

Environment and Sustainability Committee

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Local Development Plans & Population/Household Projections: Preparation and publication of Population and Household projections for Local authorities in Wales – Welsh Government (Knowledge and Analytical Services)

Purpose

1. This paper outlines what population and household projections are made available for Wales and areas within Wales; how they are produced and what some of the limitations in their use are; how local authorities in Wales are provided with data, software and advice to enable them to undertake further modelling, taking account of more refined local circumstances, if appropriate, to produce alternative local projections for consideration in preparing Local Development plans; and when the next set of projections will become available.

Population and household projections prepared for Wales

2. Population Projections for Wales

- Population projections provide estimates of the future size of the population, and are based on assumptions about births, deaths and migration. The assumptions are based on recent past trends.
- The Office for National Statistics (ONS) produces national population projections for Wales, and the other UK countries. These are normally produced every two years. Since the 2006-based set the Welsh Government has been responsible for producing population projections for local authorities in Wales¹.
- The local authority population projections have been developed in close collaboration with local authorities and key users in Wales.

3. When the latest (2008-based) population projections were prepared a guidance leaflet was provided for users of the projections. This is available here:

<http://wales.gov.uk/topics/statistics/publications/popprojectionsguidance08/?lang=en>

4. Key messages from the guidance leaflet are that projections only indicate what may happen should recent trends continue and that there are certain limitations for the use of population projections:

5. *Limitations of population projections*

¹ Prior to 2006-based projections Office for National Statistics (ONS) were commissioned to produce 1998-based and then 2003-based local authority projections using the model used for local authority projections for England. However, during the quality assurance process, for both these sets of projections the decision was taken not to publish the projections at a local authority level, as the methodology had not produced consistent and meaningful results at this level. Under the ONS methodology, for each year projected forward, the local (LA) fertility and mortality rates were scaled, so that the national rates and the projected numbers of births and deaths were consistent with the national projections. Whilst the scaling of births and deaths ensured that the total births and deaths were consistent with the national projections, the local rates did not reflect recent, local trends. This led to the projections being published only at a regional level.

- The local authority population projections are trend based projections. They are not policy based forecasts and they do not make allowances for the effects of local or central government policies on future population levels, distribution and change.
 - Due to the size of migration flows, for some local authorities, migration assumptions are more critical than fertility and mortality assumptions. Therefore migration assumptions can have a significant effect on certain areas in the long term.
 - In order to illustrate the uncertainty associated with population projections, variant projections have also been published alongside the main (or principal) population projections.
 - The principal projections should therefore be thought of as a starting point, and local authorities are encouraged to produce their own variants.
 - Projections become increasingly uncertain the further we try to look into the future.
6. In addition the guidance leaflet provided advice on when to use national and local authority-level projections:
- The approach used to develop these local authority population projections involves using data and trends for local authorities, but not forcing the local authority projections to sum to the national Wales level population projection.
 - Though both the sum of the local authority projections and the national projections show a similar pattern it is recommended that the local authority population projections produced by the Welsh Government should be used when comparing the projected population of one or more local authorities in Wales.
 - The sum of the local authority projections should only be used when looking at the projected population of one or more local authorities as a proportion of the Wales total.
 - When looking at the projected population of Wales as a whole or compared to other UK countries the national population projection for Wales produced by ONS should be used.

7. Household Projections for Wales

- In a similar way to population projections, household projections provide estimates of future number of households, and are based on assumptions about future population growth and household composition and size. The assumptions are based on past trends and the projections thus only indicate what may happen should recent trends continue. They are not policy-based forecasts.
- The household projections are based on population projections which are themselves based on assumptions about fertility, mortality and migration. Changing these underlying assumptions would lead to different results for projected future household numbers.
- In order to illustrate the uncertainty associated with household projections, variant projections have also been published alongside the main (or principal) projections.
- As the process of demographic change is cumulative, projections become increasingly uncertain the further they are carried forward.

As with population projections there are certain limitations to the use of household projections which are outlined in the publications which accompany the projections.

Approach to producing local authority population and household projections for Wales

8. ONS produces national population projections for the UK and for its four constituent countries (including Wales) normally every two years. These focus on a 25-year period. The latest national population projections for Wales are 2010-based and were published

by ONS in October 2011. A summary of the results for Wales is available in the Welsh Government Statistical Bulletin, [SB 103/2011 National Population Projections 2010-based](#).

9. Local Authority Population Projections for Wales and Household Projections for Wales have generally been updated every two years. Since the 2006-based set these have been produced by statisticians the Welsh Government (formerly Welsh Assembly Government). For each set of projections a *Summary Report* is produced which compares and contrasts the patterns across all local authorities. For the Local Authority Population Projections a *Local Authority Report* has provided detailed analysis by local authority for each set of projections. For the Household Projections a *Local Authority Report* was produced for the 2006-based set whereas for the 2008-based set statisticians offered to provide the same detailed analysis by local authority on request.
10. The latest published population projections and household projections for local authorities in Wales are 2008-based and were both published in 2010. They are available from the Statistics for Wales website from the links below:

Local Authority Population Projections for Wales (2008-based)

<http://wales.gov.uk/topics/statistics/theme/population/pop-project/popprojla/?lang=en>

Local Authority Household Projections for Wales (2008-based)

<http://wales.gov.uk/topics/statistics/theme/housing/estimate/hsehold-proj/?lang=en>

11. The detailed population projections (principal projections and variant projections) are also made available by local authority, age and gender for the 25 year projection period on the Welsh Government's online statistical dissemination system [StatsWales](#), as are household projections by local authority, household type for the same period. This enables user to view, manipulate and download the detailed data.
12. The local authority projections produced by the Welsh Government are produced using a consistent methodology. This methodology has been applied to all local authority areas so that comparisons can be made across geographic areas and demographic characteristics. The methodology has been developed in close collaboration with experts from local authorities and key users in Wales through two technical advice groups, the Wales Sub-national Population Projections working group (WASPP) and the Wales Sub-national Household projections working group (WASHP). Each of these groups has been a subgroup of the Welsh Statistical Liaison Committee (WSLC). The working groups include representatives with knowledge of and/or experience of using demographic data and population projections, and, in the case of WASHP, experience of using housing data. Membership of the groups includes people from local authorities, a National Park, the Data Unit and the Welsh Government Statistical Department. The expertise of these groups are used by the Welsh Government Statisticians in deciding the appropriate methodology and outputs, however the final decisions on methodology are, under the Code of Practice for Official Statistics, for the Chief Statistician in the Welsh Government.
13. These working groups met on a regular basis during the preparation of each set of population or household projections and acted as a forum for technical discussion on the developing methodology, the base and historic data and publication of the projections. Bespoke software is used for the projections POPGROUP and HOUSEGROUP Wales.

14. For both the Local Authority Population Projections and the Household Projections for Wales a technical report was prepared which provided a detailed explanation of the models and the rationale for them, as well as the calculations, the base data and how volatility in the data was accounted for in setting the assumptions.

Principal and Variant projections

15. For both population and household projections a number of projections are made available in the published material. The main (or principal) projection is based on recent past trends in births, deaths and migration as well as past information about private household membership rates.
16. In order to illustrate the uncertainty associated with projections, the three variant projections have also been published for each local authority alongside the main (or principal) population projection. These variant projections are purely illustrative to show how possible variations in the fertility, mortality and migration assumptions impact the projections and how the size of this impact increases the further into the projection period the results are taken. The three variant projections published are:
- A *zero migration* (natural change only) projection to illustrate the projected population of each local authority if there were no future inward or outward migration.
 - A *higher population variant* which is based on assumptions of higher fertility rates and lower mortality rates.
 - A *lower population variant* which is based on assumptions of lower fertility rates and higher mortality rates

Uses of Population and Household projections

17. There is a high level of interest in population, migration and household data for Wales, and so a strong demand for projections at a local authority level. Those who plan for the future, to deliver a wide range of services (including housing, education, social services) and to help frame sustainable policies, need to consider the population by age and sex and potential future housing demand. The projections do not make allowances for the effects of local or central government policies or changing economic circumstances on future population levels, distribution and change and household formation rates. However they are useful as a basis for planning services and to estimate future need. Population and household projections can identify trends that shape the context for future policy development.
18. There has been and continues to be strong user engagement on the sub-national population and household projections, and the development of the published outputs in recent years has filled a major gap that was identified by users.
19. Key users include:
- Ministers,
 - Assembly Members and the Members Research Service in the National Assembly for Wales.
 - Welsh government colleagues working on services and policies delivered by local authorities including Local Government and Planning.
 - Other staff within the Welsh Assembly Government's Statistical Directorate.
 - Local Government Unitary authorities (elected members and officials),
 - NHS,
 - National Parks and a wide range of other organisations.
 - The Office for National Statistics.
 - Other government departments.
 - Students, academics and universities.

- Individual citizens and private companies

20. There is a wide range of uses of such projections. Some of these include:

- Advice to Ministers
- Future proofing services and estimating needs, e.g. schools, health and social services provision.
- Informing distribution of the Local Government Finance revenue settlement.
- Policy development.
- For the calculation of further statistics e.g. Housing Estimates and Projections.
- As denominators in rates (eg birth rates).
- Geographic profiling, comparisons and benchmarking.
- Analysis of population cohorts and migration trends.
- Estimating housing demand
- Support for preparation of Local Development Plans (LDPs)
- Estimates of Council Tax income
- To inform debate in the National Assembly for Wales and beyond.

Code of Practice on Official Statistics

21. As there are a wide range of potential users and uses of population and household projections it is important that the projections are prepared in accordance with the Code of Practice on Official Statistics in order that users can have confidence that they are managed impartially and objectively in the public interest, are produced according to sound methods, meet identified user need, are well explained and readily accessible.

22. The UK Statistics Authority, the statutory body responsible for promoting and safeguarding official statistics to serve the public good, undertook an assessment of a range of statistics on population, demography and households in Wales (including local authority population projections and household projections) in 2010-11. In their report² of the assessment, available on the UK Statistics Authority website they conclude that:

The Statistics Authority judges that the statistics covered by this report are readily accessible, produced according to sound methods and managed impartially and objectively in the public interest, subject to any points for action in this report.

23. In particular the UK Statistics Authority notes that the 'Welsh Assembly Government communicates well with the users of its population and demography statistics' and it also noted that the Welsh Government had held 'road shows for local authorities (LAs), which include presentations about the development of the outputs and guidance on how to use the statistics'.

24. Their letter of 20 January 2012 (also available on their website³) to the Chief Statistician in the Welsh Government confirms that they have reviewed the actions taken since the report and confirmed the statistical outputs meet the Code of Practice so that they can be designated as National Statistics. Under the Code of Practice statisticians must take account of user need but final decisions on methodology and outputs are for the Chief Statistician in the Welsh Government.

² <http://www.statisticsauthority.gov.uk/assessment/assessment/assessment-reports/assessment-report-101---statistics-on-population--demography-and-households-in-wales.pdf>

³ <http://www.statisticsauthority.gov.uk/assessment/assessment/assessment-reports/confirmation-of-designation-letters/letter-of-confirmation-as-national-statistics---assessment-report-101.pdf>

Use of Methodology and Models by Local Authorities

25. In the early stages of the project to develop the methodology it was clear (particularly in the case of household projections) that the raw data and the model used to produce the projections should be made available to external users, in particular local authorities in Wales. As a result for the population projections Welsh Government statisticians have set up a data sharing agreement with ONS to enable the sharing of the relevant data to local authorities. For the household projections bespoke software (known as HOUSEGROUP WALES) was commissioned. The raw data for both the population and household projections and the HOUSEGROUP WALES software have been provided to local authorities across Wales as well as other users on request. In addition, the statistics team has held technical workshops for LA researchers to help them understand and use the projections software with the using the base input data files.
26. These workshops and launch events held in 2008 for the local authority population projections received good feedback from participants.
27. The population and household projections are produced by the Welsh Government using a consistent methodology for local authorities across Wales. As such they provide a starting point for further demographic analysis at a local authority level. Nevertheless by making available both the raw data and the models used to produce the projections it is possible for local authorities to develop their own scenarios for future planning based on alternative assumptions or data. Guidance from the Planning Division of the Welsh Government supports the use of alternative scenarios in Local Development Plans (LDPs) where this can be justified with relevant evidence.

Timing of next Population and Household projections

28. Due to the timing of population and 2011 Census outputs from ONS and the time it would take to produce both population and household projections a decision was taken, following consultation with key users, not to produce a 2010-based set of projections for local authorities in Wales. Instead it was considered prudent to wait until the results of the 2011 Census had been published so that the information that they yield could be built into the next set of projections.
29. The next set of population and household projections will be 2011-based and detailed work is expected to begin in March 2013 (once the detailed information from the 2011 Census required for the projections are available) with results for both expected by the end of the year. The technical working group has been re-established and discussion of methodological issues is underway. It is expected that a Projections Stakeholder group will be established during preparation of these projections to enable stakeholder views on outputs to be gathered and considered.

Sue Leake
Head of Sustainable Futures Analytical Team,
Knowledge and Analytical Services, Welsh Government
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