

# POPULATION AND MIGRATION STATISTICS COMMITTEE (SCOTLAND)

## GROS Contribution to the Scottish Neighbourhood Statistics Project

### 1. Introduction

This paper presents an update of progress on the GROS contribution to the Scottish Neighbourhood Statistics project.

### 2. Vital Events

2.1 Data on births, deaths/causes and stillbirths has been provided as required to Scottish Neighbourhood Statistics for the years 1999-2002. The geographies submitted have been:

- Parliamentary constituencies
- Council areas
- Electoral wards\*
- SIP areas\*
- Postcode sectors\*

\* Information on stillbirths and infant deaths has not been provided for these geographies for reasons of possible disclosure.

2.2 The collection of information on vital events is entirely based on postcode units. All postcodes entered into the vital events database are validated. It is a “live” database, and one problem which has caused some difficulty is synchronising with geography changes. By and large these changes are minor, and cause us few problems, but inevitably there is a residue of cases where it is difficult to assign individual to areas. Postcode changes can happen at any time throughout the year. These “minor” changes become more evident as the geographical areas become smaller.

2.3 Future information is likely to be requested for other areas such as datazones (see below). As long as there are reliable and up-to-date look-up lists between postcode units and the nominated areas, this should not present difficulties.

### 3. Small Area Population Estimates

3.1 The GROS Small Area Population Estimates (SAPE) working group has been investigating two approaches for estimating the populations of small areas. As a result of this work, two provisional sets of 2002 population estimates for electoral wards and 2001 Census Output Areas (COAs) have been produced:

3.1.1 The **Apportionment** method breaks down the 'known' population of a larger area into smaller areas using an indicator of population for the small areas. In our case, the 2002 mid year estimates for councils were apportioned to postcodes using patient registrations on the Community Health Index (CHI). Adjustments were made to the CHI to reduce the effect of list inflation (the extent to which the CHI overestimates the true population), and certain sub-populations that are not generally recorded by the CHI were estimated separately.

The estimates created using this method were not significantly better than the 1999 and 2000 experimental SAPEs, and so, subject to confirmation by the working group, it seems that, without further work, this method is unsuitable for producing SAPEs for 2002.

3.1.2 The second method is a hybrid of a **Cohort Component** and an apportionment method. Cohort Component refers to any method that involves the ageing of the population age structure, which has been estimated for an earlier year, and the use of birth counts to estimate the number of infants and an allowance for deaths and migration. This is the ideal method of updating populations provided the components of births, deaths and net migration are available, timely, accurate and/or able to be estimated satisfactorily.

This method attempts to replicate the GROS mid-year estimates methodology, using the same data sources but disaggregated to wards. However, the Scottish Neighbourhood Statistics Project requires the data to be based on Census

Output Areas, so the ward estimates produced using the cohort method must then be apportioned to COAs. For this we used the distribution of the COA population within wards from the CHI.

The estimates produced by this method are encouraging, but to be certain that this method is effective, we must be satisfied that the migration data is of sufficient quality. We hope to be able to verify the migration data quality using Census migration data once the full migration dataset is made available. This data is currently expected to be available by the end of October. Assuming that the migration data is found to be suitable, we will recommend that this method be used to produce SAPEs for 2002 in December 2003.

## **4. Geography**

### *4.1 Creating datazones*

The core geography for dissemination of results in Scottish Neighbourhood Statistics (SNS) will be the datazone. Over the last year there has been wide consultation on the process for creating datazones, and this involved seeking comments on a test set of datazones created using 1991 output areas. The process has been agreed and the datazones based on the 2001 Census are currently being produced by the School of Geography & Geosciences at St Andrews University. The datazones will be available in November 2003, and will be used to disseminate results within the spring 2004 version of SNS.

An outline of the process for creating datazones is as follows:

- (i) will nest within council areas
- (ii) will be built up from complete 2001 Census output areas
- (iii) will have a minimum household population of 500 people
- (iv) will contain on average between 500 and 1,000 people
- (v) aim that census output areas within each datazone are as similar as possible

### *4.2 Maintaining datazones*

The policy for maintaining datazones is being developed and the intention is for datazones to be a stable geography so that changes over time can be analysed. Maintenance will need to take account of changes to council area boundaries, the minimum household population threshold of 500 people, and that datazones are built from complete 2001 Census output areas.

### *4.3 Intermediate layer of geography*

The Scottish Executive have recognised the need for an intermediate layer of geography of about 4,000 to 6,000 people in size for dissemination of more detailed results within SNS. These would be built up by aggregating datazones which will maintain the core geography hierarchy within SNS:

2001 Census output areas – datazones – ‘intermediate geography’ – council areas

Consultation on the process for creating this intermediate geography will start in Autumn 2003, once the datazones have been finalised.

### *4.4 Postcode Index*

The Postcode Index information (and associated metadata) that is maintained by GROS will be expanded to include Datazones next month. The Scottish Executive is considering the subsequent maintenance of SNS geographic information and its relationship with the Postcode Index.

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