

Population And Migration Statistics (PAMS) Committee (Scotland)

Population and Migration Statistics Update

Introduction

1. This paper provides an update on recent work and developments in population and migration statistics. The Population and Migration Statistics (PAMS) Committee is asked to note the paper and offer any comments. We would also be very keen to hear back from PAMS members about how you use our statistics and what impact they have. Written comments are also very welcome and can be sent to denise.patrick@nrscotland.gov.uk.

Staffing and branch changes

2. Recent staffing changes over the past few months include:
 - Beth Watson, Assistant Statistician, has joined the branch on a fixed term contract working on small area population estimates.
 - William Howes, Assistant Statistician, has left the branch on promotion to another post in the Scottish Government. William's post will remain vacant for a few months until Sarah Mohammed returns from maternity leave in August.
3. Responsibility for life expectancy statistics has moved within NRS and is now covered by the Vital Events branch.

Publications

4. Publications since the last PAMS meeting:
 - Life Expectancy for Areas in Scotland, 2014-2016 (7 December 2017)
 - Mid-2016 Population Estimates, settlements and localities (12 March 2018)
 - Electoral Statistics (22 March 2018)
 - Population Projections for Scottish Areas, 2016-based (28 March 2018)
 - Mid-2017 Population Estimates (19 April 2018)
 - Population by Country of Birth and Nationality for Scottish Areas, Jan-Dec 2017 (24 May 2018)

Future publications:

- The Registrar General's Annual Review of Demographic Trends (1 August 2018)
- Mid-2017 Small Area Population Estimates, (August 2018)
- Total Migration to or From an Area, Mid-2017 Update (July/August 2018)
- Local Area Migration spreadsheet (August 2018)
- Population Estimates for Scottish Centenarians, 2007-2017 (September 2018)

- Population by Country of Birth and Nationality for Scottish Areas, Jul2017-Jun2018 (November 2018)

Population Projections

5. Sub-national population projections were published on 28 March 2018. As well as the national statistics release, we also published:
 - [Infographic supplement](#) – summarising the key findings
 - [Interactive data visualisation](#) – allowing users to select their area(s) of interest and understand how the population is projected to change, under the principal projection and variant projections.
 - [Blog](#) – commenting on the latest sub-national population projections, with a specific focus on areas facing depopulation.
6. Following the success and positive feedback from the POPGROUP training event last Autumn, NRS bid for additional funds from the Statistics Development Fund (SDF) to support ongoing work to build capacity in producing small area projections. A copy of the bid is provided at Annex A. Unfortunately the bid was unsuccessful, however NRS are exploring whether any funds are available from our own budget but this is unlikely to be in the region bid from the SDF. **We would welcome your feedback on whether there are any other funding streams we should explore and also views on how best to prioritise any future work to best meet user needs.**

Mid-Year Population Estimates

7. On 19 April 2018, we published the 2017 mid-year population estimates. We found that for the 8th year running, Scotland's population has continued to increase and now stands at a record high of 5.42 million. Although Scotland's total population increased there were large local differences. As part of the mid-year estimates we also released new interactive data visualisations. These visualisations allow councils to be compared to each other and show local differences within Scotland. The interactive data visualisations can be accessed at: <https://scotland.shinyapps.io/population-estimates/>.
8. NRS now has access to HESA time series data so further developmental work can take place to explore the feasibility of using HESA data to improve internal student migration estimates in Scotland. We are in the early stages of planning this work and will keep the group updated on progress.
9. Work to replace the excel-based migration processing system, MIG2000, has nearly been concluded. Quality assurance of the code and of the outputs will happen later this year before it is used to process internal migration estimates for the mid-2018 population estimates.
10. We are exploring potential use of a secure file exchange tool, called Thru, to provide pre-release access to our statistics such as mid-year estimates and sub-national population projections. Thru is an internet based tool, requiring a username and password, and is already in use by other parts of NRS and the Scottish Government. It does not require software to be downloaded. Once a username and password is

entered online, a user would then access a restricted topic-based folder to gain access to the data.

11. In August 2017, ONS published a research report outlining alternative methods of producing population estimates by ethnic group. This included:

- a [research note](#), accompanied by illustrative estimates for 2016, on a method of combining data from the Census and the Annual Population Survey (APS). This included estimates for UK countries (so Scotland level data) but only included local authority data for England and Wales.
- an [approach for](#) estimating ethnicity from survey and administrative data at the local authority level – which is an investigation into the longer-term potential of using administrative data as well as surveys.

ONS are inviting views on whether there is demand for ethnic population estimates for Scottish local authorities and are specifically interested in feedback on the methods outlined in their recent research papers (see links above).

12. We are continuing to work with colleagues in the Office for National Statistics (ONS) and the Northern Ireland Statistics and Research Agency (NISRA) to ensure the statistics we produce are of the highest quality. Discussions are on-going with regard to the level of data we will get from both organisations for the next set of mid-year estimates, specifically in relation to cross-border flows.

Population Estimates for settlements and localities

13. The mid-2016 population estimates for settlements and localities were published on 12 March 2018. **We are currently inviting feedback on the publication from users to inform future publications. We would be particularly interested in receiving feedback on details on how the data is being used, including what users want from the publication and the published data.**

14. We are working with Scottish Government colleagues to consider the frequency of publication in future, given that the settlement and locality estimates feed in to the production of the Scottish Government's Urban Rural Classification. An updated Scottish Government Urban Rural Classification was published on 29 March 2018. One option being considered is to produce a Census version of the Urban Rural Classification every 10 years, with an interim review carried out 5 years after the Census, recognising limited changes occur over the short term. **Views are sought on preferred frequency of publication for the settlements and localities publication in future, taking into account how the data is used and considering impact on the Urban Rural Classification.**

Small Area Population Estimates

15. Work has begun on the mid-2017 Small Area Population Estimates (SAPE) and they are scheduled for publication in August 2018. For the mid-2017 estimates, the method of including refugees has been updated. The Home Office provides estimates of refugees by age, sex and council area in Scotland. For mid-2017 SAPE, refugees will be distributed to data zones within each council area. We are considering improvements

to this methodology including speaking to the Home Office to see if they have further information which would improve the accuracy of this distribution.

16. The mid-2017 population estimates methodology was updated due to a new source of data for Armed Forces personnel. The mid-2017 SAPE methodology has been updated in line with this change.
17. Work is in progress for the production of a consistent back series of SAPE for mid-2001 to mid-2010 by 2011 Data Zone boundaries. The estimation of the series will begin with a single year, mid-2001, where the further years will be produced using the established SAPE methodology. We are currently sourcing data from the 2001 Census to produce the mid-2001 SAPE by 2011 Data Zone boundaries.

Migration Statistics

18. Population estimates by Country of Birth and Nationality for 2017 from the Annual Population Survey (APS) were released on the 24 May 2018. This includes estimates at council area level, and can be used to identify the number of EU and non-EU nationals (or number of EU born and non-EU born) living in each area. In previous years, the calendar year publication of this data was released in August, but this has now been brought forward to May. In November 2018, we will release mid-year estimates (covering the period July 2017 to June 2018) again, but this will simply include updates to the data tables and will not include a separate national statistics release.
19. We are currently investigating using a new platform to disseminate our detailed migration tables. SuperWEB (the same package used by the Department for Work and Pensions for their [StatXplore](#) tool) has already been procured by another part of the business, and we are investigating how this could be used for disseminating migration statistics. Users could have the ability to design tables, and get more detailed information than we currently produce right now. We will keep you updated on progress.
20. NRS are continuing to work with ONS and other members of the GSS as part of a cross-government Migration Group to improve migration statistics through greater use of administrative data. This has the potential to allow greater local level analysis and may lead to improvements in the evidence we have available on the impact of migration at local level.

Electoral Statistics

21. Electoral Statistics for Scotland as at 1 December 2017 were published on 22 March 2018. This was initially scheduled to be published in February 2018, but was delayed by software issues for some of the Electoral Registration Offices. The publication included postal voters data for the first time, and also had an infographic supplement to summarise key findings. The data collection for the next Electoral Statistics will begin in December this year.

NRS: Population and Migration Statistics branch
May 2018

Annex A – Funding Bid to Statistics Development Fund

Title of project

Improving the availability of small area population projections

Name and email address of project lead

Denise Patrick denise.patrick@nrscotland.gov.uk

Additional contact in case of absence

William Howes william.howes@nrscotland.gov.uk

Please provide a brief overview of the rationale and objectives and deliverable of the project

There is significant demand from local government users for small area population projections, to inform planning and service delivery at local level. Whilst investment has been made over recent years to support the production of small area population projections, there is still significant unmet demand and difficulties in producing projections at local area level.

This bid seeks funding to develop a bespoke data tool linked to POPGROUP software (the industry standard for demographic forecasting in the UK) which will support councils to quickly and easily generate a standard set of small area projections. This will be supported by NRS who will provide the input data required for the projections. The development will reduce the major barrier of manipulating data into council-specific demographic models. It will allow the possibility in the future of creating sub-council area projections for all councils on a regular basis to be evaluated. Additional deliverables will include bespoke guidance and support such as webinars to ensure that users can adapt the standard projections and create their own variant projections based on local knowledge.

Background to previous work in this area:

In 2016, NRS published experimental sub-council (small area) population and household projections as a one-off research project. This work was completed by the Population & Migration Statistics branch, funded by the SG Statistics Development Fund and resourced using a secondee from an external organisation (Clydeplan) with experience in producing small area projections. Assistance was also provided by Professor Ludi Simpson, University of Manchester, who developed the POPGROUP software and has specialised knowledge in its use.

In 2017, NRS funded delivery of a training course in the basics of demographic analysis and to support local government users to produce their own small area population projections, building their capacity and removing the need for estimates to be produced centrally by NRS. The training was delivered by Professor Ludi Simpson, with Dr Alan Marshall and Sarah Christison from University of Edinburgh. Feedback from the training was very positive and by the end of the course attendees had developed their own set of sub council area projections using the latest available demographic data. However the training only reached a small number of councils (8 councils attended all 4 days of training and 15 councils attended at least one day of the training).

Why is further funding needed?

NRS does not have the resource to produce regular small area projections and relied extensively on external support for the previous experimental work. Feedback following the training, including in a seminar to discuss council's development and use of their sub-council area projections, has also demonstrated that local government users are best placed to agree assumptions to feed into the projections and that local knowledge is very important in the production process. For example, in understanding local housing developments or labour market changes that might drive population change or in defining boundaries that are particularly relevant to specific planning functions.

This bid aims to develop a model in which all councils can have access to a sustainable and easy to use tool to generate standard small area projections which can be updated on a regular basis, whilst also providing bespoke guidance to encourage councils to adjust assumptions based on local knowledge and generate their own variant projections to supplement the standard projections. In the longer term it will make feasible the possibility that a reference set of sub-council area projections might be produced efficiently on behalf of all Scottish sub-council areas.

What is the total budget is being sought? *Please provide amount excluding VAT and specify if VAT would be applicable.*

The overall deliverables/project outputs could be adjusted subject to budget available. Draft costs for all deliverables outlined in the proposal estimated to be:

Freelance VBA programmer	£10,000
Project management	£6,500
Staffing costs (full time one year)*	£45,000
Academic support (Ludi Simpson)*	£10,000
Recruitment	£1,000
Total	£72,500
	+ NRS element**

* Estimated costs, assuming the work and its management will be contracted out to an academic centre who have unique and specialised expertise and knowledge in the use of POPGROUP.

** NRS will provide in-house expertise in terms of supplying the necessary input data files and advisory support.

What National Outcomes does the work relate to?

Understanding the future size and make-up of the population of local areas in Scotland is key to many of the national outcomes

<http://www.gov.scot/About/Performance/scotPerforms/outcome>

Particularly relevant National outcomes are:-

- We live in a Scotland that is the most attractive place for doing [business](#) in Europe.
- We live longer, [healthier lives](#).
- We have tackled the significant [inequalities](#) in Scottish society.
- We have strong, resilient and supportive [communities](#) where people take responsibility for their own actions and how they affect others.
- We take pride in a strong, fair and inclusive [national identity](#).
- Our [public services](#) are high quality, continually improving, efficient and responsive to local people's needs

Are there any other commitments/targets this work will contribute to, or synergies with other work being carried out?

This work will improve the evidence base available to councils and community planning partnerships. Understanding how small areas are projected to change is essential to help with a wide range of issues including resource allocation, housing land allocations and service planning for local areas. The data is likely to feed into a number of documents, for example Local Outcome Improvement Plans (LOIP) as well as locality plans for neighbourhoods within the CPP area, and statutory Housing Need and Demand Assessments.

Will this work return result in an efficiency savings for your area or OCSSA?

This work provides a cost-effective solution by providing a model that allows councils to easily generate small area population projections and is preferable over in-house production by NRS given the importance of local knowledge in the production process.

Outline of project timetable, including key milestones.

To be scoped out.

What are the main risks?

Some councils may need to acquire POPGROUP software.

Who are you proposing to carry out the project work?

Details below subject to change if non-competitive action is not feasible. Previous projects in this space have used non-competitive action given unique and specialised expertise and knowledge held by suppliers in the use of POPGROUP.

Academic/advisory support with design and training from Professor Ludi Simpson, University of Manchester. If funded we will approach Dr Alan Marshall, University of Edinburgh who is supportive of these plans to manage the project and act as line manager to a research associate who will manage the dissemination of project output via seminars and other training and who will also generate a set of updated sub-council area projections for all Scottish areas. Dr Marshall and Professor Simpson are both Associates of the ESRC Centre for Population Change. The Centre for Population Change is funded by the Economic and Social Research Council (ESRC) and is concerned with how and why our population is changing and what this means for people, communities and governments.

CPC includes a strand of work concerned with demographic estimation and forecasting and Edinburgh University are one of the Scottish universities involved in the centre. Marshall and Simpson have collaborated previously on research on small area demographic forecasting, in development of the POPGROUP software and the provision of demographic training. Both have employment histories in local government demographic research and so are well-placed to contribute to this project.

Are they a known SG supplier? (*This is for invoice purposes as suppliers need to be on the SG finance system in order to be paid*).

To be confirmed once all suppliers are known.

How will the budget be spent? (*Please provide a breakdown of project stages and how funds will be allocated throughout the project*).

A breakdown of project output is provided below.

Design of data manipulation process from NRS provision of Small Area Population Estimates outputs for Data Zones, to provision to Councils of input files for population, household and labour force models for a Council's tailored sub-Council areas.

Data provision for all DZ in Scotland: (a) Small Area Population Estimates outputs (by NRS), (b) 2011 Census household type and economic activity.

Commissioned programming of data manipulation process

Written guides for Council researchers:

- a. Step-by-step small area projections: population, households, labour force, illness, dwelling-led projections.
- b. Motivational guide, and arguments for managers: why small area projections, what's involved, what are the benefits?

Webinars: in short (15 minute) videos with Q&A, the basics to small area projections. Made available freely on demand for subsequent users.

Other support:

- a. 3-day beginners' course (demographic data; district projections; small area projections).
- b. Email and phone support
- c. LocalPopulationWiki.

All these activities have been discussed with Councils with positive feedback, and will be timed and shaped to respond to demand according to continuing market research with Councils through NRS existing networks.

When will be funds be required? (*Please detail which financial month the funds will be required - to allow for budget planning*).

To start as soon as funds are confirmed, to last 1 year.

If successful how will payment be made? *Invoice or ABR transfer would be preferred.*

*Note: If paying by Invoice, purchase order numbers will be required which will be provided to you by OCSSA. These **must** be included on the invoice or it will not be paid.*

Invoice.