case in 2001 to allow more time for follow-up and quality assurance prior to publication.

*All three offices are committed to the production of timely high quality Census outputs. Census outputs from each office will be accompanied by documents that demonstrate the quality assurance processes to which the Census data have been subjected.*

### **6.3 Aim: Corrections policy in place in advance**

*Corrections* refer to changes to specific outputs as a result of coding or tabulation errors.

Mechanisms will be put in place for users to report errors and for corrections to be prioritised. Users will be consulted on the most effective means of communicating corrections to the user population. Version control will be utilized to provide an audit trail and to enable users to access previous versions.

*Corrections to Census data will be made using the NS Correction Policy. We will minimise the possibility of corrections through the use of rigorous quality assurance and checking. Where they do occur we will release them promptly and in an open and transparent manner.*

### **6.4 Aim: Joined-up and co-ordinated quality assurance policy to involve internal and external experts and bodies**

#### *Quality Assurance of Census-based population estimates*

The three Census Offices across the UK recognise the importance and potential benefits of a comprehensive and coordinated programme of quality assurance prior to the release of the 2011 results and are committed to identifying all available potential sources of useful information and relevant internal and external experts/bodies to assist with the work. For example, before the 2011 Census, ONS will liaise with Local Authorities to quality assure address lists for their areas, utilising alternative LA data sources. This will help inform the census field operation and will also provide additional information for internal ONS experts who will be responsible for quality assuring the estimates. NRS also intend to work with local authorities on quality assuring address lists, while NISRA will do likewise with Ordnance Survey.

In any areas where a Census Office has particular concerns, we may discuss the estimates with the relevant LA or other government departments during the QA process, subject to strict confidentiality protocols and agreements.

#### *Quality Assurance of tables*

External bodies quality assured 2001 Census tables in an *ad hoc* manner with different users using different processes and identifying different errors after publication. If the facility for flexible tabular outputs from the 2011 Census is available there is the potential for a reduction in the volume of standard tabular output. This would make the internal QA process more manageable. In addition to internal QA of the tables produced, it is intended to plan early access to tables for selected users for quality assurance purposes.

*Within each Census Office, in house topic experts have been involved in the Quality Assurance processes that precede the release of first results from the Census and they will be given early access to tables for QA purposes.*

## **7 SUMMARY OF CENSUS 2011 OUTPUT AIMS**

- Outputs free at point of delivery
- Dissemination methods and media to keep up to date with technological innovation
- On-line flexible table generation
- Improved data utility of some data outputs via differential access levels
- On-line mapping and graphing of standard and user-defined output
- 2001/2011 comparisons
- Pre-release output prospectus and timetable that is adhered to
- Concurrent first release of statistics across the UK
- Any given set of statistics will be released concurrently for all areas within a country of the UK
- Appropriate associated metadata published concurrently with statistical output
- Joined-up and comparable UK outputs
- Joining-up Census output with other statistical output
- Common UK SDC methodology for Census 2011 outputs that minimises disclosure risk whilst maximising data utility
- An effective and flexible approach to output geographies
- Fully adjusted database
- No revisions
- Corrections policy in place in advance
- Joined-up and co-ordinated quality assurance policy to involve internal and external experts and bodies.

**ONS/NRS/NISRA**

**August 2012**

**Nb. Blue text indicates that an update has been added or a phrase has been changed to reflect current legislation.**

## **Annex to the Registrars General's Agreement**

### **UK Statistical Disclosure Control Policy for 2011 Census Output Background**

The National Statistician and the Registrars General of Scotland and Northern Ireland have agreed to aim for a common Statistical Disclosure Control (SDC) methodology for 2011 Census outputs. This will help achieve the aim of harmonising the three Censuses where that is in the interest of Census users.

Adoption of a common SDC methodology across the UK will only be possible if there is an agreed SDC policy position across the Census Offices, i.e. agreement about what constitutes a disclosive risk in a census context and tolerable risk thresholds. This statement sets out the SDC policy position that has been agreed by the National Statistician and the Registrars General.

#### **UK SDC policy position**

The UK 2011 Census SDC policy position is based on the principle of protecting confidentiality set out in the National Statistics Code of Practice which includes the guarantee that **'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'**.

Because the key strength of the Census is its complete coverage, and its ability to generate statistics about very small groups of people (as is necessary to ensure that Government and other policies take account of the needs of small groups and communities), it is impracticable entirely to remove the risk of disclosure, without harming the utility of the data. With that in mind, the National Statistician and the Registrars General have concluded that the above Code of Practice statement can be met in relation to Census outputs if no statistics are produced that allow the identification of an individual (or information about an individual) with a high degree of confidence. The National Statistician and the Registrars General consider that, as long as there has been systematic perturbation of the data, the guarantee in the Code of Practice would be met.

It is considered that "attribute disclosure" (i.e. learning something about an individual) as opposed to "identification" of an individual is the key disclosure risk, because identification reveals no new information to the user. 'Attribute disclosure', however, involves a user discovering something new from the census data that was not previously known to them.

In a Census context, where thousands of tables are generated from one database, the risk of attribute disclosure occurring can be addressed by introducing uncertainty about the true value of small cells.

In order to meet the agreed interpretation of the Code of Practice, it has thus been agreed that small counts (0s, 1s, and 2s) could be included in publicly disseminated Census tables provided that

- a) uncertainty as to whether the small cell is a true value has been systematically created; and
- b) creating that uncertainty does not significantly damage the data.

The exact threshold of uncertainty required has not been decided. The Registrars General will make this judgement at a later stage in the context of results from methodological research into the balance of protection afforded, and damage caused, by various SDC methods. [The threshold of uncertainty has been decided but cannot be published as to do so would fatally undermine disclosure protection.](#)

Different levels of disclosure control are applied to Census outputs according to the mode of access. In general the aim will be to make as much as possible of the Census tabular output publicly accessible. However, if tabular outputs are likely to be seriously compromised by SDC (for example Origin/Destination tables at low geographical levels) then these could be released under other access arrangements (licence or safe setting) where restrictions on access to the data allow less stringent levels of SDC to apply, in order to protect the utility of the data.

As a result of the Chancellor's decision to legislate for ONS independence, the current NS Code of Practice: Protocol on Data Access and Confidentiality will be replaced. But the obligation to preserve the confidentiality of census outputs is likely to be heavily informed by the current Code of Practice. [The agreement between the National Statistician and the RGs of Scotland and Northern Ireland has been updated to reflect the current NS Code of Practice and the Statistics and Registration Services Act 2007.](#)

### **Implications of the proposed SDC policy position for SDC methodology**

The decision to allow small cells in publicly disseminated tables means that no methods of SDC (pre-tabular, post-tabular or combinations of the two) have been ruled out and all methods will be evaluated. The National Statistician and the Registrars General have expressed a preference for pre-tabular methods, provided there is not undue damage to the data.

To ensure that the public, and expert audiences, are confident that confidentiality will be preserved by the measures taken to avoid disclosure, clear explanations would be given on the protection afforded by the SDC strategy, and other steps



which protect confidentiality, that had been applied.

The choice of SDC methodology for 2011 Census outputs will be based on evaluation of the risk and utility of the various possible methods. Methods will be recommended that afford an acceptable level of protection and preserve the highest level of utility of outputs. Consistency and additivity across tabular output is a priority for users and these will be given a high priority in the assessment of the utility of SDC methods.

### **Next steps**

The principles outlined in this statement provide a basis for consultation with users of Census data and for a two year period of methodological research. The research will assess pre and post tabular SDC methods in terms of the protection they afford together with their impact on the integrity of the data (a risk/utility framework). Because of the interdependence between disclosure control of (pre-defined) census tabular data and disclosure control for other types of census outputs (microdata samples and flexible user defined tabular outputs), SDC methods for all types of Census output will be assessed concurrently and a key consideration in evaluating SDC methods for tabular data will be the potential impact on these other types of census output.

Users will be updated and consulted during the research period. There will also be an independent review through the UK Census Design and Methodology Advisory Committee. [User consultation was carried out on the proposed targeted record swapping method and this proposal was well received by users. The methods were assessed by the GSS Methodology Advisory Committee and by an SDC sub group of this committee. An independent peer review covering England and Wales is currently underway and in depth testing will be conducted by ONS prior to implementation of the SDC methods. The report of this review and in depth testing of the implementation of the methods cannot be shared because they contain information required to unpick the disclosure protection.](#)

The Census White Paper (and parallel documents relating to Scotland and Northern Ireland) are timetabled to be published in October 2008 and will formalise the agreed policy position of the Registrars General by the inclusion of an SDC policy statement. [A recommended SDC strategy for all types of 2011 Census outputs was finalised in Summer 2009. Further work on the details has continued since, and this has included public consultation.](#)

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