Australia's population and settlement system

A nation's population and how it is geographically distributed are key influences on the environment, through the number of people and their patterns of consumption, the rate of growth and household formation, the attractiveness of environments with high amenity value, the relatively low density of settlements, and the scale economies and relative efficiencies of settlements of different sizes with respect to housing, services and infrastructure provision.

A highly urbanised nation

The latest accurate data of actual population of places in Australia is the 1996 census; the next census is to be conducted in August 2001. However, the ABS produces annual estimates of population, and has extrapolated the population data to 2011. Post-1996 trends may be different to those evident between the 1991 and 1996 censuses, and we will not know the actual numbers, magnitudes and directions of population shifts until the 2001 census data becomes available in 2002.

It is estimated Australia's population in 2001 is 19.3 million if existing driving forces and attitudes to growth have continued. The nation's pattern of human settlement is characterised by particularly high rates of urbanisation, low-density cities, and the concentration of the population within 50 kilometres of the coast (83%, see Coasts and Oceans theme report), mainly in two crescents: the south–eastern coastal corridor between north of Brisbane and west of Melbourne, and the south–west of Western Australia centred on Perth (Figure 4).

One way of representing the distribution of Australia's population uses the broad classes of settlement shown in Table 3, which is given here to provide consistency with the 1996 State of the Environment Report. From this table it is clearly evident that the majority of Australians live in five large city regions with populations ranging from one million to more than four million people. Between them, the actual metropolitan areas of the capital cities (as determined by the ABS) of Sydney, Melbourne, Brisbane, Perth and Adelaide house 61% of the population, emphasising the high degree of capital city dominance (metropolitan primacy) in Australia. A further 13 smaller cities, each with estimated populations above 80 000, accommodate 14% of the population. A number of these (such as Newcastle, Wollongong, Geelong and Gold Coast) are within what O'Connor and Stimson (1995) refer to as the mega-metro regions, which encompass the capital city metropolitan statistical divisions and those immediately surrounding them—together which form functional metropolitan cores and commuter belts. The bulk of the remaining quarter of Australia's population is also urban, being concentrated in regional cities and towns with populations between 10 000 and 80 000, plus a large number of small rural localities with populations less than 10 000.

There are also a large number of small remote settlements; although accounting for a very small proportion of the population, these settlements are widely distributed. Remote mining towns (discussed in detail in SoE 1996) are unlikely to be sources of settlement growth within the timeframe of this report unless tourism or other economic functions emerge in their vicinity. 'Fly-in fly-out' populations will probably service the exploitation of major new mineral reserves in Australia's outback.

The scale and pattern of human settlement is expected to change very little in the medium-term. Population projections to the year 2011 indicate that the five largest metropolitan cities will house approximately 13 million people, or 61.6% of Australia's population. This will represent an increased share of the nation's population. As with current patterns, these projections place the bulk of the remainder of the population in the other large cities (13.8%), the large regional towns (6.4%) and the smaller regional centres (6.3%).

However, this method of representing the distribution of Australia's population by scale of settlement system might not be the best way to do so, and it is suggested that for the next SoE report, experimentation be made with alternative

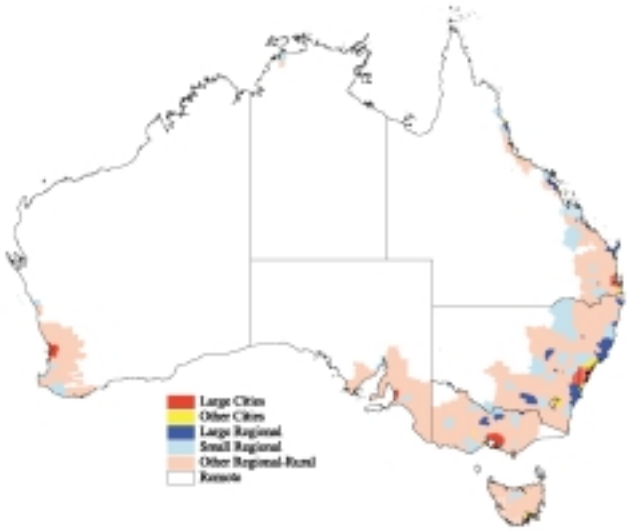

Figure 4: Australia's pattern of human settlement, 2001.

Source: ABS National Health Survey, 1995 (unpublished data).

Table 3: Population of Australia by scale of human settlement, 2001–2011. [HS Indicator 5.1]

Settlement	Total population 2001[A]	Share of population (%)	Total population 2011	Share of population (%)	Annual average growth 1991–2001(%)	Projected average annual growth 2001–2011(%)
Big cities[B] (above 1 million)	11 517 061	60.5	13 001 535	61.6	1.2	1.220
Other cities (80 000 to 1 million)	2 600 720	13.7	2 914 838	13.8	1.5	1.147
Large regional/rural[C] (25 000 to 80 000)	1 281 895	6.7	1 348 681	6.4	1.5	0.509
Small regional/rural[C] (10 000 to 25 000)	1 271 603	6.7	1 337 903	6.3	0.6	0.510
Other regional/rural[C] (less than 10 000)	1 825 789	9.6	1 936 494	9.2	0.6	0.590
Remote centres[C] (above 5000)	225 004	1.2	251 048	1.2	0.6	1.101
Other remote[C]	328 779	1.7	328 745	1.6	–0.1	–0.001
Australia[D]	19 297100	100.00	21 017 300	100.00	1.14	0.858

[A] Data for 2001 and 2011 is based on ABS projections.
[B] Includes Sydney, Melbourne, Brisbane, Perth and Adelaide.
[C] Classification follows Department of Primary Industry and Energy (DPIE 1994). This rural, remote and metropolitan areas (RRMA) classification is widely used by the Australian Institute of Health and Welfare in its environmental health reporting. Metropolitan = big cities plus other cities; rural = large, small and other regional/rural. Other classifications are emerging (e.g. Hugo 2000, Garnaut et al. 2001 p.1), but were not available for this report.
[D] Totals for Australia are based on a different methodology and reference (ABS 1998a) so are not the sum of the above figures.

Sources: ABS (1996, 2000a).

schemes taking account of dimensions such as urbanness–ruralness, accessibility–remoteness, and population density, in addition to population size of human settlements (see the Data Gaps section of this report, as well as recent reports by Hugo (2000) and Garnaut et al. (2001)).

Patterns of population distribution and growth

The annual average rate of population growth over the decade 1991 to 2001 has been concentrated in the five big cities (+1.2%), the other cities (+1.5%) and the large regional centres (+1.5%) (Table 1.3). The remaining categories of human settlement accounted for much smaller rates of population growth over this period. Projected growth between 2001 and 2011 reflects the trends in previous decades, with the large metropolitan cities, other cities and large regional cities and towns likely to account for the largest rates of growth. However, these projections suggest the rate of growth over the next decade is likely to be lower than it was during the last decade. While population growth is projected to be dispersed throughout the continent, there will be distinct concentrations in several key geographic settings (Figure 5). Areas of population growth are most strongly associated with the areas surrounding the major metropolitan areas, some regional centres, the east and south–west coastal zones, some resort and retirement areas, especially those with growing mining activities, tourism and significant Indigenous populations (see Figure 6).

Available evidence suggests that depopulation will be confined primarily to rural and remote regions. In their more detailed analysis of rural growth and decline, Haberkorn et al. (1999) and Hugo (2000) found that the areas experiencing population decline are the dry farming areas of the wheat–sheep belt of western Victoria, central western New South Wales and Queensland, mid-north South Australia, and their equivalent in Western Australia; most pastoral areas in central Australia; several mining centres (e.g. Broken Hill, Mt Magnet, East Pilbara); and declining industrial cities (such as Whyalla).

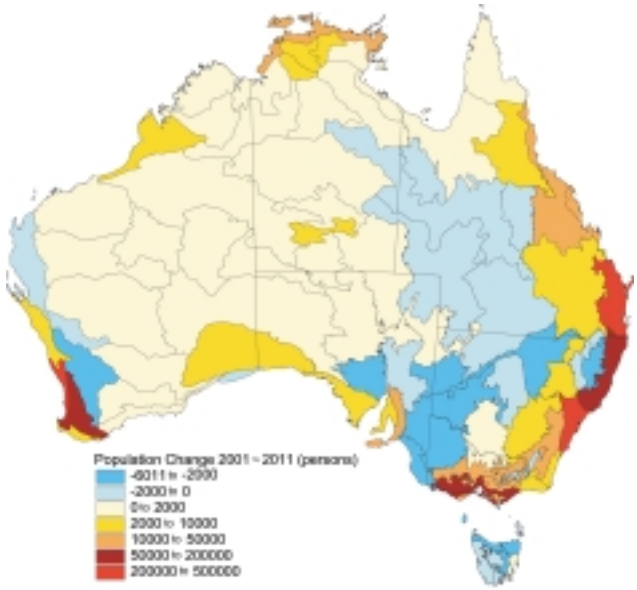

Figure 5: Projected population change, 2001–2011. [HS Indicator 5.1]

Estimated Resident Population for Statistical Local Areas for Total Australia from 1991 to 1997; ABS, Estimated Resident Population for Statistical Local Areas for Total Australia from 1997 to 2011. This figure uses IBRA Version 5.

Source: ABS 1998a.

An important issue affecting the viability of many smaller towns is the impact that surrounding larger centres are having on economic and social activity. For several decades it has been common for many of the small inland towns to decline because their rural hinterland populations have bypassed them in favour of the wider range of goods and services available in the larger regional towns. The decline in economic functions of the small towns results in a cumulative process of decline, as residents then have to move out for education and training and to find jobs. This 'cannibalising' of small towns by regional centres is likely to continue.

Figure 6: Population change in Australian country towns, 1991–1996.

Source: Hugo (2000).

Coastal urban growth

The changing pattern of settlement within Australia is being influenced by significant population growth and increased density along the coast, particularly in New South Wales, Queensland, Victoria and south-west Western Australia (Figure 7). This is part of the 'sun-belt' growth phenomenon that has been evident for some time. This coastal non-metropolitan urban growth is linked to many factors, including significant tourism development, people relocating with retirement, and young people seeking a change in lifestyle:

> … the benefits associated with living in coastal areas are driving a 'Sea Change' effect, in which many of those who can, choose to leave the cities, to escape to a simpler, less hectic life. They are drawn by the high quality lifestyle which offers everything available in the urban centres, plus the natural environment, perceived lack of crime and personal security issues, and lower housing costs. (Main Roads and Queensland Transport 2000 p.67).

By the early 1990s it was evident that this phenomenon was assuming major significance in Australia. Bell (1992) identified 14 high-growth non-metropolitan coastal regions extending from the Wide Bay region of Queensland to the south-eastern corner of South Australia, forming a near-continuous band along the eastern and south-eastern coast of Australia, merging with the capital city regions of Brisbane, Sydney and Melbourne. Also included is the south-western region of Western Australia. This reflects trends that began in the 19th century and which continue to the present, whereby the pattern of human settlement is dominated by a preference for coastal locations (Maher and Stimson 1994 p.20). This is demonstrated clearly in Table 4, which shows that all states and territories except the Northern Territory and South Australia have had higher rates of population growth (1991–1996) in the 3 km coastal zone compared to the rest of the entire state or territory. In New South Wales and Queensland alone, an extra 179 000 people were added to this coastal strip in the period.

Urban localities recording some of the highest annual rates of growth between 1994 and 1999 include Byron Bay (+2.65%), Hervey Bay (+3.70%), Whitsunday (3.95%) and Augusta–Margaret River (+5.36%).

The nature of this development is of great significance because the coastal strip is an ecologically sensitive zone which needs careful treatment in its own right, and because it is also the source of most of the pollutants and excess nutrients affecting estuaries and coastal seas. The most damaging form of urban development is coastal strip development—continuous uncontrolled development along

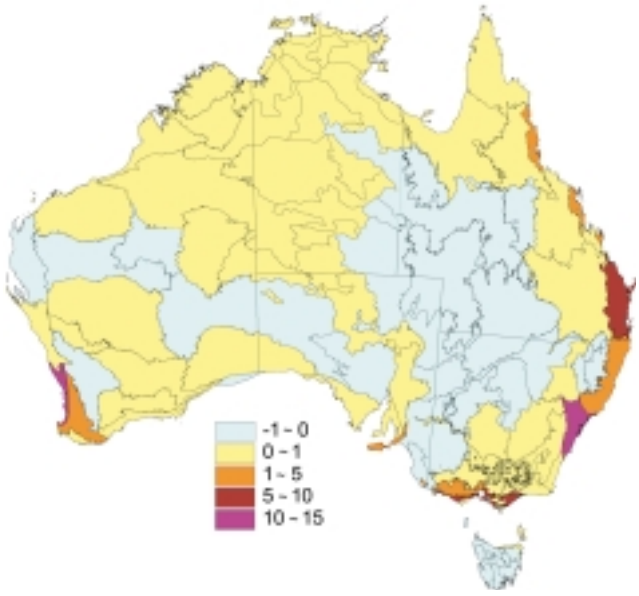

Figure 7: Projected changes in population density by IBRA region.

Units are persons per square kilometre. Simple difference between 1997 and 2006 ABS projections. This figure uses IBRA Version 5.

Source: ERIN, using ABS (1996a) data.

Table 4: **Increases in population in the 3 km coastal zone (buffer) compared to the rest of the state or territory, 1991–1996.**

State/territory	Inland change 1991–1996		Coast change 1991–1996	
	Absolute	%	Absolute	%
NSW	227 305	5.4	81 332	5.4
Victoria	112 298	3.0	17 783	3.2
Queensland	294 779	12.6	97 844	15.5
SA	23 534	2.1	4 300	1.7
WA	82 758	8.1	57 619	10.1
Tasmania	4 149	1.5	3 314	2.0
NT	16 365	14.1	4 287	7.3
ACT	19 867	7.1	—	—
Total	781 055		266 479	

Sources: ABS (1991, 1996a).

the coastal edge rather than clustering of new housing in coastal nodes which are properly sewered and serviced. Urban sprawl, together with pollution of rivers, lakes and seas, were described by the Resource Assessment Commission (RAC) as the two most important problems faced by the coastal zone (RAC 1993). Information is not readily available at an appropriate scale about the extent of coastal strip development and urban sprawl, nor about trends in current patterns of coastal development. This is a serious deficiency restricting our ability to evaluate the implications of continuing rapid urbanisation of coastal areas in Australia. (See the SoE Coasts and Oceans Theme Report and State SoE Reports listed in the Appendix for case studies.)

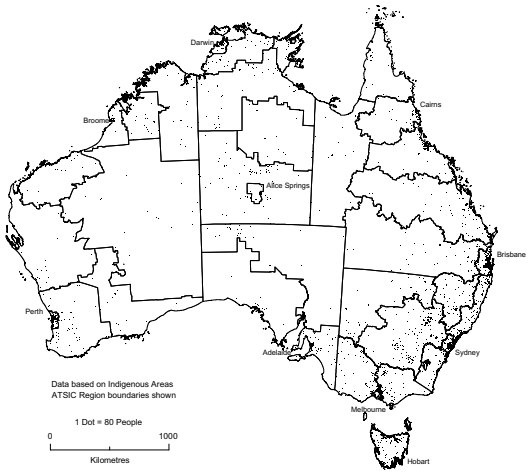

Figure 8: **Distribution of Australia's Indigenous population, 1996.**

Source: ABS (1996a).

The Indigenous population

Indigenous demography and settlement patterns differ from the mainstream in several important respects. (A separate detailed report on Indigenous Settlement is available in Memmott and Moran (2001)). Compared to the total Australian population, Indigenous people are more likely to live in rural and remote areas and less likely to live in major urban centres (Figure 8). However, Indigenous people are represented numerically in all classes of settlement (Table 5).

In 1996, three census regions with significantly higher proportions of Indigenous people than other parts of Australia were Kimberley, Northern Territory (excluding Darwin) and North-west Queensland (ABS 1998b).

Table 5: **Indigenous population in various classes of human settlement, 1996.**

Settlement	Indigenous population	Indigenous population as percentage of total population
Big cities (above 1 million)	93 600	0.9
Other cities (80 000 to 1 million)	49 700	2.0
Large regional/rural (25 000 to 80 000)	31 400	2.8
Small regional/rural (10 000 to 25 000)	38 100	3.0
Other regional/rural (less than 10 000)	38 100	2.2
Remote centres (above 5000)	24 700	10.8
Other remote centres	77 200	21.9
Australia	352 900	1.9

Source: ABS (1996a).