

## Population And Migration Statistics (PAMS) Committee (Scotland)

### 2011 Census Outputs

#### Introduction

1. This paper provides a progress update on the statistical outputs from Scotland's 2011 Census. It recaps on previously published results; outlines plans for the future release of standard output tables and other census products; and raises a number of other issues relating to statistical outputs from the census.

#### Standard outputs

2. Release 1 provided census population and household estimates for Scotland, council areas, inhabited islands, data zones, output areas and postcodes. It started on 17 December 2012 with the release of rounded population estimates by age and sex for Scotland and total population estimates for council areas, and concluded on 15 August 2013 with the publication of unrounded population and household estimates for inhabited islands, data zones, output areas and postcodes.
3. Release 2 represented the publication of the key results across the range of topics covered by the census for all levels of census output geographies. It was published in four phases:
  - Release 2A (26 Sep 2013) - Key results on population, ethnicity, national identity, language, religion, health and housing and accommodation
  - Release 2B (14 Nov 2013) - Key results on education and the labour market
  - Release 2C (18 Dec 2013) - Key results on living arrangements and travel to work
  - Release 2D (9 April 2014) - Key results on long-term health conditions, central heating and deprivation
4. Release 3 includes more detail census results in cross-tabulations. To date, cross-tabulations featuring information on ethnicity, national identity, language and religion have been published as part of Release 3A (27 February 2014), Release 3B (19 March 2014) and Release 3C (9 April 2014). The next phase of this release (3D) will be on 15 May; it will provide some cross-tabulations of information on population and households. More detail on the plans for further phases of Release 3 and for other census outputs can be found in the [2011 Outputs Prospectus](#) on Scotland's Census website.
5. The key dissemination route is our Census Data Explorer (CDE) which provides enhanced functionality and access to census results in a variety of new formats, including:

**Area profiles** - A snapshot of census results for a range of areas, comparing up to three areas at once. Profiles on all census topics are provided.

**Maps and charts** - A selection of interactive maps and charts for all census topics are provided.

**Standard outputs** - (primarily aimed at Data Analysts) - Allows users to select tables and geographies on an individual basis and present the results in tabular or graphic formats. (A small number of tables are not currently available via the standard outputs section of the CDE as they do not display correctly. This issues involved are being investigated by our software provider. All tables are available via the data warehouse – details below.)

**Data warehouse** - (primarily aimed at users of bulk data) – All data for each Release in downloadable CSV format. Users can choose to download all published data for a single release or select any combination of releases. (We are currently investigating how to reformat the CSV files for cross-tabulations to better meet the requirements of bulk data users.)

6. The Census Data Explorer remains ‘work in progress’, for example we are developing it to also incorporate results from the 2001 Census. We welcome comments from users about any glitches they may encounter with the CDE, or about any other suggestions for improvement.
7. Statistics for the whole of the UK from the 2011 Census are compiled and published on the relevant area in the [2011 UK censuses](#) section of the Office for National Statistics website. ‘2011 Census - European Commission Census Regulation Statistics’ was released on 31 March 2014. This provides data covering a range of census variables including household status, economic activity, occupation, country of citizenship and educational attainment. The release includes data at <sup>1</sup>NUTS 1, NUTS 2 and <sup>2</sup>LAU 2 geography levels.

### **Other census products**

8. Microdata – A teaching file comprising a 1% sample of non-disclosive, individual-level records will be available by June for download under Open Government Licence from the National Records of Scotland (NRS) website. More detailed microdata files of individual and household records are planned to be made available later, either under licence (safeguarded) or via a VML-type (secure) environment. Further consideration is being given to the dissemination channels and conditions of access for these safeguarded and secure microdata products. It is planned to consult users about any proposed arrangements and also about the content of the files, for example on Scottish-specific variables to include.
9. Origin – destination statistics (or flow data) will be available, comprising the migration and travel to place of work or study patterns of individuals on a regular basis, cross-tabulated by variables of interest: for example, by occupation. Some potentially disclosive cross-tabulations at small geographies will only be available under special agreement accessed within a secure environment. Similar to the microdata products, consideration is being given to the dissemination channels and conditions of access for

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### **Footnotes**

- 1) NUTS - Nomenclature of Units for Territorial Statistics
- 2) LAU - Local Administrative Units

the origin-destination statistics. It is planned to consult users about any proposed arrangements and also about Scottish-specific information such as travel to study flows. Some origin-destination statistics (on migration and travel to work) for Scotland are planned for publication by ONS in the summer as part of a UK-wide set of statistics.

10. While priority is currently being given to producing and releasing standard outputs, we continue to explore the possibility of providing online flexible table generation via the Census Data Explorer in the future. This would allow users to create cross-tabulations from a limited number of 'data cubes' (multi-dimensional datasets). The provision of this facility will be reliant on successful statistical disclosure testing.

### **Statistical disclosure control**

11. The same underlying methodology for Statistical Disclosure Control (SDC) used by NRS (General Register of Scotland as was) for the 2001 Census has been applied, with some refinements, for the 2011 Census, i.e. pre-tabular, record-swapping. However, following an external academic review commissioned by the Office for National Statistics, an additional measure of disclosure control has been introduced in relation to the designs of individual standard output tables. This aims to ensure that in the data presented in each table there is sufficient protection against the inadvertent release of attribute information about individual people or households. As a result of this tighter approach, it has not proved possible always to provide the same level of detail for 2011 as was the case for 2001. For example, it is likely that cross-tabulations of data on communal establishments may only be made available at council area level; cross-tabulations on type of long-term health conditions may only be available in Detailed Characteristic (DC) tables; and tables relating to school children and students living away from home during term time will only be available in DC tables.
12. A small number of Local Characteristic (LC) tables in Release 3 have so far failed disclosure checks and can only be released at data zone rather than output area level. Given the possibility of disclosure by differencing if such tables were to be released for both the 2001-based and 2011-based data zones, the advice we have from users is that their preference would be to delay the release of such tables until the 2011-based data zones are available later this year.

### **Theme tables**

13. A number of 'theme' tables were produced following the 2001 Census ([Annex A](#)). These were effectively combinations of several individual tables bolted together to form one overall table about a particular group in the population, e.g. people aged 50 and over. The original intention was to include such tables as part of the set of standard outputs for the 2011 Census. However, they are technically fairly complex to put together; the information covered can generally be found in other standard output tables; they may raise potential statistical disclosure issues; and some of the tables (at Scotland and/or council area level) may be better associated with planned census analytical reports. Neither ONS nor Northern Ireland Statistics and Research Agency (NISRA) plan to produce theme tables as part of the standard outputs for England & Wales and Northern Ireland respectively. Subject to the views of users, we do not now propose to produce theme tables as part of the standard outputs for Scotland.

### **Output geographies**

14. Standard results from the 2011 Census are available for a range of 16 output geographies, from Scotland down to census output area. New health boards areas

came into force on 1 April 2014 and a revised set of (2011 Census-based) data zones are planned for late summer 2014. Both of these revised geographies will be made available through the Census Data Explorer later this year, once Release 3 has been completed. As the revised health boards are exact groupings of council areas, users will be able to derive census results for them by aggregating figures for the relevant council areas.

15. There is still an identified need for some users to define and create their own output geographies. The option of enabling users to do this by register and maintain an account on the Census Data Explorer goes against the principles of open data. Another option, which would not require users to register an account, is therefore being investigated and we would welcome any suggestions from users of case studies we could use to help pilot the feasibility and practicality of this approach.

NRS: Census  
7 May 2014

## Annex A: 2001 Census Theme tables

<b>Theme (T) tables</b>	
T16	Dependent children
T17	Students and school children
T18	People aged 16 to 29
T19	People aged 30 to 49
T20	People aged 50 and over
T21	All people
T22	Households
T23	Communal establishment residents
T24	Ethnicity of dependent children in households
T25	Religion – current
T26	Religion of upbringing
T27	Gaelic speakers
T28	Night time/ day time population
T33	Migration – people
T34	Migration - households
T38	Pensioner households
<b>Census Area Theme (CAST) tables</b>	
CAST01	Dependent children
CAST02	People aged 50 and over
CAST05	All people
CAST07	Ethnic group – people
CAST08	Ethnic group – Household Reference Persons