Population Projections for Scottish Sub-Council Areas (mid-2018 based): Project Overview

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## 1. Project Background

### 1.1 Overview

1.1.1 There is significant demand from local government users for sub-council area population projections to inform planning and service delivery at a local level. Examples include creating projections for housing needs assessments, health and social care planning and infrastructure planning.

1.1.2 In 2016, National Records of Scotland (NRS) published experimental [2012-based Population and Household Projections for Scottish sub-council areas](https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/population/population-projections/population-and-household-sub-council-area-projections/2012-based-population-and-household-projections) as a one-off release. NRS publish national and sub-national (including council and health board) projections every two years, but do not have the resource to routinely publish sub-council area projections. However, given user interest NRS has developed a [package of support](https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/population/population-projections/population-and-household-sub-council-area-projections/user-guidance) over the years to help build capacity by supporting interested users to produce their own sub-council projections. To meet wider user needs, and support councils who do not have capacity to produce their own projections, the Improvement Service agreed to collaborate with the NRS on a standard set of population projections for Scottish sub-council areas.

1.1.3 It is hoped this standard set of sub-council area projections (SCAP), and additional user-support provided by the NRS, will assist councils in understanding the future size and make-up of the population of their local areas. This understanding should enable councils to plan for demographic change and the challenges this poses to local services.

### 1.2 Potential Uses for Projections

* They will be useful to feed into housing need and demand assessment preparation and in identifying care needs, for example for future elderly care home provision.
* The planning service could use the projections to inform local development plans and housing land allocations. At the broader corporate level the projections could assist with the planning of council services.
* The council and its community planning partners could use the projections for a wide range of uses. For example, determining service provision requirements which vary considerably across different areas within the council. These differences are not captured in sub-national projections.
* The council could look at changes in the age/sex structure of the population and likely consequences for service demand and in particular forecasting the incidence/prevalence of long-term health conditions. This can feed into joint work with the National Health Service (NHS) Boards being undertaken to inform the health and social care strategic needs assessment and joint commissioning process.

### 1.3 Project outline

1.3.1 The aim of the project was to produce sub-council area population projections for all 32 council areas in Scotland. The following criteria were set out for the project:-

* The 2018 mid-year population estimates (the population as at 30 June 2018) were used as the base year from which to project due to the availability of input data.
* The proposed projection time period was ten years to cover the period mid-2018 to mid- 2030.
* The default geography was Multi-Member Wards. Each council had the opportunity to choose a custom geography instead of Multi-Member Wards. These geographies are based on the aggregations of 2011 Data Zones.
* These projections were based on past trends of fertility, mortality and migration. They do not account for future development or political and economic changes, which is consistent with routine NRS population projections.
* Results were only produced for the principal projection and do not include projections using alternative assumptions such as high or low migration.
* The population projections were constrained to (made consistent with) the published [NRS 2018-based sub-national population projections for council areas](https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/population/population-projections/sub-national-population-projections/2018-based).
* Adjustments were made for special populations where appropriate.
* The input and output files used to create the projections are made available to users on request, which can then be used alongside the [package of support](https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/population/population-projections/population-and-household-sub-council-area-projections/user-guidance) provided by the NRS to create bespoke projections with alternate assumptions.

1.3.2 The project milestones have been summarised in the table below.

### Table 1: Project Milestones

|  |  |
| --- | --- |
| Stage | Time Frame |
| NRS carried out a [survey](https://www.nrscotland.gov.uk/files/statistics/Events/pams-1-5-19/pams-1-may-19-paper-6.pdf) to understand user needs in relation to small area population projections | December 2018 to January 2019 |
| Improvement Service met with NRS to discuss collaboration | April 2019 |
| Improvement Service and NRS signed a Memorandum of Understanding outlining the project | August 2019 |
| Improvement Service attended NRS funded training on population projection software POPGROUP | September – October 2019 |
| [Population and Migration Statistics (PAMS) committee meeting](https://www.nrscotland.gov.uk/files/statistics/Events/pams-19-11-19/pams-19-nov-19-12.pdf) – Improvement Service and NRS outlined the project and offered an opportunity to provide feedback | 19th November 2019 |
| Following feedback from PAMS meeting, NRS issued a survey to understand each councils preferred geography for Sub-Council Area Projections | December 2019 – January 2020 |
| NRS provided Improvement Service with population data for each small area, to be used as the basis for projections | February 2020 |
| Improvement Service met with NRS, Dr Alan Marshall and Professor Ludi Simpson to discuss methodology and planned approach | February 2020 |
| The Improvement Service prepared projections for each council area and reviewed these with Dr Alan Marshall and Professor Ludi Simpson | March - April 2020 |
| [Population and Migration Statistics (PAMS) committee meeting](https://www.nrscotland.gov.uk/files/statistics/Events/pams-1-5-20/pams-1-may-20-paper-7.pdf) – Improvement Service issued a paper with an update on the project. Members were provided with an opportunity to provide feedback on the provisional projections. | June 2020 |
| Review of feedback and finalising projections | July 2020 |
| Publication of results | August 2020 |

### 1.4 Project Collaboration

1.4.1 The Improvement Service produced the standard set of sub-council area population projections in collaboration with the NRS and with support provided by them. This support included:

* Training – The NRS provided training in demographic methods and how to produce sub-council area projections using the industry standard demographic forecasting software, [POPGROUP](https://edgeanalytics.co.uk/popgroup.php/). The training was delivered in partnership with Dr Alan Marshall and Sarah Christison from the University of Edinburgh and Professor Ludi Simpson who developed the POPGROUP software and has specialised knowledge in its use. This training was also made available to councils. Alongside this training, the NRS made [user guidance](https://www.nrscotland.gov.uk/files/statistics/scap/scap-popgroup-user-guidance.pdf) and [instructional videos](https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/population/population-projections/population-and-household-projections-sub-council-areas/user-guidance-and-support/popgroup-instructional-videos) available, to support both the Improvement Service and councils with continued resources for producing projections using POPGROUP.
* Data – The NRS provided the input data needed for the POPGROUP software. This included past (mid-2001 to mid-2018) population, births and deaths data for each small area to be projected. The NRS has now made a [data utility tool](https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/population/population-projections/population-and-household-projections-sub-council-areas/user-guidance-and-support/data-utility-tool) available, which aggregates this data to support councils to create their own input data files for custom geographies.
* Advisory Support – The NRS funded advisory support from Dr Alan Marshall (University of Edinburgh) and Professor Ludi Simpson (Manchester University), who both delivered the POPGROUP training. This support was used to advise on issues on methodology and approach used in producing the sub-council area population projections.

### 1.5 Project Consultation

1.5.1 Engagement and consultation with councils took place throughout the project.

* Between December 2018 and January 2019 NRS carried out a [survey](https://www.nrscotland.gov.uk/files/statistics/Events/pams-1-5-19/pams-1-may-19-paper-6.pdf) to understand how users of sub-council area population projections could be supported. This survey identified demand for a standard set of sub-council area population projections. Multi-member wards were suggested as the most popular standard geography to be used (43%, n = 29). Other responses included housing market areas (10%, n = 7) and other geographies (47%, n = 32) including community area/neighbourhoods, school catchment areas and localities.
* On the 19th of November 2019, the Improvement Service attended the [Population and Migration Statistics (PAMS) committee meeting](https://www.nrscotland.gov.uk/files/statistics/Events/pams-19-11-19/pams-19-nov-19-12.pdf) to provide an overview of the project. At this time, following feedback from the NRS survey it was proposed that the projections be carried out for all councils using multi-member ward geographies. However, feedback from the PAMS meeting indicated that this geography would not be of use to some councils and that alternative geographies may be of better use in some areas.
* Between December 2019 and January 2020, a survey was carried out by NRS to allow councils to propose an alternative sub-council geography to be used for areas where multi-member wards were not suitable. Councils were asked to consider the population size of the areas they wanted to use for the projections, as projections are less reliable for smaller areas. The survey received 21 responses from councils. Of those who responded, 6 councils preferred to use an alternative geography. Of those councils, 3 chose to use Housing Market Areas, 1 chose Community Planning Partnership (CPP) locality areas, 1 used community areas and 1 used bespoke neighbourhoods. The areas selected by age council are summarised in [Table 2](#_Table_2:_Sub-council).
* This consultation allowed councils an opportunity to choose a geography which would be of most use, however it is recognised that whilst this may meet the needs of some users, there will be others who prefer additional geographies beyond the one chosen. Whilst the project capacity meant it was only possible to produce projections for one geography type in each council, the additional [resources](https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/population/population-projections/population-and-household-sub-council-area-projections/user-guidance) made available by the NRS can be used by councils to produce alternative projections for bespoke areas.
* The Improvement Service issued a paper to the [Population and Migration Statistics (PAMS) committee meeting](https://www.nrscotland.gov.uk/files/statistics/Events/pams-1-5-20/pams-1-may-20-paper-7.pdf) in June 2020. This paper outlined the current progress of the project and offered councils an opportunity to provide feedback. For those who were interested in reviewing the projections prior to publication a summary of the projections was made available with councils asked to provide any contextual information to support understanding of changes and any potential caveats.

### Table 2: Sub-council area geography by council area

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Council Area** | **Sub-council area projection (SCAP) geography** | **Number of SCAP areas** | **Total Population MYE[[1]](#footnote-1) 2018** | **Smallest area population MYE 2018** | **Largest area population MYE 2018** |
| Custom Geography | 6 Council Areas | 66 |  | 782 | 81,575 |
| Argyll & Bute | Housing Market Areas | 9 | 86,260 | 782 | 25,866 |
| East Renfrewshire | Housing Market Areas | 3 | 95,170 | 28,265 | 42,801 |
| Highland | Housing Market Areas | 10 | 235,540 | 9,213 | 81,575 |
| North Ayrshire | Community Planning Partnership (CPP) Localities | 6 | 135,280 | 4,576 | 38,889 |
| South Ayrshire | Neighbourhoods | 24 | 112,550 | 1,738 | 7,772 |
| South Lanarkshire | Community Areas | 14 | 319,020 | 6,285 | 76,724 |
| Default Geography | 26 Council Areas | 279 |  | 2,049 | 37,075 |
| Aberdeen City | Multi-Member Wards | 13 | 227,560 | 14,594 | 21,804 |
| Aberdeenshire | Multi-Member Wards | 19 | 261,470 | 8,919 | 16,739 |
| Angus | Multi-Member Wards | 8 | 116,040 | 10,731 | 19,089 |
| City of Edinburgh | Multi-Member Wards | 17 | 518,500 | 23,272 | 37,075 |
| Clackmannanshire | Multi-Member Wards | 5 | 51,400 | 7,895 | 12,566 |
| Dumfries & Galloway | Multi-Member Wards | 12 | 148,790 | 8,625 | 15,439 |
| Dundee City | Multi-Member Wards | 8 | 148,750 | 15,737 | 20,653 |
| East Ayrshire | Multi-Member Wards | 9 | 121,840 | 10,786 | 17,161 |
| East Dunbartonshire | Multi-Member Wards | 7 | 108,330 | 13,363 | 19,447 |
| East Lothian | Multi-Member Wards | 6 | 105,790 | 13,446 | 21,917 |
| Falkirk | Multi-Member Wards | 9 | 160,340 | 15,465 | 22,304 |
| Fife | Multi-Member Wards | 22 | 371,910 | 12,267 | 23,465 |
| Glasgow City | Multi-Member Wards | 23 | 626,410 | 20,846 | 34,059 |
| Inverclyde | Multi-Member Wards | 7 | 78,150 | 9,312 | 13,815 |
| Midlothian | Multi-Member Wards | 6 | 91,340 | 13,448 | 18,338 |
| Moray | Multi-Member Wards | 8 | 95,520 | 9,220 | 16,086 |
| Na h-Eileanan Siar | Multi-Member Wards | 9 | 26,830 | 2,183 | 4,030 |
| North Lanarkshire | Multi-Member Wards | 21 | 340,180 | 11,916 | 20,267 |
| Orkney Islands | Multi-Member Wards | 6 | 22,190 | 2,224 | 4,832 |
| Perth & Kinross | Multi-Member Wards | 12 | 151,290 | 9,344 | 18,126 |
| Renfrewshire | Multi-Member Wards | 12 | 177,790 | 10,082 | 18,225 |
| Scottish Borders | Multi-Member Wards | 11 | 115,270 | 8,597 | 15,123 |
| Shetland Islands | Multi-Member Wards | 7 | 22,990 | 2,049 | 5,952 |
| Stirling | Multi-Member Wards | 7 | 94,330 | 11,287 | 17,328 |
| West Dunbartonshire | Multi-Member Wards | 6 | 89,130 | 11,213 | 19,052 |
| West Lothian | Multi-Member Wards | 9 | 182,140 | 15,681 | 24,053 |

## 

## 2. Further information

### 2.1 Sub-council area projections

2.1.1 The projections for the areas discussed in this booklet are available by single year of age and sex for each year of the projection period, mid-2018 to mid-2030 from the detailed tables on the Improvement Service website. Users can also request the input and output files used in the projection by contacting [research@improvementservice.org.uk](mailto:research@improvementservice.org.uk)

### Projections for other areas

* + 1. NRS publishes [population projections](https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/population/population-projections/sub-national-population-projections) and [household projections](https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/households/household-projections) for Council Areas, Health Boards, Strategic Development Plan Areas and National Parks.

1. (MYE) Mid-Year Estimates – Population as at 30th June 2018 [↑](#footnote-ref-1)