Population, household and labour force projections for the Peak District National Park Authority and East Midlands Regional Assembly

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Preface

This report was commissioned by the Peak District National Park Authority. The Census data which have been used extensively and are reported in some sections, are Crown copyright. Some have been accessed directly from the Office for National Statistics, and others via the academic service provided by the JISC/ESRC Census Initiative.

Contents

The results of the projections are also provided on Excel files in full detail together with interrogation software. A technical appendix provides details of how to use the Excel files provided to explore the results further.

This report: “Population Projections for PDNPA CCSR Report Nov 2006.doc”

Executive Summary

Projections have been developed using standard demographic methods and data as also used by government agencies, for the National Park area. Table 1 summarises the results for a census based projection which assumed continuation of recent patterns of population change using census data on migration and population with vital statistics on births and deaths. Other projections discussed in the report impose a variety of alternative assumptions about migration and about change in the stock of dwellings in the National Park area.

Table 1: Peak District National Park – National Park total - Population, Household and Economic activity projections

NATIONAL PARK total	2001	2006	2011	2016	2021	2026	% change 2001-26
Population	37,898	37,715	36,955	35,645	33,957	32,097	-15.3
Households	15,946	16,215	16,320	16,113	16,101	15,768	-1.1
Labour force	11,126	10,612	9,817	9,000	8,141	7,119	-36.0

The report makes the following main conclusions:

1. If recent levels of birth, death, and migration rates continue the population of the National Park is projected to decline by 15% between 2001 and 2026 becoming increasingly elderly with over 49% of the population aged over 60 in 2026.
2. The age composition of migration is the key driver of this change. The total number of residents moving into the National Park is very similar to the number moving out, but out migration of those in child-bearing ages and in migration of those aged between 35 and 59 causes population decline as deaths exceed births.
3. The aging of the population projected in the National Park projections is greater but not unlike that projected for the remainder of the High Peak and Derbyshire Dales districts (derived from projections by Anglia Ruskin University) and for the East Midlands region and England (projected by the Office for National Statistics).
4. Alternative projections assuming 0 or 48 dwelling completions per year serve to reduce the extent of overall population decline. Assumptions of 95 or 150 dwelling completions per year imply an increase of population - should they be filled by households with no change in rates of vacancy and holiday homes.
5. The projected decline in the number of households is not as great as for the population. This is due to the decrease in average household size caused mainly by an increase in one person households countering the effect of the fall in population.
6. However, the decline in the working age population continues under all dwelling assumptions indicating that if the migration age structure remains as observed in the year prior to the census then increasing the dwellings to 150 will not counter the decline in the working age population.
7. Similar results to that of the National Park are generally found in its Derbyshire Dales and High Peak areas. However, in the smaller Staffordshire Moorlands area the migration profile has less impact on the population age structure and population decline is due directly to considerable net out migration

Introduction

This document provides a report of population, household and labour force projections for the Peak District National Park Authority (PDNPA) and the East Midlands Regional Assembly (EMRA) to inform work on the Local Development Framework. The National Park is divided into parts based upon its overlap with 12 local authorities (9 excluding county authorities).

The report is divided into five parts. First, the methods and data used to produce the projections are explained. Second, population projections, at five year intervals, are presented for the three largest parts of the National Park (areas A), and for the remainder areas of Derbyshire Dales and High Peak local authority districts outside the National Park. Third, changes in the population age structure over the projection period are examined and the importance of migration is discussed in order that the projected change in population, household and labour force can be understood. Fourth, household projections are presented and fifth, labour force projections are explored.

1. Method

In each case, the methods used for the main National Park areas (Areas A below) are standard in government and local government work. Population projections use cohort component projections with single year of age cohorts. Household projections deduct the institutional population from the projected whole population and apply household age-sex-specific headship rates to the household population. Workforce projections multiply the projected population by age-sex-specific economic activity rates. The sections below describe the methods and data used.

1.1 Population projections

1.1.1

Projections are produced for six areas which can be classed into three area types:

Areas A (three areas): The National Park parts of the three Local Authority districts with more than 3,500 people living in the National Park in 2001. The percentage of the total National Park population in each of them was as follows in 2001:

- Derbyshire Dales 66%
- High Peak 17%
- Staffordshire Moorlands 10%

Area B: The rest of the National Park area including all Local Authority districts with less than 3,500 people living in the National Park in 2001.

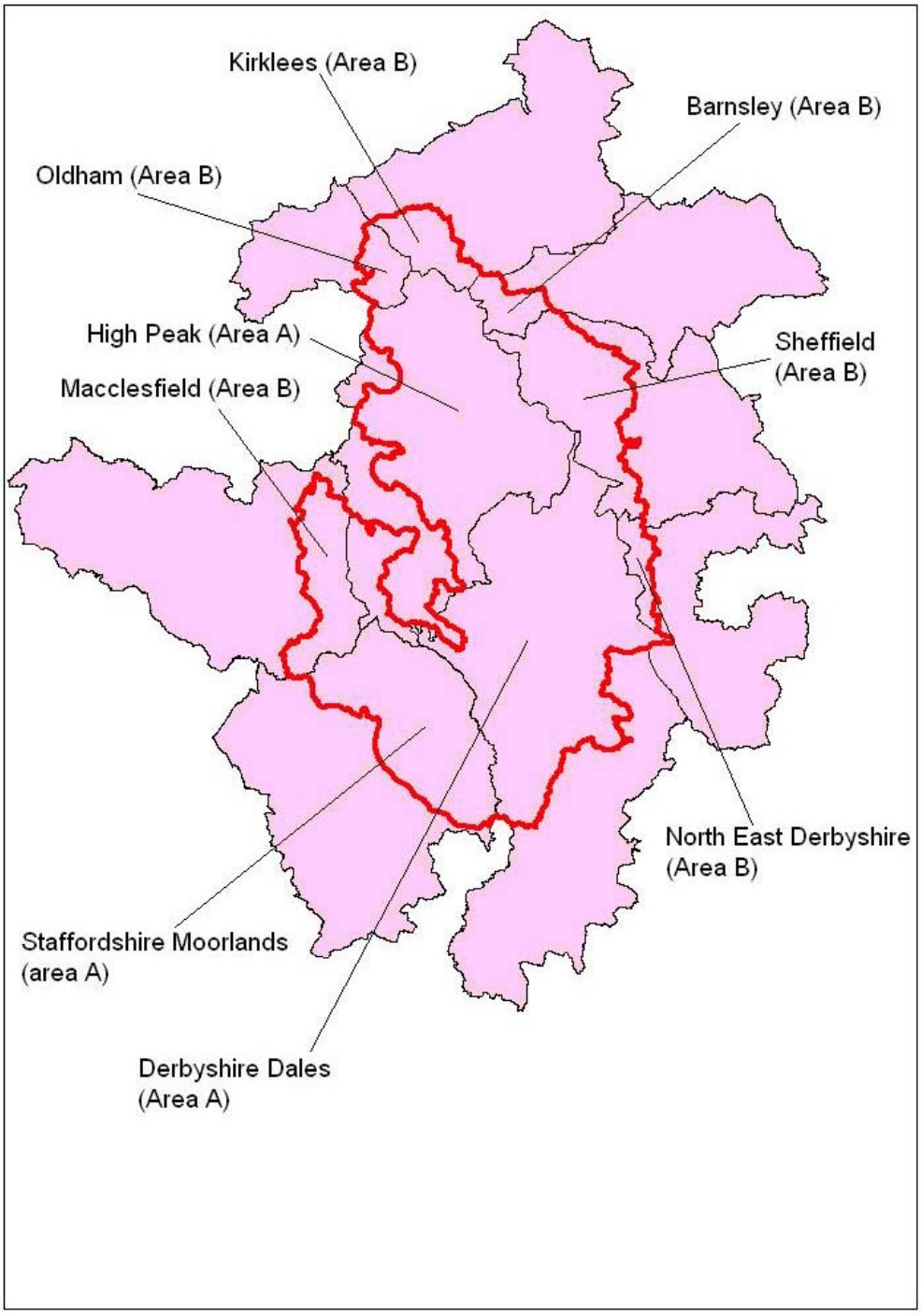
District Remainder areas:

- High Peak (part of district outside the National Park boundary)
- Derbyshire Dales (part of district outside the National Park boundary)

Map 1 below shows the Peak District National Park (bold boundary) and the districts that overlap it. The map also indicates the location of the A and B areas.

The methods used for the remainder areas, areas A and area B differ and are explained separately.

Map 1: Peak District National Park and overlapping districts



Population projections areas A

1.1.2
The population of each of the areas A is projected to 2026 under seven different assumptions:

- Census based projection
- Zero net migration
- Natural change
- 0 dwellings per annum
- 48 dwellings per annum
- 95 dwellings per annum
- 150 dwellings per annum

The general method that was used to produce the population projections involved applying fertility, mortality and migration rates to a population in a given year in order to calculate the population in the subsequent year. The first year's data (base population) was for 2001 and was taken from the census.

1.1.3
Census based projection
The Census based projection uses the data below:

Base population	2001 Census data from table CAS0001 (single year by sex).
Fertility	GAD 2004 projections of age-specific fertility rates for England. Vital statistics at output area level were used to estimate annual numbers of births in each National Park area each year between 2001 and 2004. On the basis of these data a local scaling factor was calculated to reflect the slightly lower fertility in the Derbyshire Dales and higher fertility in the High Peak and Staffordshire Moorlands.
Mortality	GAD 2004 projections of age-specific mortality rates for England. Vital statistics at output area level were used to estimate annual numbers of deaths for each National Park area between 2001 and 2004. On the basis of these data a local scaling factor was calculated to reflect the slightly lower mortality in the High Peak and Staffordshire Moorlands areas.
Migration	An age/sex schedule based on in- and out-migration data for the year before the census. International migration is assumed to have no net effect.

1.1.4
Zero net migration
This projection used the same data as in the Census based projection; however, the number of out migrants was constrained to equal the number of in migrants observed in 2001 (Derbyshire Dales – 1,740, High Peak – 402, Staffordshire Moorlands – 147). Under this projection, migration has no direct impact on the total population, but does affect the age structure.

1.1.5

Natural change

This projection uses the same data and approach as the Census based projection but with no effect of migration.

1.1.6

Dwelling constrained projections

Population projections were constrained to a range of assumptions regarding the number of dwelling completions per annum. Dwelling completions were allocated to National Park areas according to population as shown by the table below:

Table 2: Dwelling completion allocation

Assumption – dwelling completions per annum	National Park	Derbyshire Dales	High Peak	Staffordshire Moorlands
0 dwellings p.a.	0	0	0	0
48 dwellings p.a.	48	33	9	6
95 dwellings p.a.	95	67	17	11
150 dwellings p.a.	150	106	27	17

The dwelling assumptions were made for the following reasons:

- 48 dwellings – underlying annual completion rate since 1991, discounting windfall sites and permissions on hand at the beginning of the current Structure Plan period in 1991.
- 95 dwellings – annual completion rate since 1991.
- 150 dwellings – to provide an indication of the impact of less constrained development.

Population projections for remainder areas

1.1.7

The projections for remainder areas involved population projections for the Derbyshire Dales and High Peak districts produced by the ONS and the ARU. From these we subtracted our projections for the parts of the district within the National Park (High Peak area A and Derbyshire Dales area A). In order to produce such projections for remainder areas the assumptions for the district projections needed to match those used for the National Park areas. The table 3 shows the corresponding district and National Park projections.

Table 3: Data used for the remainder area projections

District Projection	National Park area projection
2003 ONS population projections	Census based projection
ARU district projections – Natural change	Natural change projection
ARU district projections – zero net migration	Zero net migration projection
ARU 462 dwellings per annum split between Derbyshire Dales (183) and High Peak (279)	33 dwellings per annum in Derbyshire Dales 9 dwellings per annum in High Peak.

1.1.8
The 462 dwelling completions per annum are split between Derbyshire Dales and High Peak based on the allocation in the current East Midlands Regional Plan draft. In the Derbyshire Dales district there are 183 dwelling completions per annum of which 33 are in the National Park In the High Peak Borough there are 279 dwelling completions per annum of which 9 are in the National Park (see table 3 above).

1.1.9
It should be noted here that whilst the data sources for births and deaths used for the district and National Park projections are the same, there are some differences in migration data used. The 2003 ONS district projections use patient re-registrations to measure migration whilst for the CCSR National Park projections and the ARU projections, census data on migration in the year before the census is used. This difference in data sources is unavoidable as patient re-registrations are not available for areas smaller than local authority districts and not obtainable through ARU projections. In the absence of any other data on migration, the Census is the most appropriate source to estimate National Park migration.

1.1.10
There is a need and demand for official data to be released for National Park boundaries so that policy and planning decisions can efficiently tackle the unique issues that such areas face. The absence of patient re-registration and census data (output area data is used here to estimate population statistics for park areas) represents a weakness in the dissemination of official statistics.

1.1.11
It is only possible to produce projections for remainder areas under the census/ONS projections, natural change, zero net migration and 48 dwelling completions per annum scenarios because only these ARU projections for whole district areas have been provided.

Area B population projections

1.1.12
As indicated in the brief the National Park was split into its overlaps with each local authority district which were then categorised as two types of areas; those with a population over 3,500 (areas A) and those with a population below 3,500 (areas B). Population estimates were created using data for census output areas from census table CAS001 – age and sex and resident type – which gives the fine age differentiation required to produce projections. However this fine age

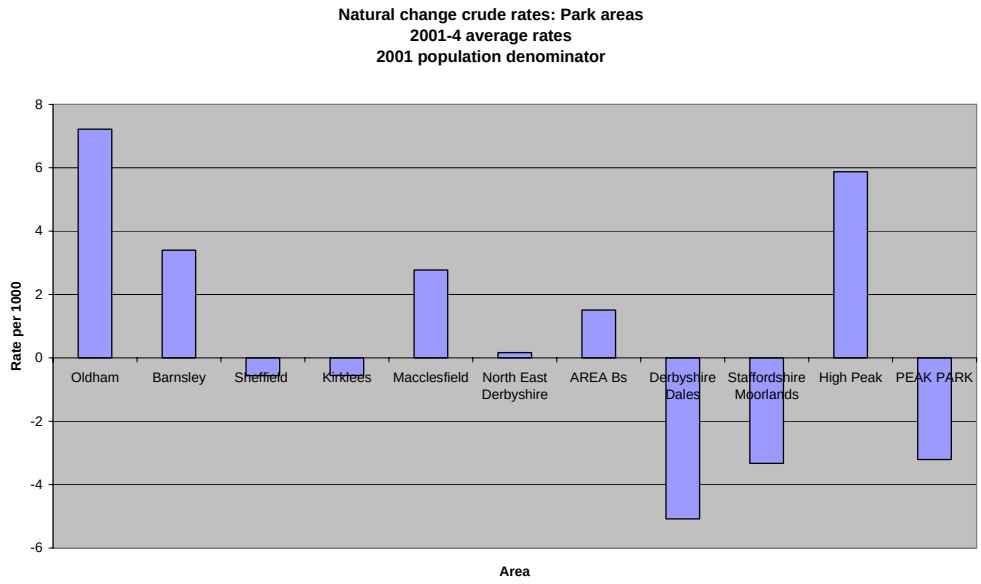
detail results in small counts in some output areas which are subject to rounding by the ONS to avoid disclosing information on individuals. This may result in slight differences in population estimates to those produced using other census tables. This again indicates a future need for further statistical output from ONS specifically for the National Park area.

Areas A:	**Areas B:**
Derbyshire Dales (24,879)	Oldham (102)
Staffordshire Moorlands (3,905)	Barnsley(111)
High Peak (6,373)	Sheffield (914)
	Kirklees (213)
	Macclesfield (1,318)
	North East Derbyshire (84).

1.1.13
The approach used to project the population of the combined areas B is to apply the same rate of change as observed for the National Park (areas A). The analysis below summarises and discusses the data on natural change and net migration in order to justify this approach.

1.1.14
Graph 1 shows the natural change crude rates for each of the National Park areas (A and B). Crude birth and death rates are based on the average number of births and deaths between 2001 and 2004 with the population in 2001 as the denominator. The natural change crude rate is equal to the crude birth rate – crude death rate. The crude natural change rate for all area B's is approximately 2 per 1000.

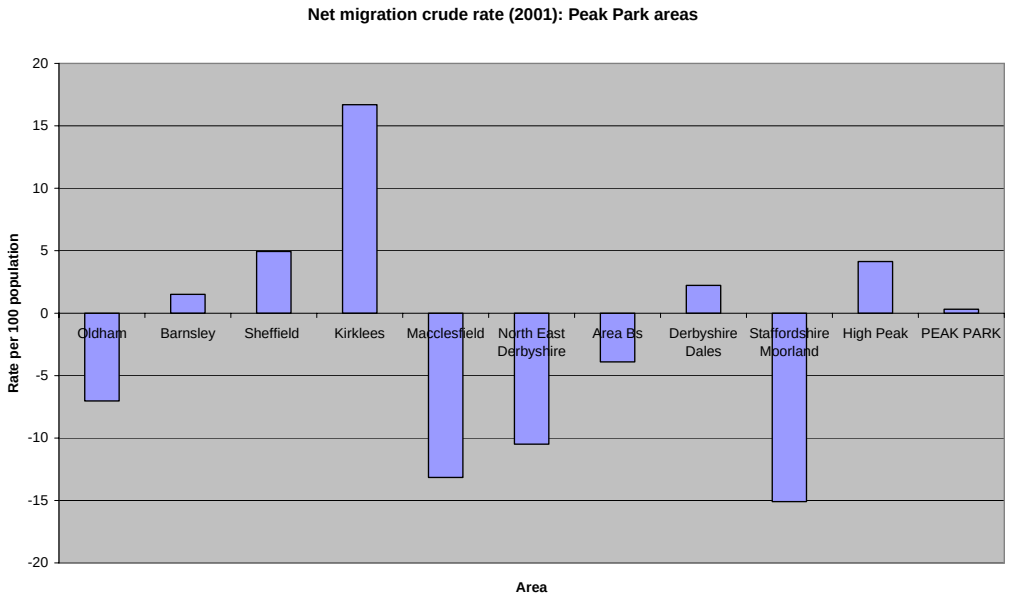
Graph 1: Natural change crude rates – National Park areas
(Note: all areas on graph refer to parts of districts within the National Park area 'Peak Park' includes areas A only)



1.1.15

Graph 2 shows the crude net migration rates for the A and B areas. These rates are based upon 2001 census migration data for the year before the census. Whilst there is some variability in the rates between the B areas, over B areas as a whole there is a slight reduction in the population due to migration (approximately – 4 per 1000 people). In the National Park there is a slight increase.

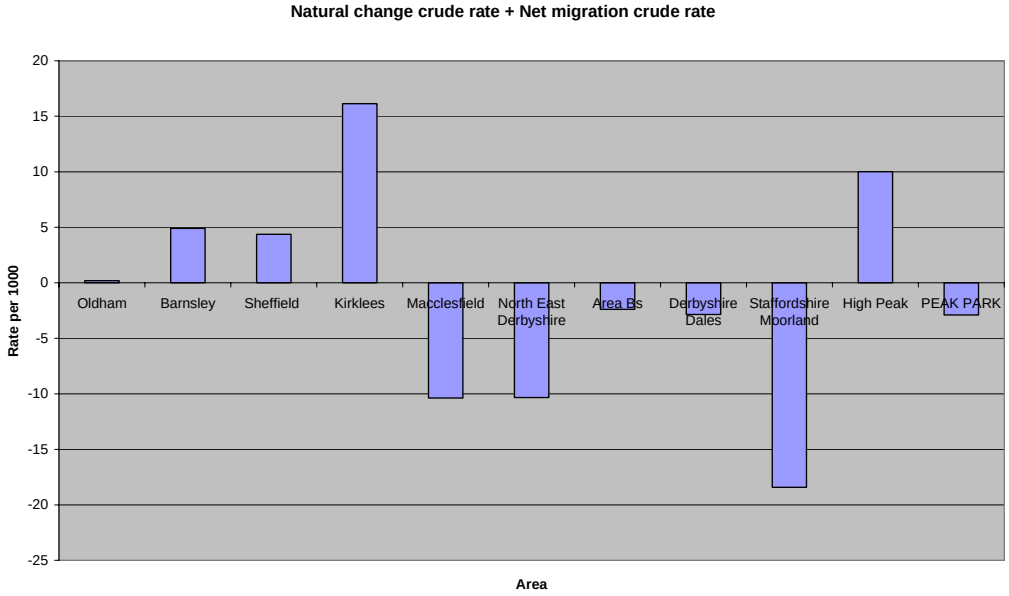
Graph 2: Net migration crude rates – National Park areas
(Note: all areas on graph refer to parts of districts within the National Park area; 'Peak Park' includes areas A only)



1.1.16

Graph 3 shows the natural change crude rates and net migration crude rates added together. The natural change crude rates are the average observed between 2001 and 2004 and the net migration crude rates refer to the year before the 2001 census. This graph gives an indication of the total annual population change due to births, deaths and in and out migration. The results for all area B's show a slight decrease in population each year at a similar rate to the National Park area as a whole. The approach taken to project the population change for area B is therefore to set its change to be the same rate as projected for the National Park as a whole.

Graph 3: Natural change crude rates + net migration crude rates: National Park areas (Note: all areas on graph refer to parts of districts within the National Park area; 'Peak Park' includes areas A only)



1.2 Household Projections

1.2.1

The number of households in the Peak District National Park are projected to 2026. This report gives results in terms of total numbers of households, and according to specific household types matching those used by the Department for Communities and Local Government (DCLG).

Table 4: DCLG Household categories

Married Couple
Cohabiting Couple
Lone Parent
Other multi person
One person

1.2.2
For the areas A, household populations are calculated by subtracting the population not in households (the census communal establishment population) from the total population (population projections) for each year of the projection. This household population is then divided into the various household types using the Department for Communities and Local Government (DCLG) projected headship rates (the probability associated with each household type).

1.2.3
The DCLG projected headship rates were provided at local authority level. PDNP projected headship rates were calculated by adjusting the rates so that household estimates in 2001 match the 2001 census estimates for the PDNP. Household projections are produced for each of the National Park areas A under each of the assumptions described above. Household/dwelling ratios from the 2001 census were used to give dwelling projections under each of the projection assumptions.

1.2.4
The number of households in area B is projected using the crude headship rate (the average household size) projected for the National Park (areas A) under the census based projection with an adjustment (scale factor = 0.96) to reflect the slightly lower headship rate in area B observed in 2001.

1.2.5
The census-based household projections for areas A were then constrained to alternative dwelling assumptions, as follows. The dwelling/household ratio estimated from the 2001 census converts census-based household projections to dwelling projections. Comparison with the alternative dwelling assumption led to a different level of migration to ensure the population resulted in the specified dwelling change each year. It should be noted that the dwelling to household ratio observed in 2001 was applied to all years of the projection and that this does not take into account future policy decisions that might impact on this ratio through changed rates of vacancies and holiday properties.

1.3 Labour force projections

1.3.1
The number of economically active people is projected for each of the National Park areas up to 2026. As for household headship rates, for areas A detailed age-sex-specific economic activity rates for larger census areas were adjusted to take into account the evidence for the National Park area totals. Ward rates (taken from table S028) are applied to output areas that overlap the National Park areas A which are then weighted according to the proportion of population within each particular National Park area. These rates are locally adjusted so that the estimate of numbers who are economically active equals the estimates observed in the 2001 census using data at output area level from table CAS032.

1.3.2
The trend in age-sex specific economic activity rates is taken from the latest ONS projection of the workforce of England and Wales, published in 1998, which end in 2011. They envisage a slight reduction in young and male activity rates and increase in female activity rates. In this report no further change in economic activity rates is assumed after 2011.

1.3.3
The number of economically active in area B is projected using the crude economic activity rate projected for the National Park (areas A) under the census based projection with an adjustment (scale factor=1.1) to reflect the slightly higher economic activity rate in area B observed in 2001.

1.4 Robustness of the projections

1.4.1
The results are not intended as a forecast, but provide the implications of continued population change at recent levels, with alternatives driven by a variety of assumptions about future levels of house-building.

1.4.2
The methods used and the nature of the data used are the same as inform the government and ARU projections. In this sense the report provides a parallel and comparable set of projections as those available for local authority Districts. Only in the case of migration is the data source different: this report uses data from the 2001 census while other projections use patient re-registration data not available for the National Park area (discussed in paragraph 1.1.9 above).

1.4.3
The existing relatively old population structure of the National Park is confirmation, however, that the pattern of migration shown by the census, of a net surplus of younger adults leaving and older adults arriving in the National Park area, is not a chance pattern in census year alone but a long-standing pattern that is likely to continue as assumed in these projections if social trends and policies do not significantly change.

1.4.4
However it should be stressed that future policy decisions by authorities at all levels including Local Housing Authorities, National Park and national government can affect the population. In particular, the types of houses built, work available, transport links, housing occupancy and the prevalence of holiday homes would all affect the migration patterns and types of households that live in the National Park. These in turn influence the size and nature of population and household change.

2. Population Projections - Results

2.1 National Park areas

2.1.1

Tables 5 to 8 show the population projections within each of the National Park areas (areas A) under each of the alternative scenarios. The main findings are:

- Decrease in population in all areas under the census based projection, zero net migration, natural change and 0 dwellings assumptions.

- The largest decrease in population occurs in the zero net migration projection in all areas except Staffordshire Moorlands.

- The larger decrease in population size under the assumption of zero net migration, compared with natural change, suggests net out migration of those in child bearing ages and in migration of older adults resulting in population decline (see section 3 for more discussion).

- The smaller decrease in population observed in the census based projection compared with the zero net migration projection indicate a slight positive effect of migration in the census based projection. This is confirmed by graph 2 on page 10.

- 14% and 6% reductions in the National Park population are predicted under the assumptions of 0 dwelling completions and 48 dwellings respectively.

- A slight increase (1.1%) in the National Park population is predicted between 2001 and 2026 under the assumption of 95 dwelling completions per annum.

- A large increase (9.9%) in the National Park population is predicted between 2001 and 2026 under the assumption of 150 dwelling completions per annum.

Table 5: Peak District National Park - total areas A - Population projections

NATIONAL PARK areas A. Alternative assumptions:	2001	2006	2011	2016	2021	2026	% change 2001-26
Census based projection	35,157	34,988	34,283	33,067	31,501	29,776	-15.3
Natural Change	35,157	34,496	33,800	33,239	32,772	32,197	-8.4
Zero net migration	35,157	34,425	33,324	32,024	30,591	28,981	-17.6
0 dwellings p.a.	35,157	34,335	33,386	32,322	31,205	30,296	-13.8
48 dwellings p.a.	35,157	34,937	34,570	34,044	33,411	32,948	-6.3
95 dwellings p.a.	35,157	35,527	35,731	35,737	35,582	35,559	1.1
150 dwellings p.a.	35,157	36,219	37,095	37,730	38,141	38,634	9.9

Table 6: Peak District National Park – Derbyshire Dales area A - Population projections

DERBYSHIRE DALES Alternative assumptions:	2001	2006	2011	2016	2021	2026	% change 2001-2026
Census based projection	24,879	24,791	24,392	23,662	22,670	21,579	-13.3
Natural Change	24,879	24,228	23,599	23,087	22,652	22,151	-11.0
Zero net migration	24,879	24,175	23,246	22,194	21,066	19,829	-20.3
0 dwellings p.a.	24,879	24,327	23,707	22,973	22,167	21,504	-13.6
33 dwellings p.a.	24,879	24,736	24,511	24,142	23,663	23,302	-6.3
67 dwellings p.a.	24,879	25,159	25,343	25,353	25,214	25,166	1.2
106 dwellings p.a.	24,879	25,644	26,300	26,749	27,004	27,316	9.8

Table 7: Peak District National Park – High Peak area A - Population projections

HIGH PEAK Alternative assumptions:	2001	2006	2011	2016	2021	2026	% change 2001-2026
Census based projection	6,373	6,546	6,532	6,370	6,109	5,791	-9.1
Natural Change	6,373	6,370	6,318	6,275	6,241	6,182	-3.0
Zero net migration	6,373	6,357	6,226	6,026	5,783	5,500	-13.7
0 dwellings p.a.	6,373	6,254	6,092	5,901	5,690	5,512	-13.5
9 dwellings p.a.	6,373	6,369	6,322	6,239	6,124	6,032	-5.4
17 dwellings p.a.	6,373	6,472	6,527	6,542	6,513	6,499	2.0
27 dwellings p.a.	6,373	6,600	6,784	6,922	7,003	7,087	11.2

Table 8: Peak District National Park – Staffordshire Moorlands area A - Population projections

STAFFORDSHIRE MOORLANDS Alternative assumptions:	2001	2006	2011	2016	2021	2026	% change 2001-2026
Census based projection	3,905	3,650	3,359	3,034	2,722	2,406	-38.4
Natural Change	3,905	3,898	3,883	3,878	3,880	3,864	-1.1
Zero net migration	3,905	3,893	3,853	3,803	3,742	3,652	-6.5
0 dwellings p.a.	3,905	3,754	3,587	3,448	3,348	3,280	-16.0
6 dwellings p.a.	3,905	3,832	3,736	3,663	3,624	3,614	-7.4
11 dwellings p.a.	3,905	3,897	3,861	3,843	3,855	3,894	-0.3
17 dwellings p.a.	3,905	3,975	4,012	4,059	4,133	4,231	8.4

2.2 District Remainder areas

2.2.1

Tables 9 and 10 show the population projections for the remainder areas outside the National Park. The main findings here are:

- Similar increase in population between 2001 and 2026 under the Census based projection and natural change projections in both remainder areas
- Reduction in population size under zero net migration in both remainder areas but more significantly in Derbyshire Dales
- Reduction in population size in Derbyshire Dales under the assumption of 183 dwelling completions per annum (in the district)
- Slight increase in population size in High Peak under the assumption of 279 dwelling completions per annum (in the district)
- Remainder areas show less population decline than projected in the National Park areas.

Table 9: Derbyshire Dales remainder area - Population projections

Derbyshire Dales Remainder area	2001	2006	2011	2016	2021	2026	% change 2001-2026
Census based projection	44590	45278	46491	48220	50396	52603	18.0
Natural Change	44521	45872	47501	49013	50648	51849	16.5
Zero net migration	44521	44692	44256	43332	42101	40658	-8.7
183 dwellings p.a.	44521	44406	44190	43572	42946	42532	-4.5

Table 10: High Peak remainder area - Population projections

High Peak Remainder area	2001	2006	2011	2016	2021	2026	% change 2001-2026
Census based projection	83060	84390	85736	87381	89228	90977	9.5
Natural Change	82627	84630	85982	87625	89059	90518	9.6
Zero net migration	82627	83067	83024	82613	81890	80733	-2.3
279 dwellings p.a.	82627	82718	82964	83094	83651	84779	2.6

2.3 Area B population projections

2.3.1

Graph 4 and table 11 indicate that the total population of the area B is projected to fall by 15% between 2001 and 2026. The rates of total population change projected for the National Park areas A in the census based projection are applied to the area B population each year to produce the area B projections. The increase in population decline towards the end of the projection reflects the population changes projected in the areas A. The increase in population decline in the areas A is a result of increasing natural loss caused by migration patterns that serve to steadily age the population structure over the projection period. The effect of migration is discussed in detail in section 3.

Graph 4 : Peak District National Park – total area B - Population change

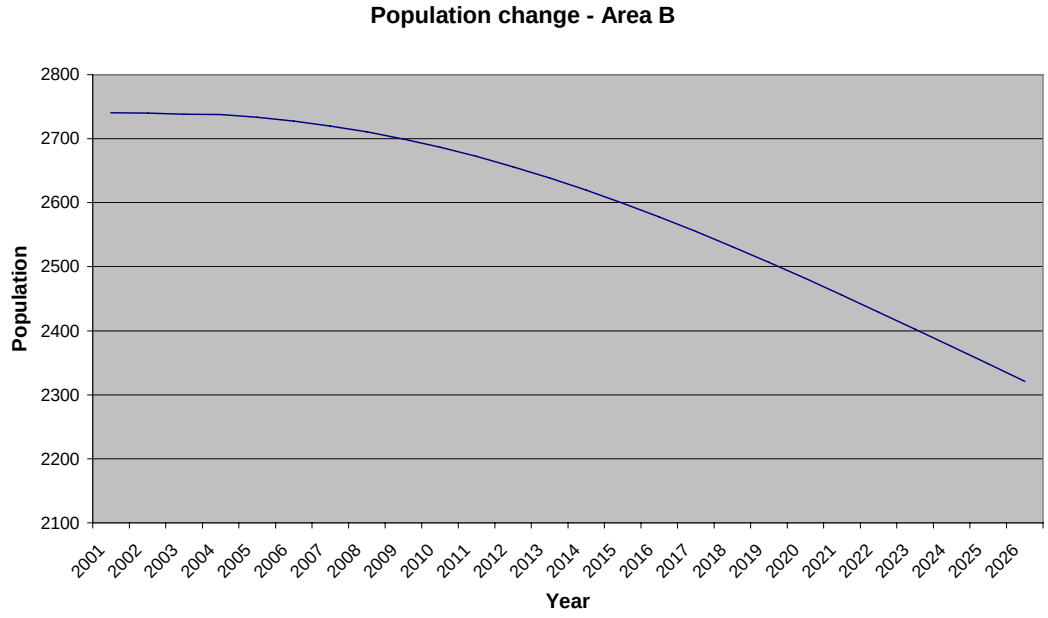


Table 11: Peak District National Park – total area B - Population projections

Year	2001	2006	2011	2016	2021	2026	% change 2001-26
Area B population	2,741	2,727	2,672	2,578	2,456	2,321	-15.3%

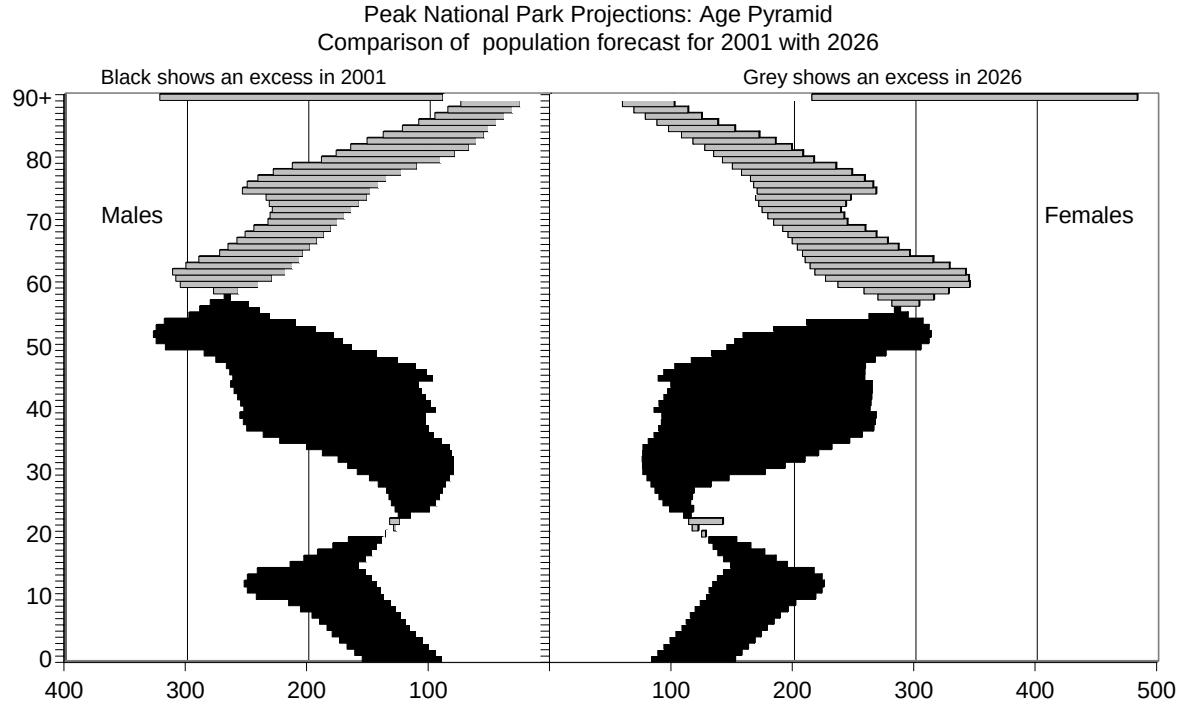
3. Population structure and the effect of migration

3.1 Age pyramid and migration profiles

3.1.1
Graph 5 shows that the population is predicted to become increasingly elderly between 2001 and 2026 under the Census based projection. The black bars indicate greater population in 2001 and are found almost exclusively under the age of 60. The grey bars indicate greater population in 2026 and are found predominantly for ages above 60.

3.1.2
The increase in population over the age of 60 in 2026 is a consequence of the aging of the large population aged 40-60 in 2001 combined with the migration pattern that shall be discussed next.

Graph 5: Peak District National Park – total areas A - Comparison of population pyramids 2001 and 2026 (Census based projection)



3.1.3
The age structure of migration is crucial to understanding the change in population structure, shown by graph 5 above.

3.1.4

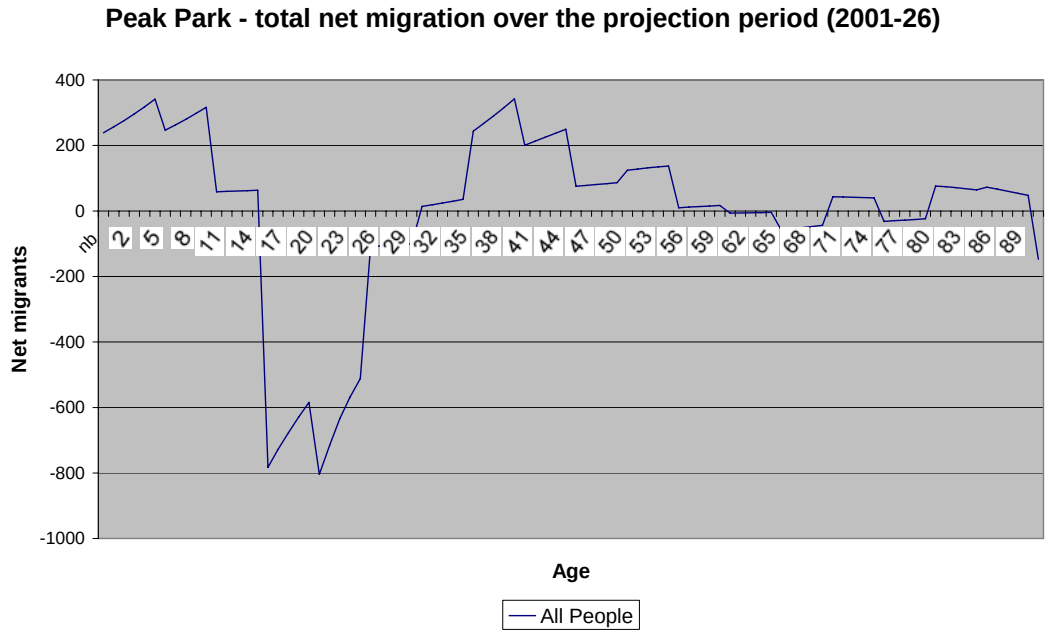
Graph 6 (below) shows the total net impact of migration for the National Park over the whole projection period (2001-26) under the census based projection. It indicates:

- Large out migration between the ages of 15 and 29 (loss of 7155 people over the projection period)
- Migration out in the 15 to 29 age group is likely to be due to factors in addition to people leaving to go to university as people beyond university age (up to 29) are leaving the area. The high cost of accommodation may be a factor.
- No evidence of a significant return of post graduates who left the area to go to university.
- Lower levels of in migration between the ages of 35 and 59 (gain 3172 people over the projection period) compared with out migration between the ages of 15 and 29.
- Little impact of migration over the age of 60 (except for the oldest age group).

3.1.5

The pattern of migration described above has several important implications. Over all ages there is not a significant change in population directly due to migration (see graph 2, page 10). Over the entire census-based projection of 25 years there a net surplus through migration of 405 persons, which is less than one per thousand per year. But the age pattern of migration serves to change the age structure of the National Park which then contributes towards its decline. The loss of population at child bearing ages and gain in population at the older ages causes a decline in population due to natural change as the number of deaths exceeds the number of births (see graph 1, page 10) .

Graph 6: Peak District National Park – total areas A - total net migration over the projection period (2001-2026)



3.1.6

Graphs 7 to 9 show the net migration according to single year of age in each of the areas A - Derbyshire Dales, High Peak and Staffordshire Moorlands. The main findings are:

- A similar pattern of migration in High Peak and Derbyshire Dales and therefore a similar associated effect of population aging.

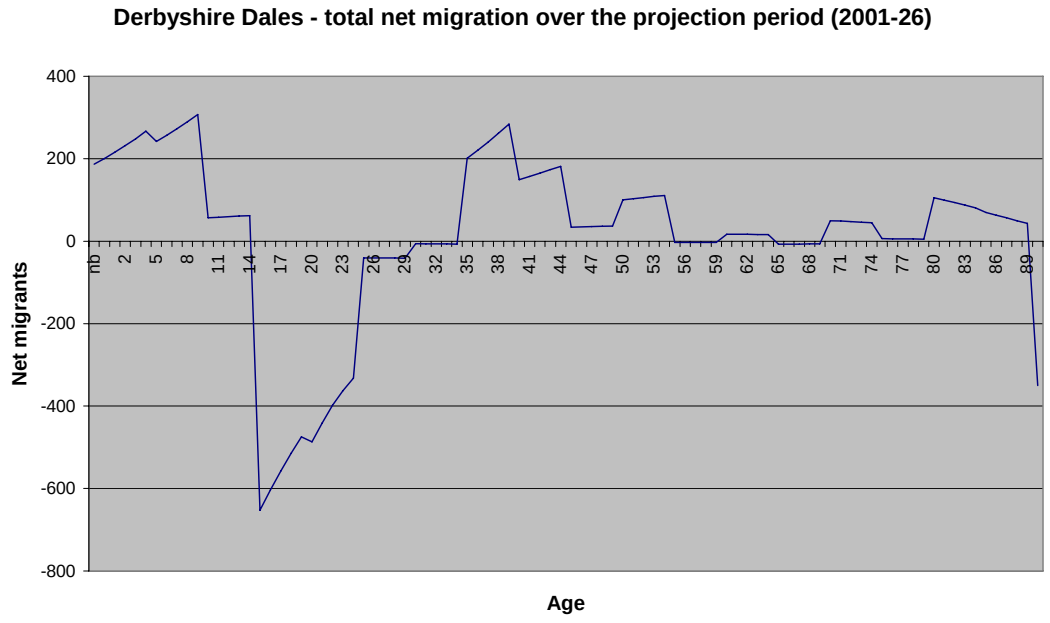
- A flatter migration profile in Staffordshire Moorlands and out migration between the ages of 60 and 89. This indicates that migration will have less effect in terms of population aging in this area compared with the others.

- Two further differences in migration are found in Staffordshire Moorlands. First, out migration of under 16s implies that families are not moving into the area and second there is a notable (but small) pre retirement in-migration not observed in the other areas.

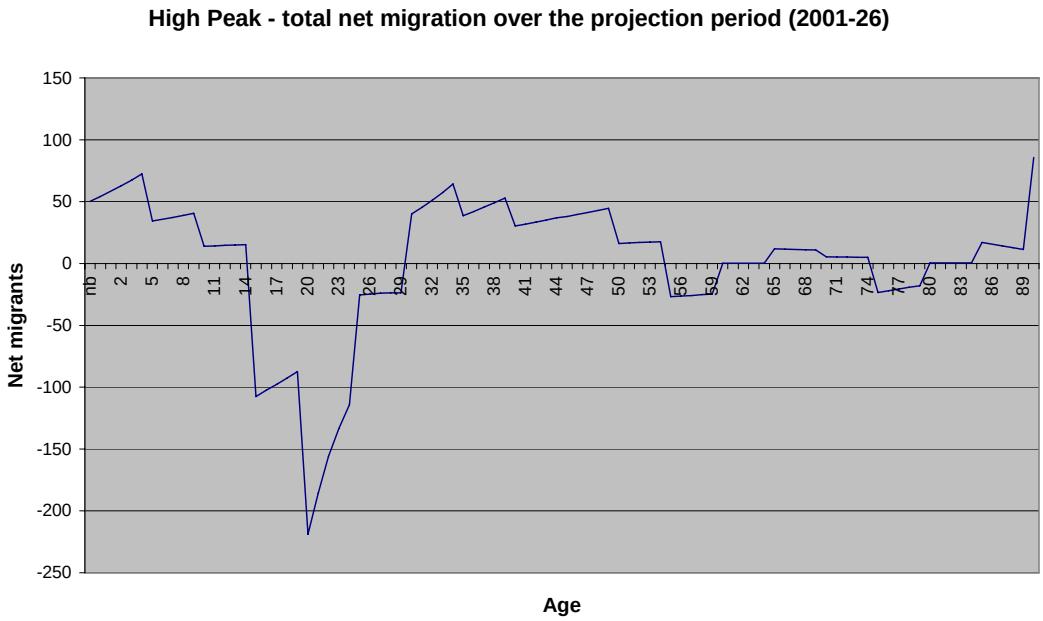
3.1.7

The effect of the slightly different migration profile in Staffordshire Moorlands compared with the two other A areas can be seen in table 8 on page 15. The difference in population decline between 2001 and 2026 projected for the net migration and natural change projections is less than observed in the High Peak and Staffordshire Moorlands because migration ages the population structure less.

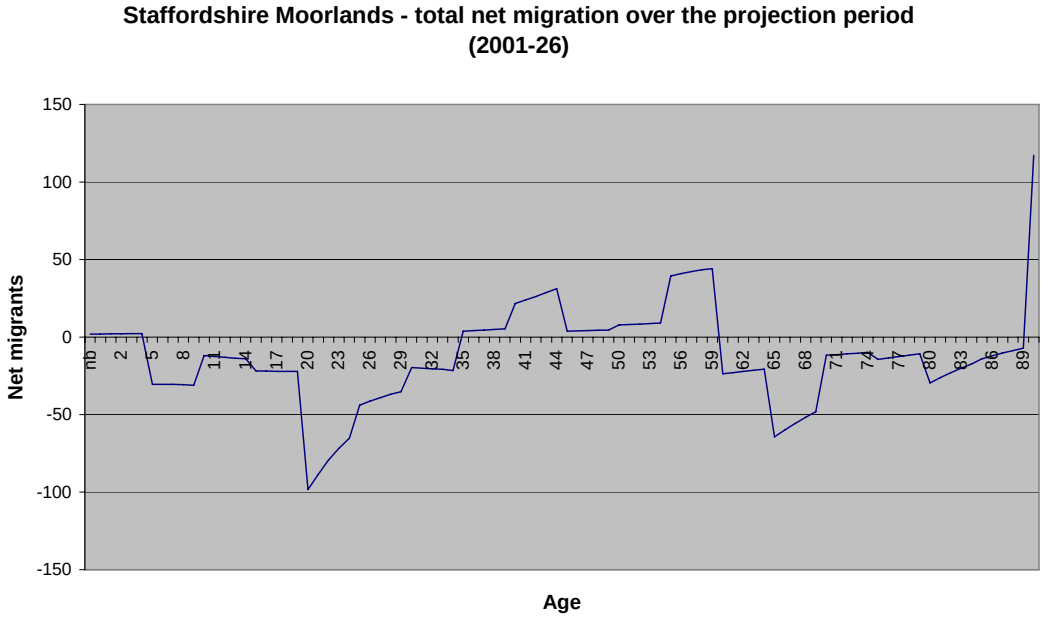
Graph 7: Peak District National Park – Derbyshire Dales area A - total net migration over the projection period (2001-2026)



Graph 8: Peak District National Park – High Peak area A - total net migration over the projection period (2001-2026)



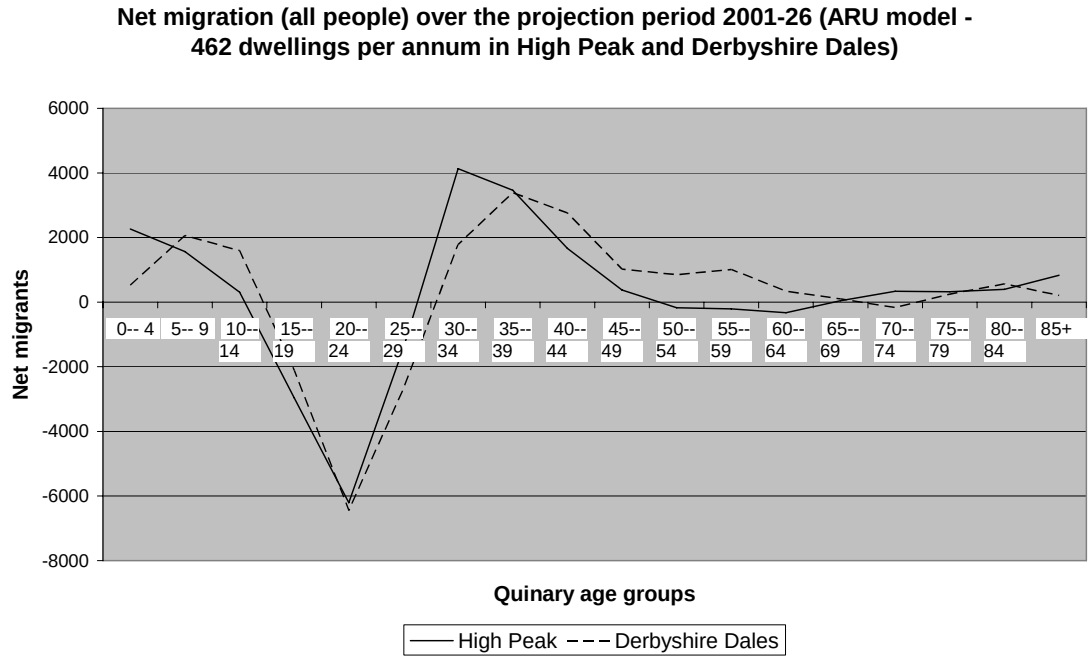
Graph 9: Peak District National Park – Staffordshire Moorlands area A - total net migration over the projection period (2001-2026)



3.1.8

Graph 10 shows the net migration according to the ARU projection assuming 462 dwellings per annum in the High Peak and Derbyshire Dales. It indicates that the patterns of migration at regional level are similar to those observed in the associated National Park A areas. In section 3.2 we show that the Districts are aging like the National Park area, but at a slower rate.

Graph 10: High Peak and Derbyshire Dales (districts) - total net migration over the projection period (2001-2026) (ARU projections)



3.2 Age structure

3.2.1

Tables 12 to 15 provide the population age structure of the National Park in 2001 and in 2026 according to each of the projection assumptions. The main findings here are:

- In each scenario and area the proportion aged over 60 is predicted to rise to at least 40%
- The natural change projection predicts the lowest proportions aged over 60 in 2026 confirming that migration plays an important role in the aging process
- A decrease in the proportion of the National Park (areas A) population aged under 16, 16-49 and 50-59 for all projections between 2001 and 2026
- An increase in the proportion of the National Park (areas A) population aged 60-74 and 75+ between 2001 and 2026
- National Park (areas A) population set to age most under the Census based projection and under assumptions of zero net migration and 0 dwelling completions per annum

- Similar results to those described above for High Peak and Derbyshire Dales
- In Staffordshire Moorlands the population structure is similar in the natural change and zero net migration projections confirming that migration does not play such a significant role in changing the age structure as in other areas A.
- The existing population structure in Staffordshire Moorlands is to a greater extent responsible for the aging of the population in this area compared with the High Peak and Derbyshire Dales areas A.

Table 12: Peak District National Park - total areas A - population age structure

Year	**Projection**	% under 16	% 16-49	%50-59	% 60-74	% 75 +
2001	Census estimates	18	39	17	17	9
2026	Census based projections	13	23	15	28	21
2026	Natural change	15	35	10	21	19
2026	Zero net migration	13	21	16	28	22
2026	0 dwellings p.a.	13	24	15	27	21
2026	48 dwellings p.a.	14	25	15	27	20
2026	95 dwellings p.a.	14	26	15	26	19
2026	150 dwellings p.a.	15	27	15	25	18

Each row adds to 100%, apart from approximation due to rounding

Table 13: Peak District National Park – Derbyshire Dales area A - population age structure

Year	**Projection**	% under 16	% 16-49	%50-59	% 60-74	% 75 +
2001	Census estimates	18	39	17	17	10
2026	Census based projections	13	24	15	27	20
2026	Natural change	15	36	10	21	18
2026	Zero net migration	13	20	16	28	22
2026	0 dwellings p.a.	14	25	15	26	20
2026	33 dwellings p.a.	14	26	15	26	20
2026	67 dwellings p.a.	15	26	15	25	19
2026	106 dwellings p.a.	15	27	15	25	18

Each row adds to 100%, apart from approximation due to rounding

Table 14: Peak District National Park – High Peak area A - population age structure

Year	Projection	% under 16	% 16-49	%50-59	% 60-74	% 75 +
2001	Census estimates	18	39	17	17	8
2026	Census based projections	12	22	16	27	22
2026	Natural change	15	34	9	22	20
2026	Zero net migration	12	19	17	29	23
2026	0 dwellings p.a.	13	22	15	27	23
2026	9 dwellings p.a.	13	23	16	27	21
2026	17 dwellings p.a.	14	24	16	26	20
2026	27 dwellings p.a.	14	25	16	25	19

Each row adds to 100%, apart from approximation due to rounding

Table 15: Peak District National Park – Staffordshire Moorlands area A - population age structure

Year	Projection	% under 16	% 16-49	%50-59	% 60-74	% 75 +
2001	Census estimates	20	40	18	15	7
2026	census based projections	17	35	8	21	18
2026	Natural change	13	26	12	30	18
2026	Zero net migration	12	23	13	34	18
2026	0 dwellings p.a.	13	24	13	33	17
2026	6 dwellings p.a.	13	25	14	32	17
2026	11 dwellings p.a.	13	26	14	31	16
2026	17 dwellings p.a.	17	35	8	21	18

Each row adds to 100%, apart from approximation due to rounding

3.2.2

The aging population projected in the High Peak and Derbyshire Dales area A's is also found, to a slightly lesser extent, in the remainder areas as a whole. Tables 16 and 17 show the age structure for the High Peak and Derbyshire Dales remainder area projections, produced by subtracting the National Park projections (assuming 48 dwelling completions per annum in the National Park) from ARU projections for both districts (assuming 462 dwelling completions per annum with 183 in Derbyshire Dales and 279 in High Peak). The tables indicate that the proportion aged over 60 is projected to increase from 20% to 33% in High Peak and from 24% to 39% in Derbyshire Dales. (this compares with 26% in 2001 and 49% in 2026 in National Park - areas A only - according to the census based projection)

Similar aging is found for the ONS 2003 based projections for England and the East Midlands, but to a lesser extent. The population aged over 60 is projection to increase from 21% in 2003 to 28% in 2026 in England and from 21% to 31% in East Midlands.

3.2.3

This suggests that the aging of the population projected for the National Park is not uncommon to district, regional and national projections but that it is more severe in the National Park because the migration profile is more extreme, losing a greater proportion of young adults than do the Districts.

Table 16: High Peak and Derbyshire Dales remainder areas - population structure 2001

2001	% under 19	% 20-49	% 50-59	% 60-74	% 75 +
HIGH PEAK	25.3	40.8	13.8	12.9	7.2
DERBYSHIRE DALES	22.9	37.7	15.6	15.2	8.5

Table 17: High Peak and Derbyshire Dales remainder areas - population structure 2026

2026	% under 19	% 20-49	% 50-59	% 60-74	% 75 +
HIGH PEAK	20.3	31.9	14.7	19.8	13.2
DERBYSHIRE DALES	15.3	29.5	16.3	22.4	16.5

3.2.4

Tables 18 to 21 show the projected changes to the working age population (16-59 for women and 16-64 for men) in each of the National Park A areas. They provide a useful comparison to tables 5-8 showing total population change. The main findings are:

- Greater decline in working age population compared with total population for all areas and projections

- None of the dwelling assumptions are sufficient to halt the decline in the working age population

Table 18 : Peak District National Park – total areas A - working age population (2001-26)

National Park	2001	2006	2011	2016	2021	2026	% change 2001-26
Census based projection	19,974	19,129	17,823	16,194	14,603	12,436	-38
Natural Change	19,974	19,346	18,519	17,372	16,208	15,029	-25
Zero net migration	19,974	18,718	17,107	15,370	13,794	11,596	-42
0 dwellings p.a.	19,974	18,721	17,299	15,777	14,419	12,681	-37
48 dwellings p.a.	19,974	19,102	18,016	16,786	15,696	14,141	-29
95 dwellings p.a.	19,974	19,476	18,719	17,780	16,960	15,594	-22
150 dwellings p.a.	19,974	19,915	19,548	18,955	18,459	17,325	-13

Table 19: Peak District National Park – Derbyshire Dales area A - working age population (2001-26)

Derbyshire Dales	2001	2006	2011	2016	2021	2026	% change 2001-26
Census based projection	13,979	13,396	12,520	11,496	10,527	9,157	-34
Natural Change	13,979	13,548	12,966	12,146	11,324	10,518	-25
Zero net migration	13,979	12,969	11,713	10,457	9,378	7,878	-44
0 dwellings p.a.	13,979	13,104	12,110	11,093	10,231	9,114	-35
48 dwellings p.a.	13,979	13,360	12,590	11,771	11,091	10,103	-28
95 dwellings p.a.	13,979	13,624	13,087	12,475	11,989	11,139	-20
150 dwellings p.a.	13,979	13,928	13,660	13,290	13,031	12,347	-12

Table 20: Peak District National Park – High Peak area A - working age population (2001-26)

High Peak	2001	2006	2011	2016	2021	2026	% change 2001-26
Census based projection	3,694	3,576	3,376	3,109	2,847	2,409	-35
Natural Change	3,694	3,545	3,384	3,194	3,015	2,777	-25
Zero net migration	3,694	3,445	3,165	2,867	2,606	2,172	-41
0 dwellings p.a.	3,694	3,390	3,111	2,833	2,592	2,238	-39
48 dwellings p.a.	3,694	3,463	3,249	3,030	2,845	2,529	-32
95 dwellings p.a.	3,694	3,529	3,373	3,207	3,074	2,794	-24
150 dwellings p.a.	3,694	3,610	3,528	3,431	3,364	3,132	-15

Table 21: Peak District National Park – Staffordshire Moorlands area A - working age population (2001-26)

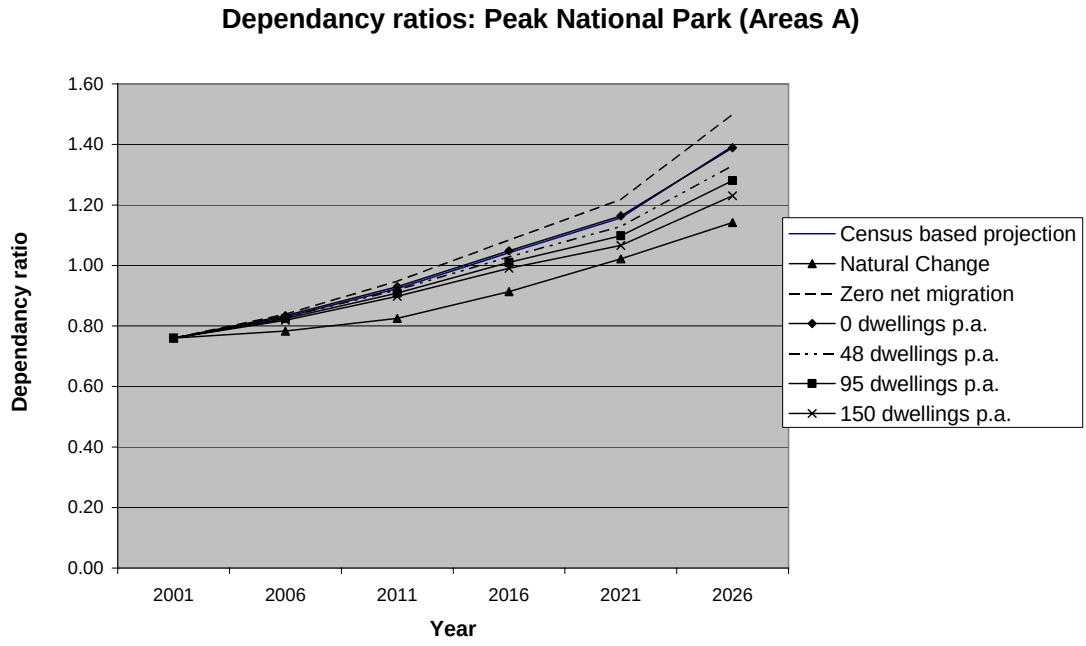
Staffordshire Moorlands	2001	2006	2011	2016	2021	2026	% change 2001-26
Census based projection	2,301	2,157	1,927	1,589	1,229	871	-62
Natural Change	2,301	2,252	2,169	2,032	1,869	1,734	-25
Zero net migration	2,301	2,304	2,229	2,046	1,810	1,546	-33
0 dwellings p.a.	2,301	2,226	2,078	1,850	1,596	1,329	-42
48 dwellings p.a.	2,301	2,279	2,177	1,985	1,760	1,508	-34
95 dwellings p.a.	2,301	2,323	2,260	2,098	1,898	1,661	-28
150 dwellings p.a.	2,301	2,376	2,360	2,235	2,065	1,846	-20

3.3 Dependency ratio

3.3.1

Graph 11 shows the dependency ratios for the National Park between 2001 and 2026 under all projection scenarios. The dependency ratio is the ratio of those at non working ages to those at working ages. As might be expected from the tables above the dependency ratio is projected to rise above 1 under each projection. This indicates that the number at working ages is projected to become less than those at non working ages.

Graph 11: Peak District National Park – total areas A - Dependency ratios



4. Household projections

4.1 Household totals

4.1.1

Tables 22 to 25 show the projected number of households in five year intervals between 2001 and 2026 for each of the alternative projection scenarios. The main findings here are:

- The projected decreases in population are not as great for households (or are projected increases) because of the smaller future household size projected by government and used in this work, and the smaller households expected in an aging population.

- A slight decrease in the number of households in the National Park between 2001 and 2026 under the Census based projection and zero net migration projections

- A slight increase in the number of households in the National Park between 2001 and 2026 under the natural change projection

- There are some differences between the three National Park areas. In particular, both the High Peak area and Derbyshire Dales area expect a small increase in households under the census-based projection, whilst for the Staffordshire Moorlands area a large decrease is predicted.

- Unlike the other areas, in Staffordshire Moorlands a similar increase in the number of households is predicted under the natural change and zero net migration scenarios.

Table 22: Peak District National Park – total areas A - household projections

NATIONAL PARK Alternative projections:	2001	2006	2011	2016	2021	2026	% change 2001-2026
Census based projection	14,835	15,085	15,183	14,979	14,979	14,669	-1.1
Natural Change	14,835	14,751	14,822	15,229	15,229	15,193	2.4
Zero net migration	14,835	14,876	14,817	14,639	14,639	14,400	-2.9
0 dwellings p.a.	14,835	14,835	14,835	14,835	14,835	14,835	0.0
48 dwellings p.a.	14,835	15,058	15,281	15,727	15,727	15,950	7.5
95 dwellings p.a.	14,835	15,276	15,718	16,601	16,601	17,043	14.9
150 dwellings p.a.	14,835	15,532	16,229	17,624	17,624	18,322	23.5

Table 23: Peak District National Park – Derbyshire Dales area A - household projections

DERBYSHIRE DALES Alternative projections:	2001	2006	2011	2016	2021	2026	% change 2001-2026
Census based projection	10,596	10,772	10,861	10,816	10,816	10,658	0.6
Natural Change	10,596	10,462	10,456	10,677	10,677	10,626	0.3
Zero net migration	10,596	10,550	10,434	10,201	10,201	9,995	-5.7
0 dwellings p.a.	10,596	10,596	10,596	10,596	10,596	10,596	0.0
33 dwellings p.a.	10,596	10,749	10,903	11,209	11,209	11,363	7.2
67 dwellings p.a.	10,596	10,907	11,219	11,841	11,841	12,153	14.7
106 dwellings p.a.	10,596	11,089	11,581	12,566	12,566	13,059	23.2

Table 24: Peak District National Park – High Peak area A - household projections

HIGH PEAK Alternative projections:	2001	2006	2011	2016	2021	2026	% change 2001-2026
Census based projection	2,717	2,826	2,882	2,885	2,885	2,840	4.5
Natural Change	2,717	2,742	2,785	2,891	2,891	2,902	6.8
Zero net migration	2,717	2,761	2,775	2,776	2,776	2,750	1.2
0 dwellings p.a.	2,717	2,717	2,717	2,717	2,717	2,717	0.0
9 dwellings p.a.	2,717	2,760	2,803	2,889	2,889	2,932	7.9
17 dwellings p.a.	2,717	2,798	2,879	3,041	3,041	3,123	14.9
27 dwellings p.a.	2,717	2,846	2,975	3,232	3,232	3,361	23.7

Table 25: Peak District National Park – Staffordshire Moorlands area A - household projections

STAFFORDSHIRE MOORLANDS Alternative projections:	2001	2006	2011	2016	2021	2026	% change 2001-2026
Census based projection	1,522	1,486	1,440	1,278	1,278	1,171	-23.1
Natural Change	1,522	1,547	1,581	1,660	1,660	1,665	9.4
Zero net migration	1,522	1,565	1,608	1,662	1,662	1,655	8.8
0 dwellings p.a.	1,522	1,522	1,522	1,522	1,522	1,522	0.0
6 dwellings p.a.	1,522	1,548	1,575	1,629	1,629	1,656	8.8
11 dwellings p.a.	1,522	1,571	1,620	1,718	1,718	1,767	16.2
17 dwellings p.a.	1,522	1,598	1,674	1,826	1,826	1,902	25.0

4.2 Household types

4.2.1

Tables 26 to 29 decompose the household projections (under the census based projection) into household types, population and average household size. The census based projection assumes continuation of recent patterns of population change using census data on migration and population with vital statistics on births and deaths. The main findings are:

- Between 2001 and 2026 the National Park (areas A) the number of married couple and lone parent households are projected to decrease by 23% and 40% respectively
- Between 2001 and 2026 the National Park (areas A) the number of other multi person households is projected to decrease slightly.
- The number of one person households is projected to increase by 44% in the National Park (areas A) between 2001 and 2026.
- Cohabiting couple households are also projected to increase (21% between 2001 and 2026).
- Each National Park area A follows similar patterns of change, however, there are some differences, notably an increase in number of other multi person households in the High Peak (35.3%), a decrease in the number of cohabiting couple households in the Staffordshire Moorlands (-28%)
- The average household size is projected to decrease from 2.3 in 2001 to 2.0 in 2026.
- The increase in one person households is a key factor for the falling average household size. It is due partly to the aging of the population and partly to lower headship rates projected by government.

Table 26: Peak District National Park – total areas A - Household type, population and average household size (census-based projection)

Household Types	**2001**	**2006**	**2011**	**2016**	**2021**	**2026**	**% change 2001-26**
Married couple	8,308	8,077	7,736	7,343	6,900	6,377	-23.2
Cohabiting couple	1,067	1,143	1,239	1,282	1,291	1,290	20.9
Lone parent	617	623	567	479	405	370	-39.9
Other multi-person	728	718	722	735	739	714	-2.0
One person	4,115	4,524	4,918	5,299	5,645	5,918	43.8
All households	14,835	15,085	15,183	15,137	14,979	14,669	-1.1
Private household population	34,592	34,423	33,718	32,502	30,936	29,211	-15.6
Average household size	2.33	2.28	2.22	2.15	2.07	1.99	

Table 27: Peak District National Park – Derbyshire Dales area A - Household type, population and average household size (census-based projection)

Census-based projection ***Household Types***	**2001**	**2006**	**2011**	**2016**	**2021**	**2026**	**% change 2001-26**
Married couple	5,867	5,709	5,483	5,229	4,950	4,618	-21.3
Cohabiting couple	734	798	874	913	927	933	27.1
Lone parent	402	409	374	319	273	254	-36.9
Other multi-person	500	479	472	476	474	449	-10.3
One person	3,093	3,377	3,658	3,936	4,192	4,405	42.4
All Households	10,596	10,772	10,861	10,874	10,816	10,658	0.6
Private household population	24,354	24,266	23,867	23,137	22,145	21,054	-13.6
Average household size	2.30	2.25	2.20	2.13	2.05	1.98	

Table 28: Peak District National Park – High Peak area A - Household type, population and average household size (census-based projection)

Census-based projection ***Household Types***	**2001**	**2006**	**2011**	**2016**	**2021**	**2026**	**% change 2001-26**
Married couple	1,514	1,489	1,434	1,365	1,282	1,184	-21.8
Cohabiting couple	226	243	263	271	277	280	23.9
Lone parent	146	152	144	123	104	93	-36.2
Other multi-person	159	170	182	194	207	216	35.3
One person	671	772	860	942	1,014	1,067	58.9
All Households	2,717	2,826	2,882	2,896	2,885	2,840	4.5
Private household population	6,362	6,535	6,521	6,359	6,098	5,780	-9.1
Average household size	2.34	2.31	2.26	2.20	2.11	2.04	

Table 29: Peak District National Park – Staffordshire Moorlands area A - Household type, population and average household size (census-based projection)

Census-based projection ***Household Types***	**2001**	**2006**	**2011**	**2016**	**2021**	**2026**	**% change 2001-26**
Married couple	927	879	820	748	667	575	-38.0
Cohabiting couple	107	102	103	97	86	77	-28.3
Lone parent	68	61	49	37	28	23	-65.9
Other multi-person	68	70	68	65	57	49	-27.9
One person	351	375	400	421	439	446	27.2
All Households	1,522	1,486	1,440	1,367	1,278	1,171	-23.1
Private household population	3,876	3,621	3,330	3,005	2,693	2,377	-38.7
Average household size	2.55	2.44	2.31	2.20	2.11	2.03	

4.3 The sources of household change

4.3.1

Table 30 decomposes household change into that caused by projected population change and the remainder caused by projected change in headship rates. As for the results in 4.2 this refers to household projections under the census based projection. The table shows that:

- In the National Park (areas A) households are lost due to population decline but the increasing tendency for people to live in smaller households leads to a small gain in households.
- Derbyshire Dales is projected to experience a gain in households due to both population and household effects
- High Peak gains a large number of households due to population effects and loses a small number due to headship effects
- Staffordshire Moorlands loses households due to both effects but mainly due to the impact of population change.

Table 30: Peak District National Park – areas A - Decomposition of household change (2001-26)

Area	2001-26		
	Population effect	Headship effect	Change
Total areas A	-176	11	-166
Derbyshire Dales area A	13	49	62
High Peak area A	135	-12	123
Staffordshire Moorlands area A	-324	-26	-351

5. Labour force projections

5.1
Tables 31 and 32 show projections of labour force and economic activity rates, between 2001 and 2026, for all people for each of the National Park areas, using the census-based population projection which assumes continuation of recent patterns of population change using census data on migration and population with vital statistics on births and deaths. The labour force is defined as all those working or seeking work. The economic activity rate is the proportion of the adult population in the labour force. The projection uses economic activity rates projected separately for each age and sex; table 32 shows the overall adult economic activity rate. The main findings are:

- A decrease of 35% in the labour force for the National Park between 2001 and 2026 with a similar decrease in Derbyshire Dales and High Peak
- A larger decrease in the labour force between 2001 and 2026 in Staffordshire Moorlands (58%)
- Levels of overall economic activity in the over 16 population are projected to fall from 61% in 2001 to 44% in 2026 for the National Park. Similar reductions are found in each of the National Park areas.

Table 31: Peak District National Park – areas A - Labour force projections: (all people over 16)

Labour Force	*2001*	*2006*	*2011*	*2016*	*2021*	*2026*	*% change 2001-26*
Total areas A	17,588	16,960	15,925	14,619	13,175	11,380	-35
Derbyshire Dales area A	12,223	11,786	11,107	10,303	9,397	8,251	-32
High Peak area A	3,342	3,287	3,126	2,900	2,647	2,273	-32
Staffordshire Moorlands area A	2,023	1,887	1,692	1,416	1,131	856	-58

Table 32: Peak District National Park – areas A - Economic activity projections: (all people over 16)

Economic activity rate	*2001*	*2006*	*2011*	*2016*	*2021*	*2026*
Total areas A	61.0%	58.9%	55.9%	52.3%	48.3%	43.9%
Derbyshire Dales area A	59.7%	57.8%	55.0%	51.7%	48.1%	44.2%
High Peak area A	64.3%	61.6%	58.1%	54.1%	49.9%	44.9%
Staffordshire Moorlands area A	64.6%	61.7%	58.0%	52.5%	46.1%	39.3%

5.2
Table 33 decomposes the projected labour force changes into a population effect (due to changing population size and age-sex structure) and an activity effect (due to changes in projected economic activity rates). This table indicates that:

- The main reason for the projected decline in the labour force is due to the population effect. The aging population contains fewer of working age.

- Projected increases in age specific economic activity rates are responsible for a slight increase in the number of economically active but this makes little impact due to the scale of the population effect.

Table 33: Peak District National Park – areas A - Analysis of labour force change 2001-2026 (all people over 16)

	Population effect	*Activity effect*	*Total change*
Total areas A	-6,211	4	-6,207
Derbyshire Dales area A	-3,980	8	-3,972
High Peak area A	-1,068	0	-1,068
Staffordshire Moorlands area A	-1,162	-4	-1,167

5.3

Table 34 decomposes the projected labour force changes into population and activity effects for a labour force projection which uses the population projections assuming 150 dwelling completions per annum. Despite population gains in this projection, the labour force is still projected to decrease in all of the National Park A areas due to changing population age structure caused by the migration pattern (as discussed in Section 3 above).

Table 34: Peak District National Park – areas A - Analysis of labour force change 2001-2026 (150 dwelling completions per annum population projections)

	Population effect	*Activity effect*	*Total change*
National Park	-1,902	19	-1,883
Derbyshire Dales area A	-1,201	19	-1,182
High Peak area A	-413	3	-410
Staffordshire Moorlands area A	-288	-3	-291

6. Glossary

EMRA	East Midland Regional assembly
PDNP	Peak District National Park
PDNPA	Peak District National Park Authority
ONS	Office for National Statistics
ARU	Anglia Ruskin University
DCLG	Department for Communities and Local Government