

Aberdeenshire Statistics

Small Area Population Estimates and Forecasts: 2007 Update

Technical Report

November 2007



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Introduction

This report presents the Small Area Population Estimates and Forecasts prepared by Aberdeenshire Council, which provide a basis for forward planning undertaken by the Council's services and other related agencies. This supersedes the previous report prepared in 2005.

The report is linked to other elements of the Council's forecasting framework, which provide the forecast population totals for Aberdeenshire and the anticipated house building rates at small area level. These are published in the Strategic Forecasts (Autumn 2007) and the Housing Schedules (January 2007). Both of these documents are available on our website at <http://www.aberdeenshire.gov.uk/statistics>.

The estimates and forecasts have been prepared for the new multi-member electoral wards (These are the areas which came into operation in May 2007.), for all the main settlements, for the Council's six administrative areas, for remainders of areas (outwith settlements) and for Aberdeenshire as a whole. Population totals are derived for mid-year 2001, 2006, 2011 and 2016, together with absolute and relative change 2001-2006, 2006-2011 2011-2016, 2001-2016 and 2006-2016.

It should be noted that the current forecasts only take into account house building anticipated as at 1 January 2007 in the system used to produce the annual Housing Schedules and Housing Land Audit.

All main settlements were included in these analyses. The boundary of a settlement at 2001 was intended to be the boundary of the built-up area of that settlement. For the later estimates and forecasts, this boundary expands to include new development areas where appropriate. The following list may help to identify the extent of some settlements.

Banchory - includes Silverbank
Boddam - includes former RAF base
Cairnbulg/Inverallochy - combined together
Insch - includes Rothney
Inverurie - includes Port Elphinstone
Peterhead - includes Invernettie, Burnhaven and Peterhead Prison
Portlethen - includes Hillside but not Findon and coastal village of Portlethen
Stonehaven - includes Cowie
Westhill - includes Elrick

The main stages in the production of the estimates and forecasts were as follows: deriving estimates for 2001, estimates at 2006 for wards, forecasts for wards, then estimates at 2006 and forecasts for settlements.

Producing Estimates at 2001

Because the April 2001 Census is a 'one number census', the only difference from the 2001 mid-year estimate (MYE) of population at council area level also produced by the General Register Office for Scotland (GROS) is due to the differing dates.

Wards

2001 MYEs for data zones have been derived from the 2001 Census by the GROS, and are available on its website and the Scottish Neighbourhood Statistics (SNS) website. A look-up list is also available from the GROS, which allocates whole census output areas to data zones. The SNS website allocates these whole data zone populations to aggregates approximating the new multi-member wards. The SNS website also contains a look-up list, which allocates whole data zones to multi-member wards. Apparently, a data zone is assigned to a ward based on the location of the population weighed data zone centroid.

Settlements

2001 Census data for whole output areas were allocated to Census settlements by the GROS using output areas to approximate the Census settlement boundaries, which were initially defined by usually contiguous high address density postcode units. The threshold for a Census settlement was the expectation of at least 500 residents in the Census. The method is broadly similar to that previously used for the 1991 Census, except that at 2001 the output area definition now takes account of locality boundaries, with postcode unit areas redefined in order to fit the boundaries of built-up areas more tightly. According to the GROS, in 2001 the agreement between output area and postcode unit based definitions of localities was close. (A locality was a Census settlement or part thereof. In Aberdeenshire, all localities were Census settlements.)

In Aberdeenshire, this often resulted in a significantly more compact Census settlement than in 1991, rather than an unchanged or expanded boundary which one might expect. A significant number of dwellings in Aberdeenshire seem to have been incorrectly excluded from Census settlements by the boundaries at 2001.

For settlements, the GROS Census settlement definition was used in most cases. The Census settlements at 2001 did not include the three settlements of Braemar, Fetterangus and St Fergus. Data for these missing settlements were estimated from aggregations of whole Census output areas. For Kemnay, the Census settlement equates to the ward at 2001. Populations for settlements at mid-2001 were derived from the 2001 Census by proportional adjustment. At 2001, it was considered necessary to include additional dwellings on the fringes of some Census settlements, and the resulting additional population was estimated using the occupancy rate for the Census settlement definition.

Producing Current Estimates for Wards

2006 MYEs for data zones have been derived by the GROS, and are available on its website and the SNS website. As mentioned previously, the SNS website contains a look-up list, which allocates whole data zones to multi-member wards. This has been used to derive population estimates for wards.

Producing Forecasts for Wards

The estimates of population at 2006 form the base from which the forecasts were prepared. The forecasting process involved calculating population totals by applying occupancy rates to anticipated housing stock.

The 2001 population in private households derived from the Census (estimate of total population at mid-2001 minus residents in communal establishments) was compared to the Census housing stock totals at Council area and ward level to produce occupancy rates. These rates were updated to mid-2006 using the estimate of total population at 2006 and total dwellings on the Council Tax Register at mid-2006. (This is the mean of the counts as at 31 Dec 2005 and 9 Jan 2007 shown on the SNS website. The data provided there have been prepared by the GROS using information on the Council Tax Valuation lists. The look-up list discussed previously was needed to derive results for wards at Jan 2007 from statistics at data zone level.) Here and subsequently it was generally assumed that the numbers resident in communal establishments do not change after 2001.

In order to calculate the population forecasts for wards, the occupancy rates for the wards were assumed to change at the same rate as at Council area level over the period.

For each ward:

- Forecast occupancy rate was applied to anticipated housing stock to give population in households. Changes to housing stock (completions by calendar year) were derived from the system used to produce the Housing Schedules and Housing Land Audit.

The results were totalled to the aggregations of data zones used to approximate wards, but some re-allocation was necessary to housing on the fringes of Inverurie and Fraserburgh, which would not otherwise have been assigned to the correct actual ward.

- Residents in communal establishments were included to give raw total population.
- Raw total population was proportionally adjusted in order to sum across wards to the total for the Council area from our current strategic forecasts.

Overall there is a forecast decline in occupancy rate at Aberdeenshire level:

2001	2006	2011	2016
2.320	2.248	2.177	2.160

In summary, these rates for Aberdeenshire were produced as follows:

- Total population was taken from our current strategic forecasts.
- It was assumed that the number of residents in communal establishments does not change from the 2001 Census except where indicated.
- Housing stock was taken from the 2001 Census, the Council Tax Register at mid-2006 and the system used to produce the Housing Schedules and Housing Land Audit.

Beyond 2006, the rate of decline in occupancy rate at Council area level was applied to each ward. Thus population in a ward will decline, unless there is sufficient new housing development within the ward to compensate for this.

The only local adjustments made to numbers resident in communal establishments were for the downsizing of the RAF base at Boddam and the closure of Ladysbridge Hospital.

Producing Estimates at 2006 and Forecasts for Settlements

The updating to mid-2006 proceeded as follows. The sum of housing stock at 2001 plus completions in each settlement was proportionally adjusted for consistency with the total dwellings on the Council Tax Register for Aberdeenshire at mid-2006. (Completions from mid-2001 to mid-2006 are calculated from figures by calendar year. These completions thus exclude completions from Census date to mid-2001. Of course, there were also demolitions.)

The rate of change in occupancy rate at the level of ward (or wards in the case of Peterhead) 2001-2006 was applied to the settlement occupancy rate at 2001.

For each settlement at 2006:

- Estimated occupancy rate was applied to anticipated housing stock to give population in households.
- Residents in communal establishments were included to give an estimate of total population.

To produce population forecasts for each settlement:

- Forecast occupancy rate was applied to anticipated housing stock to give population in households.
- Residents in communal establishments were included to give raw total population.
- Raw total population was adjusted aiming for consistency with the current strategic forecasts of population at Council area level.

Beyond 2006, the rate of decline in occupancy rate at Council area level was applied to each settlement. Thus population in a settlement will decline, unless there is sufficient new housing development within the settlement to compensate for this. (This is the same method that was applied to wards.)

Adjustments to numbers resident in communal establishments were included because of the downsizing of the RAF base at Boddam.

Results

Wards

- Population estimates and forecasts for wards mid-2001, 2006, 2011 and 2016. Results are also shown for administrative areas and Aberdeenshire.
- Absolute population change for each time period by ward 2001-2006, 2006-2011, 2011-2016, 2001-2016 and 2006-2016. (Absolute change is the difference between the population at the end and start of each time period.) Results are also shown for administrative areas and Aberdeenshire.
- Relative population change for each time period by ward 2001-2006, 2006-2011, 2011-2016, 2001-2016 and 2006-2016. (Relative change is absolute change as a percentage of the population at the start of each time period.) Results are also shown for administrative areas and Aberdeenshire.

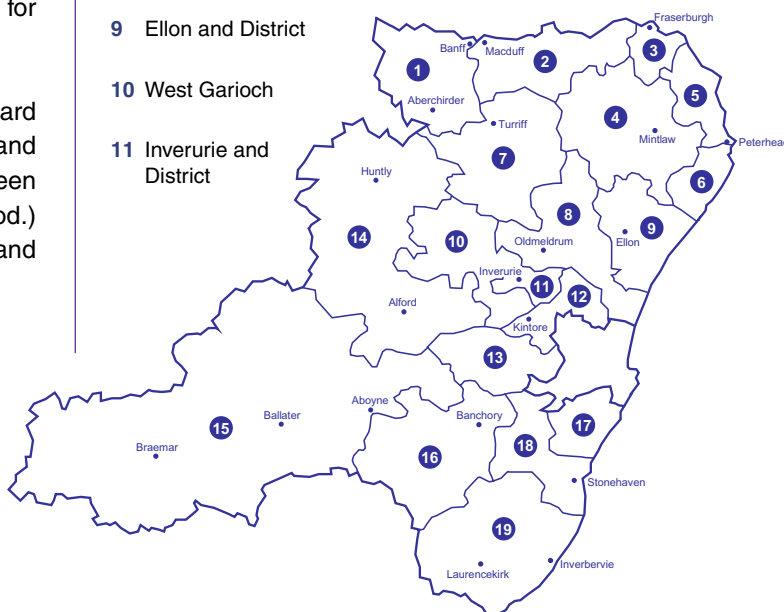
Settlements

- Population estimates and forecasts for settlements mid-2001, 2006, 2011, and 2016. Results are also shown for administrative areas, remainders of areas and Aberdeenshire.
- Absolute population change for each time period by settlement 2001-2006, 2006-2011, 2011-2016, 2001-2016 and 2006-2016. Results are also shown for administrative areas, remainders of areas and Aberdeenshire.
- Relative population change for each time period by settlement 2001-2006, 2006-2011, 2011-2016, 2001-2016 and 2006-2016. Results are also shown for administrative areas, remainders of areas and Aberdeenshire.

Note that the resulting patterns in these data are dependent on the size, shape and orientation of the areal units used. Different boundaries may lead to differing patterns. This is probably more critical for the wards, since they approximate *current* administrative boundaries. Settlements would normally have static or expanding boundaries.

Aberdeenshire's Electoral Wards 2007

- | | |
|-------------------------------|---|
| 1 Banff and District | 12 East Garioch |
| 2 Troup | 13 Westhill and District |
| 3 Fraserburgh and District | 14 Huntly, Strathbogie and Howe of Alford |
| 4 Central Buchan | 15 Aboyne, Upper Deeside and Donside |
| 5 Peterhead North and Rattray | 16 Banchory and Mid Deeside |
| 6 Peterhead South and Cruden | 17 North Kincardine |
| 7 Turriff and District | 18 Stonehaven and Lower Deeside |
| 8 Mid Formartine | 19 Mearns |
| 9 Ellon and District | |
| 10 West Garioch | |
| 11 Inverurie and District | |





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www.aberdeenshire.gov.uk/statistics

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