The Public Practice
Making sense of the Census

Demographic Projections for Culburra 2011-2036

Age structure in 2011

In August 2011, the Census counted 3,289 residents of Culburra, down slightly from 3,416 in 2006.

The Age Tree illustrates the structure of Culburra's resident population. Males and females are shown in the darker narrower bars for 2011, against the background of 2006.

The population has an hour-glass shape, with low proportions of residents in their 20s.

The overall age structure did not change much over the five years. There was a noticeable decrease in the number aged 10-14 and 44-44 years, suggesting that young families did not move in fast enough to replace those leaving.

Population movements (ie net migration into and out of Culburra) are indicated by comparing the number in an age cohort in 2011 with the number who were five years younger in 2006. This is calculated on the next page.

Age Tree

Legend: females 2006, males 2006, males 2011, females 2011
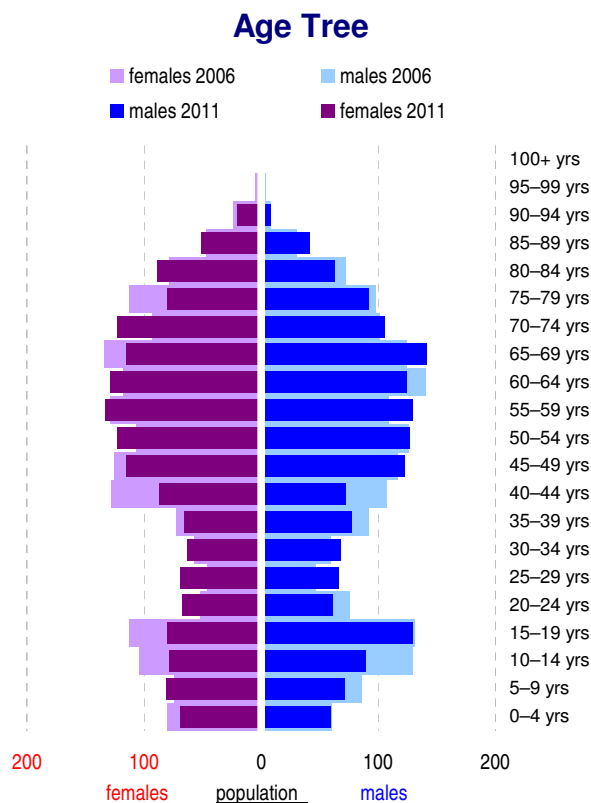
5-year age groups, Census	Culburra 2011		% in NSW	Culburra's difference	Culburra 2011			Culburra in 2006	Culburra's change from 2006
	people	percent			males 2011	females 2011	ratio		
0–4 yrs	128	3.9%	6.6%	2.7% more	59	69	1.17 F:M	4.1%	dn 0.2%
5–9 yrs	152	4.6%	6.3%	1.7% more	71	81	1.14 F:M	4.7%	dn 0.1%
10–14 yrs	168	5.1%	6.3%	1.2% more	89	79	1.13 M:F	6.8%	dn 1.7%
15–19 yrs	209	6.4%	6.4%	0.1% more	129	80	1.61 M:F	7.1%	dn 0.8%
20–24 yrs	128	3.9%	6.5%	2.6% more	61	67	1.10 F:M	3.7%	up 0.2%
25–29 yrs	135	4.1%	6.8%	2.7% more	66	69	1.05 F:M	2.7%	up 1.4%
30–34 yrs	131	4.0%	6.8%	2.8% more	68	63	1.08 M:F	3.4%	up 0.6%
35–39 yrs	143	4.3%	7.1%	2.7% more	77	66	1.17 M:F	4.8%	dn 0.5%
40–44 yrs	159	4.8%	7.0%	2.2% more	72	87	1.21 F:M	6.9%	dn 2.0%
45–49 yrs	237	7.2%	7.0%	0.2% less	122	115	1.06 M:F	7.1%	up 0.1%
50–54 yrs	250	7.6%	6.8%	0.8% less	127	123	1.03 M:F	6.8%	up 0.8%
55–59 yrs	262	8.0%	6.1%	1.9% less	129	133	1.03 F:M	7.0%	up 1.0%
60–64 yrs	253	7.7%	5.6%	2.0% less	124	129	1.04 F:M	7.6%	up 0.1%
65–69 yrs	256	7.8%	4.4%	3.4% less	141	115	1.23 M:F	7.6%	up 0.2%
70–74 yrs	228	6.9%	3.4%	3.5% less	105	123	1.17 F:M	5.7%	up 1.3%
75–79 yrs	172	5.2%	2.7%	2.5% less	92	80	1.15 M:F	6.2%	dn 0.9%
80–84 yrs	152	4.6%	2.2%	2.4% less	63	89	1.41 F:M	4.4%	up 0.2%
85–89 yrs	92	2.8%	1.4%	1.4% less	41	51	1.24 F:M	2.3%	up 0.5%
90–94 yrs	28	0.9%	0.5%	0.3% less	8	20	2.50 F:M	0.9%	dn 0.1%
95–99 yrs	6	0.2%	0.1%	0.1% less	3	3	=	0.3%	dn 0.1%
100+ yrs	0	0.0%	0.0%	0.0% more	0	0	=	0.0%	same
residents	**3,289**	**100%**	**100%**	SD: 1.9%	**1,647**	**1,642**	**1.11 F:M**	**3,416**	**7% more**

Migration and natural increase over 2006-2011

The rate of migration into and out of Culburra between 2006 and 2011 can be calculated for different age groups, by adjusting the population change for births and deaths during the period.

The table below shows the Census count of males and females in each age group in 2006. From this, the expected number of births and deaths can be calculated, by applying national birth and mortality rates. The net 'natural change' - births minus deaths - is calculated for the five years 2006-2011.

The expected population, with no migration, is calculated for 2011 by adding the natural change to the 2006 Census population. The difference between the actual and expected population is caused by the net migration to Culburra (ie, arrivals minus departures)

Between Censuses, Culburra had a net loss of population through migration of about 40 residents, equally males and females.

There was migration out Culburra by 178 people. Most were aged 20 to 24, leaving for study or work. About 70 were over 70 years old, likely moving into a residential care.

There was migration into Culburra by 217 people aged 25 to 60, or under 10 years, indicating arrival of young families and retiring couples.

census migration 2006-11

change in population
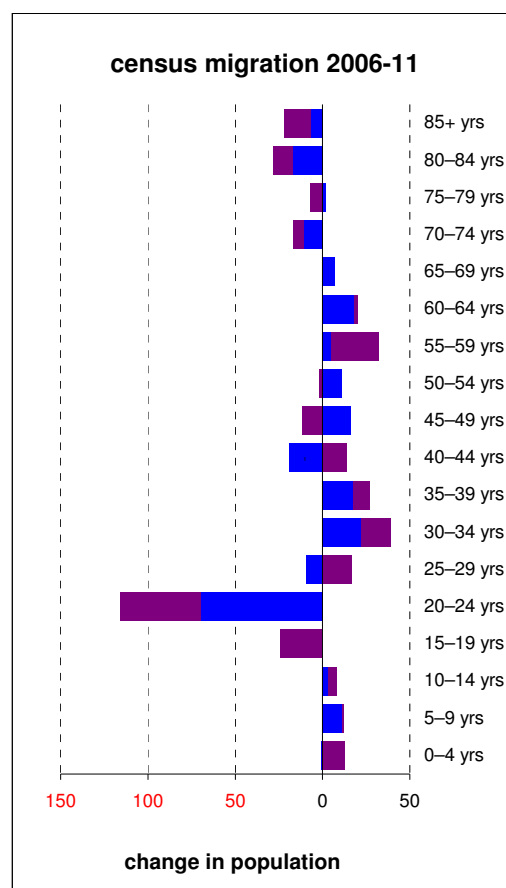
The dominant pattern is of young adults leaving Culburra, offset by influx of young families and retirees. Some older people move away as their housing needs change.

| Census net migration to Culburra, by age, 2006-2011	2006 Census		natural change 06–11		2011 expected popn		net migration		
	males	females	males	females	males	females	males	females	persons
0 yrs (births)			60	56					
0–4 yrs	60	80	0	0	60	56	-1	13	**12**
5–9 yrs	86	74	0	0	60	80	11	1	**12**
10–14 yrs	129	104	0	0	86	74	3	5	**8**
15–19 yrs	131	113	0	0	129	104	0	-24	**-24**
20–24 yrs	75	52	0	0	131	113	-70	-46	**-116**
25–29 yrs	46	46	0	0	75	52	-9	17	**8**
30–34 yrs	59	57	0	0	46	46	22	17	**39**
35–39 yrs	92	73	0	0	59	57	18	9	**27**
40–44 yrs	107	128	-1	0	91	73	-19	14	**-5**
45–49 yrs	117	126	-1	-1	106	127	16	-12	**4**
50–54 yrs	126	107	-1	-1	116	125	11	-2	**9**
55–59 yrs	109	129	-2	-1	124	106	5	27	**32**
60–64 yrs	140	118	-3	-2	106	127	18	2	**20**
65–69 yrs	124	134	-6	-3	134	115	7	0	**7**
70–74 yrs	101	93	-8	-5	116	129	-11	-6	**-17**
75–79 yrs	98	113	-11	-6	90	87	2	-7	**-5**
80–84 yrs	72	79	-18	-13	80	100	-17	-11	**-28**
85+ yrs	42	76	-55	-66	59	89	-7	-15	**-22**
Total	**1,714**	**1,702**	**-46**	**-42**	**1,668**	**1,660**	**-21**	**-18**	**-39**
ERP	1,796	1,784	1.048						

Projections from 2011 baseline

Population projections can be made by using the 2011 as the base, by 'ageing' the current population, adjusting for net migration, adding estimated births, and subtracting expected mortality.

Here, the **no growth scenario** assumes that birth and mortality rates and net migration stay the same as over 2006-2011. The 2036 population = 2,900, down 500

The **expansion scenario** assumes that inward migration rises by 200% from 2016 as new dwellings are occupied. Birth and mortality rates stay the same as over 2006-2011. The 2036 population = 4,700, up 1,300.

The **expansion + natural scenario** assumes the expansion scenario, with birth rates higher and mortality rates lower by 10% than over 2006-2011. The 2036 population = 4,900, up 1,450.

Culburra population projections
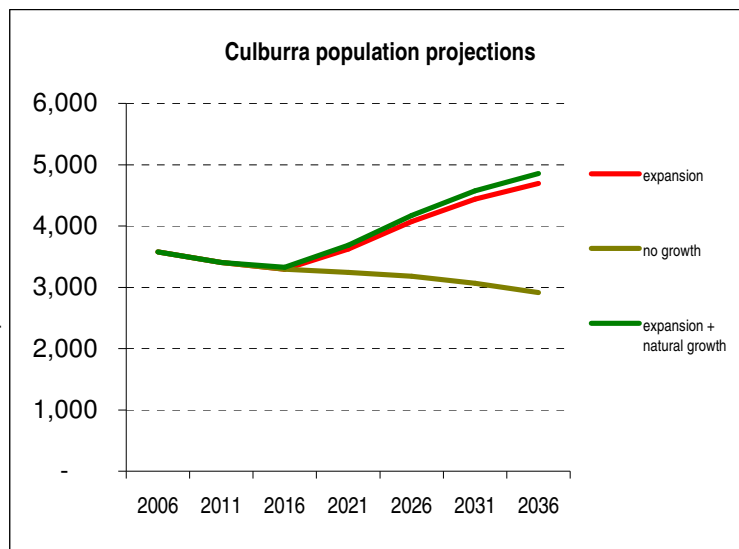
Projected population	Persons							change 2011-36
	2006	2011	2016	2021	2026	2031	2036	
no growth	3,579	3,403	3,293	3,245	3,181	3,067	2,914	-489
expansion	3,579	3,403	3,293	3,623	4,073	4,441	4,693	1,290
expansion + natural growth	3,579	3,403	3,327	3,687	4,171	4,576	4,854	1,451
Scenario A	**3,579**	**3,403**	**3,293**	**3,623**	**4,073**	**4,441**	**4,693**	**1,290**

The scenario settings can be changed in the following table. The change shown, eg -10%, is the difference from the 2006-2011 rate.

Scenario changes from 2006-2011	change in rates from 2006-2011			
	birth rates	mortality male rates	mortality female rates	migration
2011-2016	0%	0%	0%	0%
2016-2021	0%	0%	0%	200%
2021-2026	0%	0%	0%	200%
2026-2031	0%	0%	0%	200%
2031-2036	0%	0%	0%	200%

Projected age profile

The charts below Culburra's age profile in 2011 and in 2036, and the change in the population share in each age group, for the Scenario from the previous page.

Culburra population 2011-2036

females 2011 · males 2011 · 2036 · males, 2036
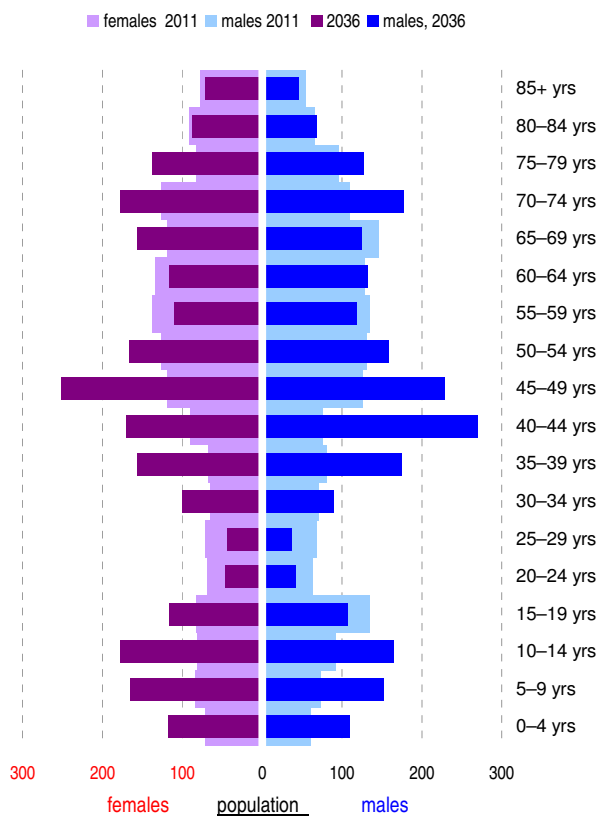
2011-2036 population change
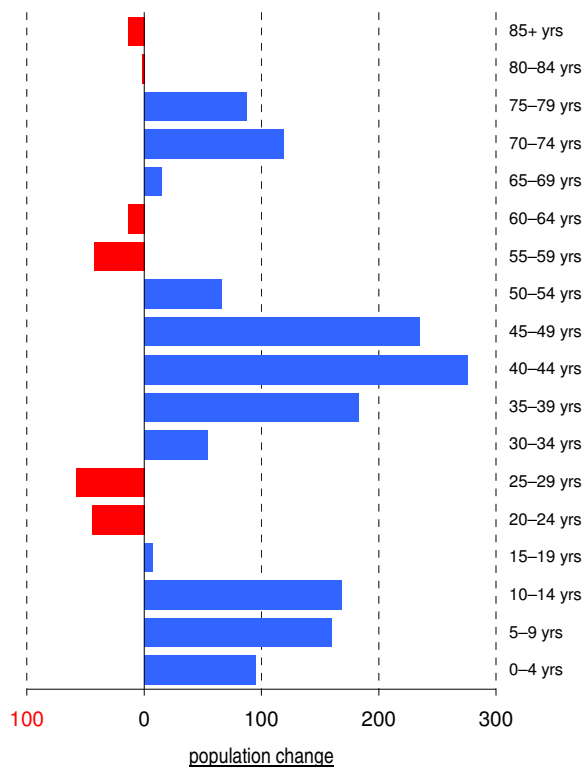
Culburra population 2011-2036	2011 population			2036 population			2011-2036 population change		
	males 2011	females 2011	persons	males	females	persons	males	females	persons
0–4 yrs	61	71	132	109	118	227	48	47	95
5–9 yrs	73	84	157	152	165	317	79	81	160
10–14 yrs	92	82	174	164	178	342	72	96	168
15–19 yrs	134	83	217	107	117	224	-27	34	7
20–24 yrs	63	69	132	42	46	88	-21	-23	-44
25–29 yrs	68	71	139	37	44	81	-31	-27	-58
30–34 yrs	70	65	135	89	100	189	19	35	54
35–39 yrs	80	68	148	175	156	331	95	88	183
40–44 yrs	75	90	165	270	171	441	195	81	276
45–49 yrs	126	119	245	228	252	480	102	133	235
50–54 yrs	131	127	258	158	166	324	27	39	66
55–59 yrs	134	138	272	118	111	229	-16	-27	-43
60–64 yrs	128	134	262	132	116	248	4	-18	-14
65–69 yrs	146	119	265	124	156	280	-22	37	15
70–74 yrs	109	127	236	177	178	355	68	51	119
75–79 yrs	95	83	178	127	138	265	32	55	87
80–84 yrs	65	92	157	68	87	155	3	-5	-2
85+ yrs	54	77	131	45	72	117	-9	-5	-14
Total	**1,704**	**1,699**	**3,403**	**2,322**	**2,371**	**4,693**	**618**	**672**	**1,290**
65+ yrs	469	498	967	541	631	1,172	72	133	205
75+ yrs	214	252	466	240	297	537	26	45	71

This table calculates the Scenario population change from 2006 to 2011.

The 2006 population is the ABS Estimated Resident Population, not the Census count. The 2006 age structure is calculated from the Census data.

The natural change 06–11 is the births minus the deaths expected in each age group, based on national birth and mortality rates.

The 2011 natural population is what it would be if nobody moved, and the only changes were births and deaths. The 2011 natural population in any age group equals the 2006 population that was 5 years younger, plus the births and minus the deaths over the five years.

The net migration over 2006 to 2011 is the difference between the natural population, with no migration, and estimated ABS 2011, shown in the table below (the age-sex proportions are from the 2011 Census).

The ERP is calculated by multiplying the census count by the ratio of ERP to Census Count found in Shoalhaven:
   2006: ERP = 92,646, Census count = 88,405, ratio = 1.048;
   2011: ERP = 96,043, Census count = 92,812, ratio = 1.035

Culburra population growth 2006-2011	2006 population		natural change 06–11		2011 natural popn		net migration		
	males	females	males	females	males	females	males	females	persons
births			63	58					
0–4 yrs	63	84	0	0	63	58	-2	13	11
5–9 yrs	90	78	0	0	63	84	10	0	10
10–14 yrs	135	109	0	0	90	78	2	4	6
15–19 yrs	137	118	0	0	135	109	-1	-26	-27
20–24 yrs	79	54	0	0	137	118	-74	-49	-123
25–29 yrs	48	48	0	0	79	54	-11	17	6
30–34 yrs	62	60	0	0	48	48	22	17	39
35–39 yrs	96	77	0	0	62	60	18	8	26
40–44 yrs	112	134	-1	0	95	77	-20	13	-7
45–49 yrs	123	132	-1	-1	111	133	15	-14	1
50–54 yrs	132	112	-1	-1	122	131	9	-4	5
55–59 yrs	114	135	-2	-1	130	111	4	27	31
60–64 yrs	147	124	-3	-2	111	133	17	1	18
65–69 yrs	130	140	-6	-3	141	121	5	-2	3
70–74 yrs	106	97	-8	-5	122	135	-13	-8	-21
75–79 yrs	103	118	-11	-6	95	91	0	-8	-8
80–84 yrs	75	83	-19	-13	84	105	-19	-13	-32
85+ yrs	44	80	-57	-70	62	93	-8	-16	-24
Total	1,796	1,783	-46	-44	1,750	1,739	-46	-40	-86

Culburra population 2011	2011 ERP			Birth and mortality rates, Australia 2011	births / 1000 women pa	mortality rates / 1000 males pa	mortality rates / 1000 females pa
	males	females	persons				
				0 yrs		4.2	3.5
0–4 yrs	61	71	132	1–4 yrs		0.2	0.2
5–9 yrs	73	84	157	5–9 yrs		0.1	0.1
10–14 yrs	92	82	174	10–14 yrs		0.1	0.1
15–19 yrs	134	83	217	15–19 yrs	15.6	0.4	0.2
20–24 yrs	63	69	132	20–24 yrs	52.0	0.6	0.3
25–29 yrs	68	71	139	25–29 yrs	101.2	0.7	0.3
30–34 yrs	70	65	135	30–34 yrs	122.4	0.9	0.4
35–39 yrs	80	68	148	35–39 yrs	69.6	1.1	0.6
40–44 yrs	75	90	165	40–44 yrs	15.1	1.5	0.9
45–49 yrs	126	119	245	45–49 yrs	0.8	2.2	1.4
50–54 yrs	131	127	258	50–54 yrs		3.4	2.1
55–59 yrs	134	138	272	55–59 yrs		5.2	3.0
60–64 yrs	128	134	262	60–64 yrs		8.0	4.6
65–69 yrs	146	119	265	65–69 yrs		12.6	7.4
70–74 yrs	109	127	236	70–74 yrs		21.4	13.1
75–79 yrs	95	83	178	75–79 yrs		37.4	22.6
80–84 yrs	65	92	157	80–84 yrs		67.2	45.2
85+ yrs	54	77	131	85+ yrs		145.8	127.8
Total	1,704	1,699	3,403	Total		313.0	233.8

The following table calculate the population change from 2011 to 2036 in a series of five-year cycles.

The initial 2011 population is the ABS Estimated Resident Population, not the Census count. The 2011 age structure is calculated from the 2011 Census data.

The natural change in each five-year period is the births minus the deaths expected in each age group, based on national birth and mortality rates applied to the initial age structure. The birth and mortality rates are based on those in 2006 to 2011, modified by the assumed change under the scenario A.

The net migration over the five years for each age group is the 2006-2011 rate (per 1000 population) increased by the proportion set in the Assumptions table.

The projected population in 2016 is the initial population plus births, minus deaths, plus/minus the net migration.

In subsequent pages, this calculation is repeated every five years to project the population from 2016 to 2036.

Population projection (ERP) 2011-2016	2011		natural change 11–16		net migration		projected 2016 ERP		
	males	females	males	females	males	females	males	females	persons
births			63	68					
0–4 yrs	61	71	0	0	6	6	69	74	143
5–9 yrs	73	84	0	0	4	5	65	76	141
10–14 yrs	92	82	0	0	3	3	76	87	163
15–19 yrs	134	83	0	0	-10	-9	82	73	155
20–24 yrs	63	69	0	0	-65	-40	69	43	112
25–29 yrs	68	71	0	0	3	3	66	72	138
30–34 yrs	70	65	0	0	28	29	96	100	196
35–39 yrs	80	68	0	0	15	14	85	79	164
40–44 yrs	75	90	0	0	-3	-3	77	65	142
45–49 yrs	126	119	-1	0	0	0	74	90	164
50–54 yrs	131	127	-1	-1	2	2	127	120	247
55–59 yrs	134	138	-2	-1	17	16	146	142	288
60–64 yrs	128	134	-3	-2	10	10	141	146	287
65–69 yrs	146	119	-5	-3	1	1	124	132	256
70–74 yrs	109	127	-9	-4	-11	-9	126	106	232
75–79 yrs	95	83	-12	-8	-4	-5	93	114	207
80–84 yrs	65	92	-18	-9	-14	-12	63	62	125
85+ yrs	54	77	-61	-70	-10	-14	48	85	133
Total	1,704	1,699	-49	-30	-28	-3	1,627	1,666	3,293

Population projection (ERP) 2016-2021	2016 ERP		natural change16–21		net migration		projected 2021 ERP		
	males	females	males	females	males	females	males	females	persons
0 yrs	0	0	71	77					
1–4 yrs	69	74	0	0	19	21	90	98	188
5–9 yrs	65	76	0	0	14	15	83	89	172
10–14 yrs	76	87	0	0	7	8	72	84	156
15–19 yrs	82	73	0	0	-8	-10	68	77	145
20–24 yrs	69	43	0	0	-40	-35	42	38	80
25–29 yrs	66	72	0	0	9	6	78	49	127
30–34 yrs	96	100	0	0	80	88	146	160	306
35–39 yrs	85	79	0	0	61	64	157	164	321
40–44 yrs	77	65	0	0	-3	-3	82	76	158
45–49 yrs	74	90	-1	0	1	1	77	66	143
50–54 yrs	127	120	-1	-1	4	5	77	94	171
55–59 yrs	146	142	-2	-1	48	46	173	165	338
60–64 yrs	141	146	-4	-2	32	31	174	171	345
65–69 yrs	124	132	-6	-3	5	5	140	148	288
70–74 yrs	126	106	-8	-5	-10	-10	106	117	223
75–79 yrs	93	114	-13	-7	-5	-4	108	95	203
80–84 yrs	63	62	-17	-13	-13	-17	63	84	147
85+ yrs	48	85	-56	-68	-9	-13	46	66	112
Total	1,627	1,666	-37	-23	192	198	1,782	1,841	3,623

Population projection (ERP) 2021-2026	2021 ERP		natural change21–26		net migration		projected 2026 ERP		
	males	females	males	females	males	females	males	females	persons
0 yrs	0	0	97	105					
1–4 yrs	90	98	0	0	26	29	123	134	257
5–9 yrs	83	89	0	0	18	20	108	118	226
10–14 yrs	72	84	0	0	9	10	92	99	191
15–19 yrs	68	77	0	0	-8	-9	64	75	139
20–24 yrs	42	38	0	0	-33	-37	35	40	75
25–29 yrs	78	49	0	0	6	5	48	43	91
30–34 yrs	146	160	0	0	95	60	173	109	282
35–39 yrs	157	164	-1	0	93	102	238	262	500
40–44 yrs	82	76	-1	0	-6	-7	150	157	307
45–49 yrs	77	66	-1	0	1	1	82	77	159
50–54 yrs	77	94	-1	0	5	4	81	70	151
55–59 yrs	173	165	-1	-1	29	36	105	129	234
60–64 yrs	174	171	-4	-2	38	36	207	199	406
65–69 yrs	140	148	-7	-4	6	6	173	173	346
70–74 yrs	106	117	-9	-5	-11	-12	120	131	251
75–79 yrs	108	95	-11	-8	-4	-5	91	104	195
80–84 yrs	63	84	-20	-11	-16	-14	72	70	142
85+ yrs	46	66	-55	-61	-9	-13	45	76	121
Total	1,782	1,841	-14	13	239	212	2,007	2,066	4,073

Population projection (ERP) 2026-2031	2026 ERP		natural change26–31		net migration		projected 2031 ERP		
	males	females	males	females	males	females	males	females	persons
0 yrs	0	0	100	108					
1–4 yrs	123	134	-1	0	27	29	126	137	263
5–9 yrs	108	118	0	0	25	27	148	161	309
10–14 yrs	92	99	0	0	12	13	120	131	251
15–19 yrs	64	75	0	0	-10	-11	82	88	170
20–24 yrs	35	40	0	0	-31	-36	33	39	72
25–29 yrs	48	43	0	0	5	5	40	45	85
30–34 yrs	173	109	0	0	59	52	107	95	202
35–39 yrs	238	262	-1	0	111	70	283	179	462
40–44 yrs	150	157	-1	-1	-10	-11	227	250	477
45–49 yrs	82	77	-1	-1	2	2	151	158	309
50–54 yrs	81	70	-1	-1	5	5	86	81	167
55–59 yrs	105	129	-1	-1	31	27	111	96	207
60–64 yrs	207	199	-3	-2	23	28	125	155	280
65–69 yrs	173	173	-8	-5	7	7	206	201	407
70–74 yrs	120	131	-11	-6	-13	-13	149	154	303
75–79 yrs	91	104	-13	-9	-5	-5	102	117	219
80–84 yrs	72	70	-17	-12	-13	-15	61	77	138
85+ yrs	45	76	-57	-64	-10	-12	50	70	120
Total	**2,007**	**2,066**	**-15**	**6**	**215**	**162**	**2,207**	**2,234**	**4,441**

Population projection (ERP) 2031-2036	2031 ERP		natural change31–36		net migration		projected 2036 ERP		
	males	females	males	females	males	females	males, 2036	females, 2036	persons, 2036
0 yrs	0	0	86	93					
1–4 yrs	126	137	0	0	23	25	109	118	227
5–9 yrs	148	161	0	0	26	28	152	165	317
10–14 yrs	120	131	0	0	16	17	164	178	342
15–19 yrs	82	88	0	0	-13	-14	107	117	224
20–24 yrs	33	39	0	0	-40	-42	42	46	88
25–29 yrs	40	45	0	0	4	5	37	44	81
30–34 yrs	107	95	0	0	49	55	89	100	189
35–39 yrs	283	179	0	0	68	61	175	156	331
40–44 yrs	227	250	-2	-1	-11	-7	270	171	441
45–49 yrs	151	158	-2	-1	3	3	228	252	480
50–54 yrs	86	81	-2	-1	9	9	158	166	324
55–59 yrs	111	96	-1	-1	33	31	118	111	229
60–64 yrs	125	155	-3	-1	24	21	132	116	248
65–69 yrs	206	201	-5	-4	4	5	124	156	280
70–74 yrs	149	154	-13	-7	-16	-16	177	178	355
75–79 yrs	102	117	-16	-10	-6	-6	127	138	265
80–84 yrs	61	77	-19	-13	-15	-17	68	87	155
85+ yrs	50	70	-57	-62	-9	-13	45	72	117
Total	**2,207**	**2,234**	**-34**	**-8**	**149**	**145**	**2,322**	**2,371**	**4,693**