

# The Deaf Society of New South Wales



## The distribution of NSW sign language users

Analysis from the 1996 and 2006 census

Prepared for the Deaf Society of New South Wales by Dr. Louisa Willoughby 2009

# Introduction

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This report gives an overview of the age profile of the signing population in NSW, based on figures from the 2006 Australian Census. The data is drawn from a data set that the Deaf Society of New South Wales commissioned from the Australian Bureau of Statistics on the demographics of the signing population of NSW and comparative data on the general population. The report has been prepared for the Deaf Society of NSW as part of the strategic planning process and is best read in conjunction with the companion reports *The distribution of the signing population of NSW* and *Education and employment outcomes for sign language users in NSW*.

The 2006 census provides the most comprehensive data available on the demographics of New South Wales' signing deaf population, and allows for easy comparison with the general (hearing) population. A clear advantage of census data over previous surveys of the Deaf community (e.g. FACS 2004, Bosner and Burns 1998) is that the census samples the entire Australian population and is thus less prone to sampling errors. Yet despite this advantage, the phrasing of census questions and mode of data collection means that caution is needed in interpreting the data.

As has been widely noted in previous studies, the phrasing of the census question about language use – *Does the person speak a language other than English at home?* – is problematic for a number of reasons:

1. Auslan is not spoken *per se*
2. Deaf people living with hearing relatives may not use Auslan in the home
3. Some deaf people may not consider their signing to be a 'real language' (cf. Ozolins and Bridge 1999)

In addition to these problems, which may result in the number of sign language users being undercounted, the absence of a question on hearing disabilities means there is no way of knowing how many sign language users are deaf themselves and how many are hearing family members who use Auslan in the home environment. Comparing figures from the 2006 census with previous estimates of the size of the Australian Deaf community (e.g. Johnstone 2004, Access Economics 2008) suggests the census provides a reasonably accurate profile of the adult Deaf community, but may over-estimate the number of Deaf children using Auslan in the home. The issue of the extent to which the census provides a reliable age profile of the New South Welsh Deaf community will be explored in more detail in the following section. As with all statistics, reliability is also partly a question of the population group one has in mind or the purpose for which the statistics will be used. Thus the number of people using Auslan at home may be more or less than the number of people requiring regular access to Auslan interpreters or assistance from Deafness services. Home use of the language is, however, widely used as a measure of people's preferred language and gives the most accurate data currently available profiling the size of the Australian Deaf community.

# State-wide figures

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In 2006, New South Wales recorded 1,917 sign language users, out of a total state population of just over 6.5 million. This equates to an average of 2.9 sign language users per 10,000 NSW residents. However, as will become clear, the proportion of sign language users varied markedly across different age groups.

In order to explore the age profile of the NSW signing population, census data was first sub-divided into the following age groups:

- 0-14 (children)
- 15-24 (youth)
- 25-44 (younger working age)
- 45-64 (older working age)
- 65+ (seniors)

Both the general population and sign language users have a similar age profile: the largest age group is the 25-44 year olds, followed in both cases by 45-64 year old and 0-14 year olds in third place. The number of seniors is slightly larger than the number of youth in the general population, whereas for the signing population the youth age group is significantly larger than the seniors. Table 1 gives the number of people in each classification, and Figure 1 gives a visual representation of this data.

Age groups	Sign language users		General pop	
	#	%	#	%
<b>0-14</b>	374	20%	1,296,719	20%
<b>15-24</b>	269	14%	870,395	13%
<b>25-44</b>	680	35%	1,843,541	28%
<b>45-64</b>	419	22%	1,614,582	25%
<b>65+</b>	175	9%	901,533	14%
<b>TOTAL</b>	1917	100%	6,526,770	100%

Table 1: Age profile of signing and general population - NSW

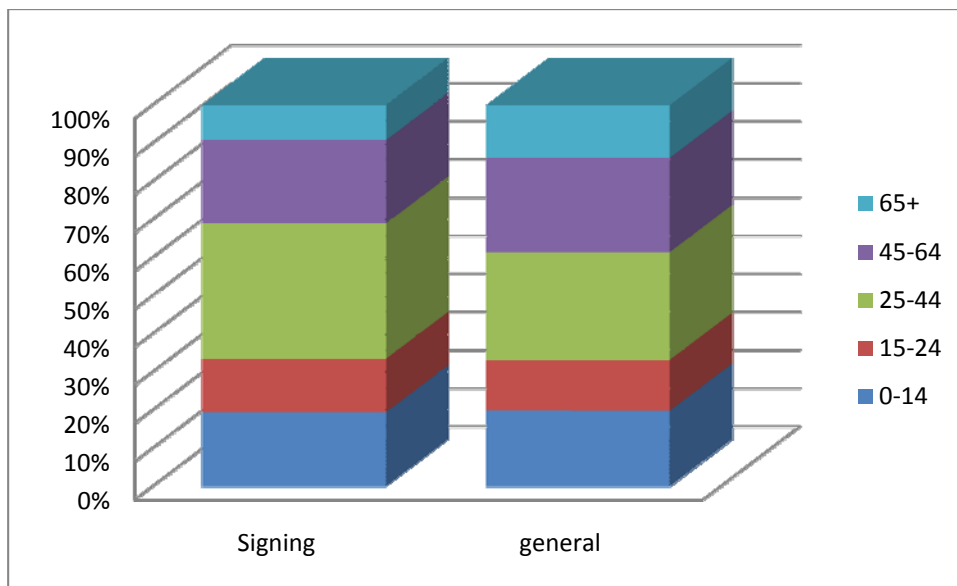


Figure 1: Age profile of signing and general population – NSW

Within Australia there is a commonly held view among researchers, professionals and members of the Deaf community that the number of Deaf people using Auslan is in decline. This is attributed to a number of related factors, including advances in hearing aid and cochlear implant technology that give users better access to speech, greater tendency towards mainstreaming Deaf and hard of hearing students, increasing use (and importance) of written English in electronic communication and a range of health measures (such as Rubella immunisation) that have seen fewer babies born with hearing impairments over the past 40 years (Johnston 2004). Yet, 2006 census figures paint a picture of a relatively robust community, with a large group of signing children and youth and few members aged over 65. This report suggests that different age profile of the Australian Deaf community recorded in the census may be as much as result of the data collection method, though of course further investigation is required to assess the veracity of this claim.

Because the census is a written document, one would anticipate that Deaf people with high English literacy skills would be more likely to fill in their own form, and to answer the questions accurately and appropriately, than those with lower literacy skills. In cases where someone has filled out the form on behalf of the Deaf person there is always a danger that they will not list Auslan (or another sign language) as one of the person's languages, even if it is their preferred communication method. It is thus hypothesized that the stark drop-off in number of sign language users aged 65 or older reflects generally low-literacy skills and reliance on family to (inaccurately) fill out their census forms, rather than a steep decline in real numbers in this group. This contention is further strengthened by the high proportion of sign language users aged over 65 who recorded not stated or inadequately described answers to census questions about their education and employment, suggesting that many who attempted to fill out their own census struggled with the literacy demands it placed on them.

While there is an argument that census figures on the older Deaf population are too low, it is also important to remember that older Deaf people would have been exposed to heavily oralist education, and thus may have had limited access to Auslan as children/ young adults. Those who internalised a very negative attitude to Auslan from this education may have resisted using it in later

life, thereby reducing the proportion of older deaf people who communicate in Auslan. Certainly, a great many Deaf people who were denied access to a sign language as children/ young adults go on to be part of the Deaf community as adults (Ladd 2003), however, one should not be too dismissive of the fact that the largest age group of signing adults (25-44) is also the age group that on average had the highest level of access to signing communication in their school education.

The accuracy of figures on the number of children using a sign language at home is difficult to assess. On the one hand, it seems likely that at least some of the children in this group will be hearing CODAs (children of Deaf adults) who use Auslan to communicate with their parents. This could potentially cause quite a large inflation in figures for the number of signing children, as there is a large cohort of Deaf adults in NSW in the prime child-rearing age bracket of 25-44. Even if only one in four signing adults aged 25-44 used Auslan with a hearing child, this would still account for 45% of sign language users in the 0-10 age bracket. However, the prospect that census figures reflect resurgence in the number of hearing families using Auslan to communicate with their Deaf child should also not be discounted. Certainly overseas data documents a trend of families increasingly turning away from oralism as their sole means of communication with their deaf child and incorporating at least some sign language or sign supported speech into parent-child interactions (cf. Gregory, Bishop and Sheldon 1995, Meadow-Orlans and Sass-Lehrer 2003), and this may be driving the strong use of sign languages in the 0-10 age group. It is also important to remember that census data does not tell us anything about the proportion of interactions that take place in Auslan or the depth of a child's knowledge of a sign language. As such evidence of large numbers of children using some Auslan at home should not be seen as negating Johnston's (2004) claim that the Auslan competence of Deaf children in Australia is in decline.

Figure 2 provides an illustration of the proportion of sign language users in the general population per 10,000 NSW residents. This confirms that sign language users are over-represented in the 25-44 age group, and under-represented in the 65+ age group.

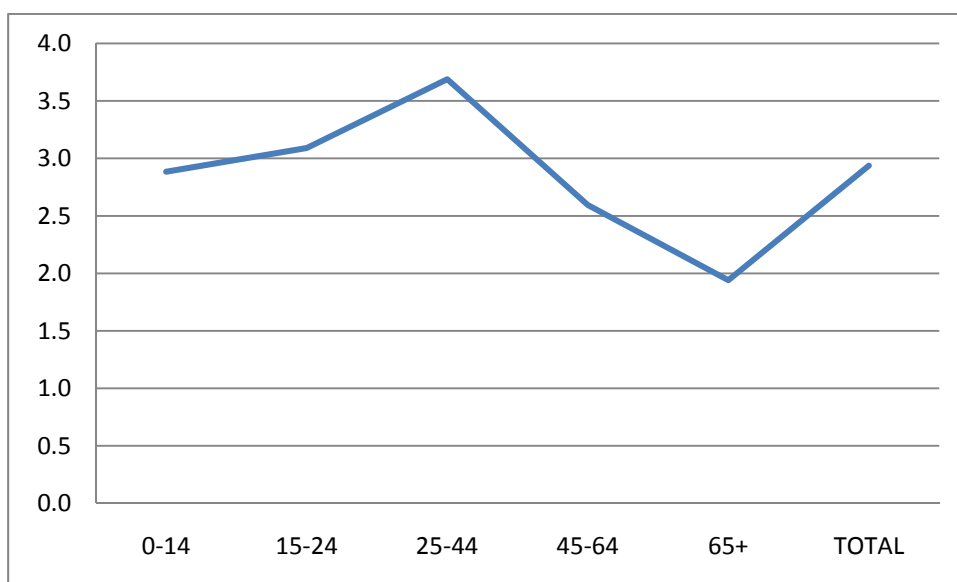


Figure 2 Sign languages users per 10,000 of general population - NSW

# Sydney and regional NSW

Region has an impact on age distribution for both the general and signing population. This is particularly clear in the age differences in the population of Sydney and the rest of NSW: as the figure below shows, Sydney has an inflated number of residents in the 25-44 age group, and lags behind regional NSW in the proportion of residents aged 65+. This is in line with the widely noted demographic trend of young people leaving regional and rural areas to seek work, further education or lifestyle improvements in major cities.

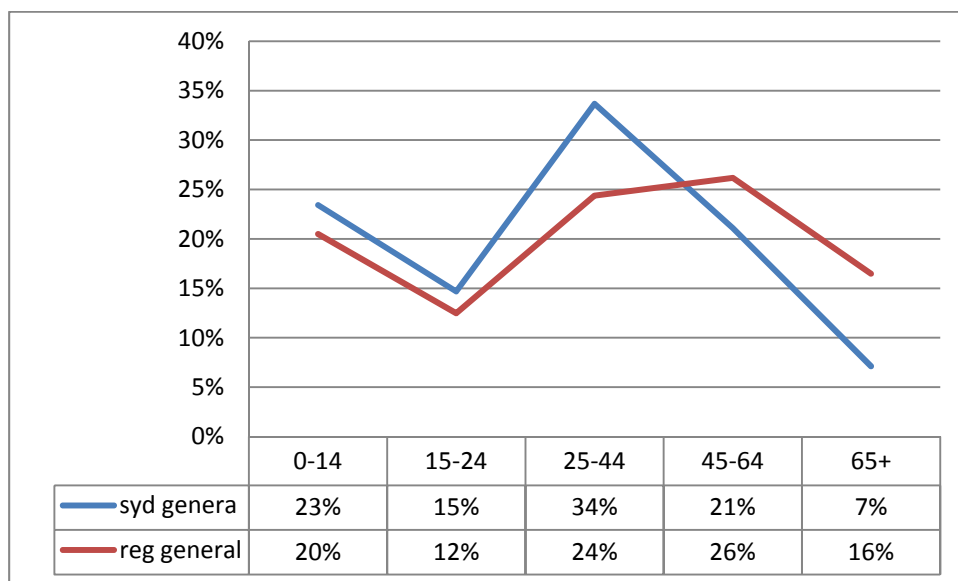


Figure 3: Age profile of the general population - Sydney and Regional NSW

The graphs of the age profile of the signing population in Sydney and the rest of NSW follows roughly the same shape as those for the general population, with the important difference that there is a less of a difference between the two locations at all age groups. This suggests that Deaf young people in regional NSW may be less likely than their hearing peers to move to Sydney for education, employment or lifestyle reasons. The *Distribution of the signing population of NSW* report also noted that sign language users were over-represented in regional areas and suggested that the high cost of housing in Sydney is acting as a disproportionate impediment for sign language users to move in from the regions.

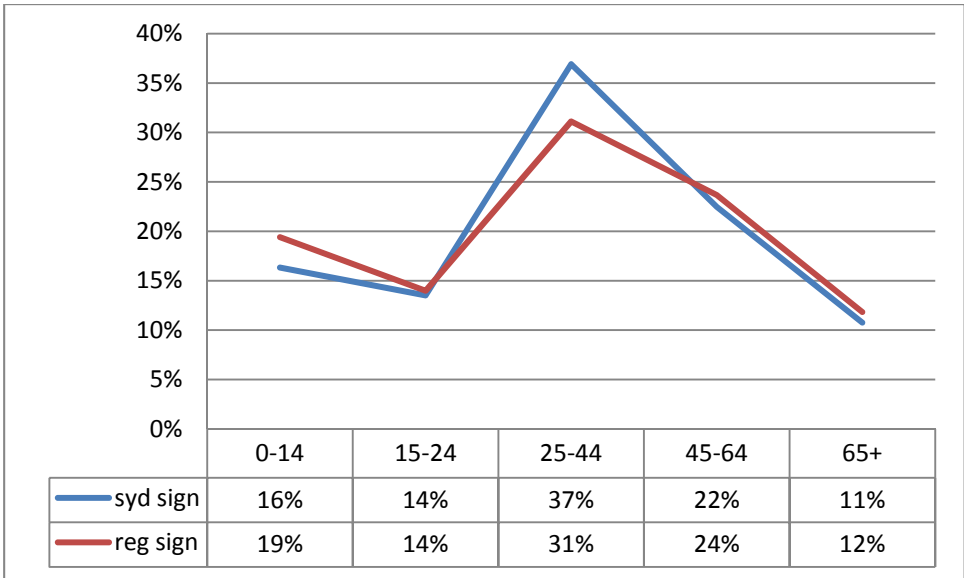


Figure 4: Age profile of the signing population - Sydney and Regional NSW

The figures discussed so far in this section have talked about the age spread within the signing and general populations. But another question worth asking is how the proportion of sign language users within the population varies with age. Here Figure 5 shows that while Sydney and regional NSW have similar prevalence of signers overall, the age profile is quite different.

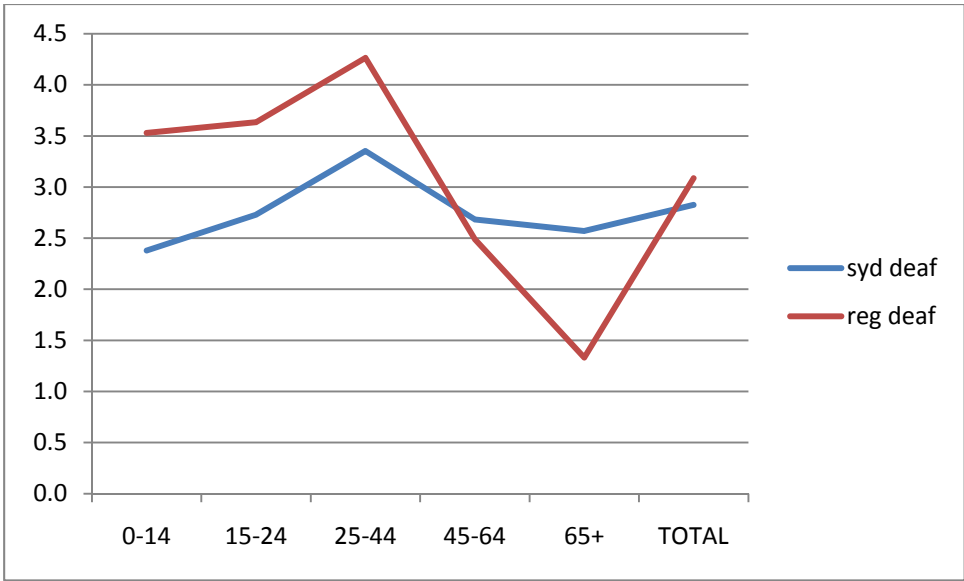


Figure 5: Sign languages users per 10,000 of general population - Sydney and Regional NSW

Figure 5 shows that the proportion of signing children and youth is markedly higher in regional NSW than in Sydney – which may come as a surprise as the schools with sign programs are located in Sydney. A tentative explanation for this may be a high number of CODAs in the region, which is certainly plausible given the high numbers of signing adults in the 25-44 age bracket living in regional NSW. It may also be that intensive oralist education programs (such as those offered by the Sheppard Centre) are less accessible or attractive to parents of deaf children living in regional NSW than those in Sydney, however, much more research needed to test the validity of this hypothesis. As already discussed, the dramatically lower proportion of sign language users in the 65+ age

bracket in regional NSW is a consequence of younger age groups moving away from regional areas, and may also reflect 'sea-changers' and 'tree-changers' moving to regional areas and inflating the 65+ general population still further.

# Regional snapshots

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As well as the demographic differences between Sydney and regional NSW, there are differences within these areas. In order to provide more nuanced data, the following section gives brief age profiles of five regions of NSW:

- Northern and Inner Sydney
- Western Sydney
- Central Coast/ Illawarra
- Southern regional NSW
- Northern regional NSW

A full list of municipalities in each region can be found in appendix 1.

## Northern and Inner Sydney

This region covers the north shore and inner city and encompasses some of Sydney's most expensive suburbs. As noted in *The distribution of the signing population of NSW*, these suburbs are also far from the many Deafness service providers located in and around Parramatta, and report lower numbers of signing residents than Sydney's western and South-Western suburbs. Table 2 gives the number and percentage of people in each age group, and Figure 6 gives a visual representation of this data.

Age groups	Sign language users		General pop	
	#	%	#	%
0-14	86	19%	372,312	17%
15-24	37	8%	293,347	13%
25-44	192	42%	703,627	32%
45-64	90	20%	527,220	24%
65+	50	11%	287,287	13%
<b>TOTAL</b>	<b>455</b>	<b>100%</b>	<b>2,183,793</b>	<b>100%</b>

Table 2: Age profile of signing and general population - Northern and Inner Sydney

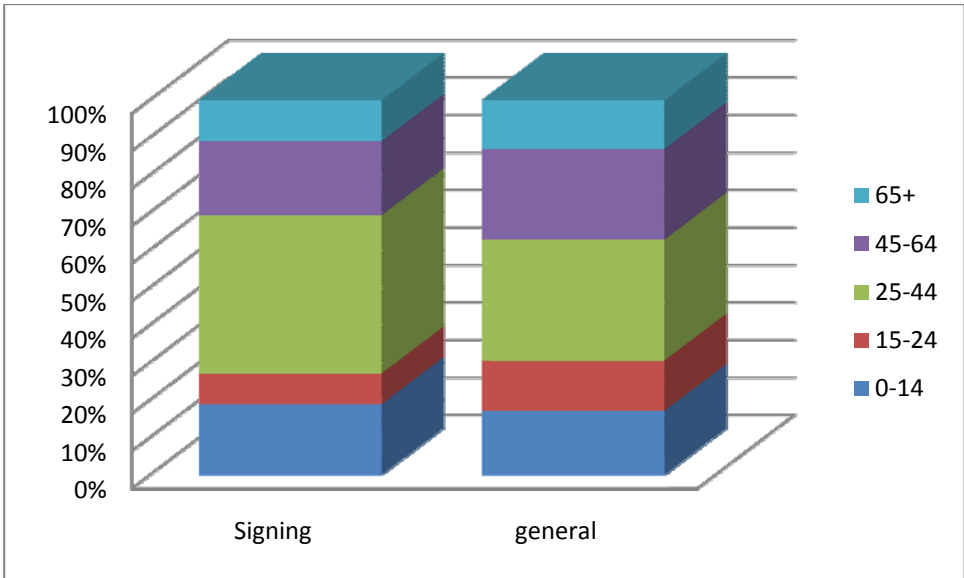


Figure 6: Age profile of signing and general population – Northern and Inner Sydney

It should be noted that the region records a low percentage of sign languages users aged 15-24, while the percentage of sign languages users aged 25-44 is disproportionately high. Given that housing in this area of Sydney is particularly expensive, a possible explanation for these figures is that Deaf teenagers (who generally take longer to finish tertiary education and report lower employment outcomes than the general population, cf. Willoughby 2010) find the area particularly unaffordable. Similarly, sign language users in the 25-44 age group report some of the best outcomes for education and employment of all age groups, so it is unsurprising to see them comprising a substantial proportion of the signing population in this more expensive region.

As the figures on the proportion of sign language users per 10,000 head of general population show, sign language users are under-represented at all age groups in this region relative to state averages. Unlike the rest of the state, there is no decrease in the proportion of sign language users in the 65+ age group relative to the 45-64 age group – a point worthy of further investigation if this trend continues in future censuses.

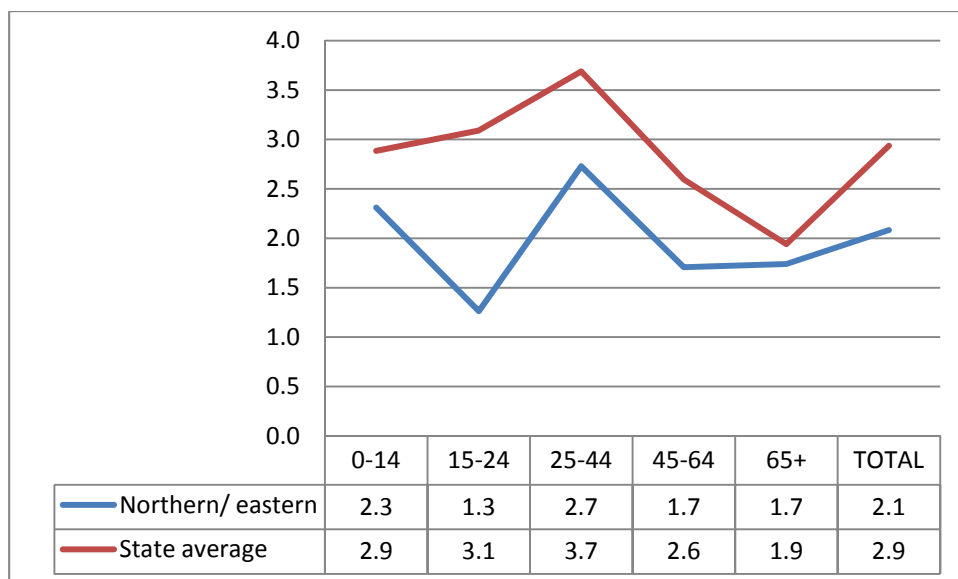


Figure 7: Sign languages users per 10,000 of general population - Northern and Inner Sydney

## Western Sydney

As the name implies, this region covers the western suburbs, as well as new development heading into the southwest (eg. Camden). Historically a working-class area, Western Sydney is also the heart of the Sydney Deaf community with municipalities like Blacktown, Campbelltown and Parramatta recording the largest number of sign language users (Willoughby 2009). Western and Southwestern Sydney are also the main growth areas of Sydney, so can expect large numbers of young families moving to estates around Camden and Campbelltown. Table 3 gives the number and percentage of people in each age group, and Figure 8 gives a visual representation of this data.

Age groups	Sign language users		General pop	
	#	%	#	%
<b>0-14</b>	87	14%	355,042	23%
<b>15-24</b>	106	18%	230,433	15%
<b>25-44</b>	199	33%	462,243	30%
<b>45-64</b>	148	25%	359,828	23%
<b>65+</b>	64	11%	156,174	10%
<b>TOTAL</b>	604	100%	1,563,720	100%

Table 3: Age profile of signing and general population - Northern and Inner Sydney

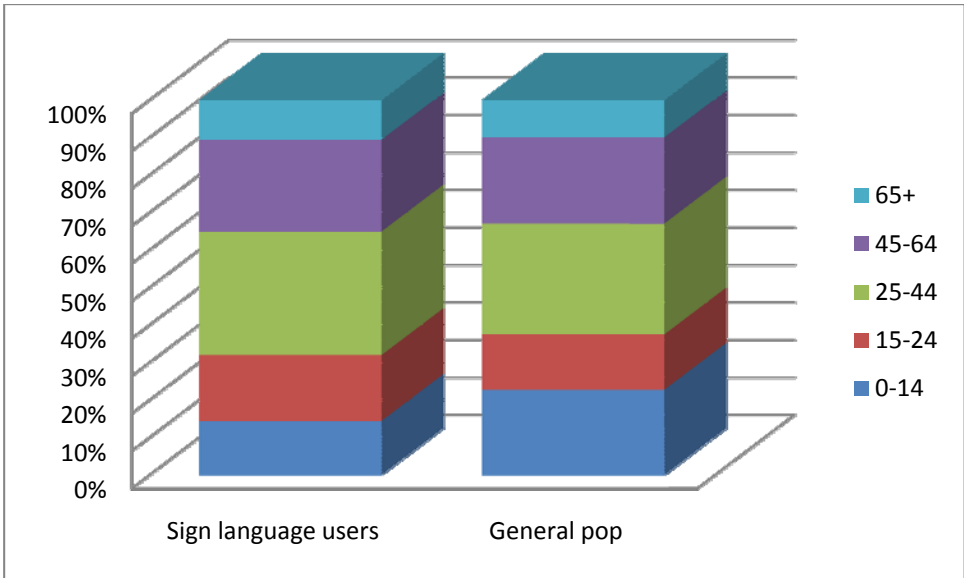


Figure 8: Age profile of signing and general population – Western Sydney

It is noteworthy that the signing population of Western Sydney is composed of a lower percentage of children than the general population. However, as the figures on prevalence rates show, this is not because the number of signing children in the West is disproportionately low, but rather that numbers in other age groups are disproportionately high. It seems that Deaf people from around NSW gravitate towards living in Western Sydney over the course of their lifetime – perhaps because of the lower cost of housing or easier access to service providers like the Deaf Society of NSW located in and around Parramatta. Whatever the reason, by the 65+ age group, the proportion of sign language users living in Western Sydney is more than double the state average, as shown below:

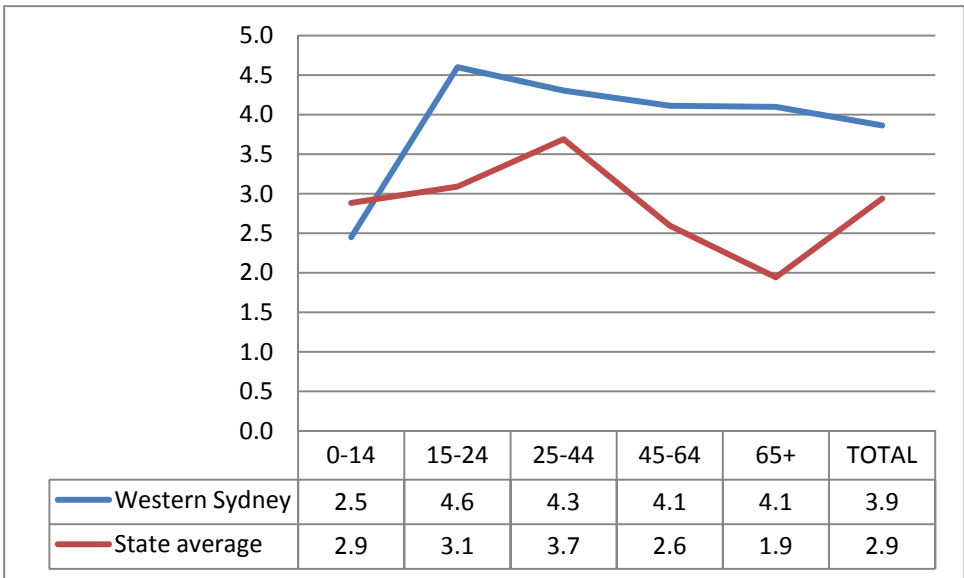


Figure 9: Sign languages users per 10,000 of general population – Western Sydney

## Central Coast/ Illawarra

This region covers the geographically non-contiguous areas of the Central Coast, Hunter Valley and Illawarra. What these regions do have in common though is that they are increasingly urbanised and part of the Sydney fringe. Table 4 gives the number and percentage of people in each age group, and Figure 10 gives a visual representation of this data.

Age groups	Sign language users		General pop	
	#	%	#	%
0-14	108	22%	269,467	20%
15-24	75	16%	170,606	13%
25-44	156	32%	333,740	25%
45-64	111	23%	335,526	25%
65+	32	7%	216,154	16%
<b>TOTAL</b>	<b>482</b>	<b>100%</b>	<b>1,325,493</b>	<b>100%</b>

Table 4: Age profile of signing and general population – Central Coast/ Illawarra

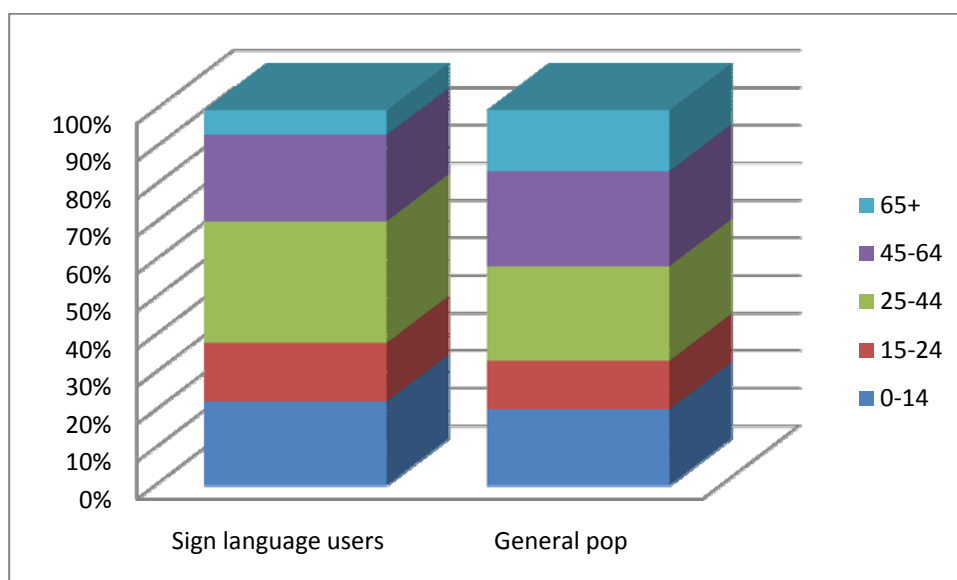


Figure 10: Age profile of signing and general population - Central Coast/ Illawarra

The age profile of the signing population in the region is skewed towards youth, with only a very small number of sign language users aged over 65. The general population by contrast shows a disproportionately high number of people in the over 65 age group, perhaps because of the popularity of this region with 'sea changers'. As figure 11 shows, the proportion of deaf people living in the region is markedly higher than the state average until the age of 65, and then declines sharply.

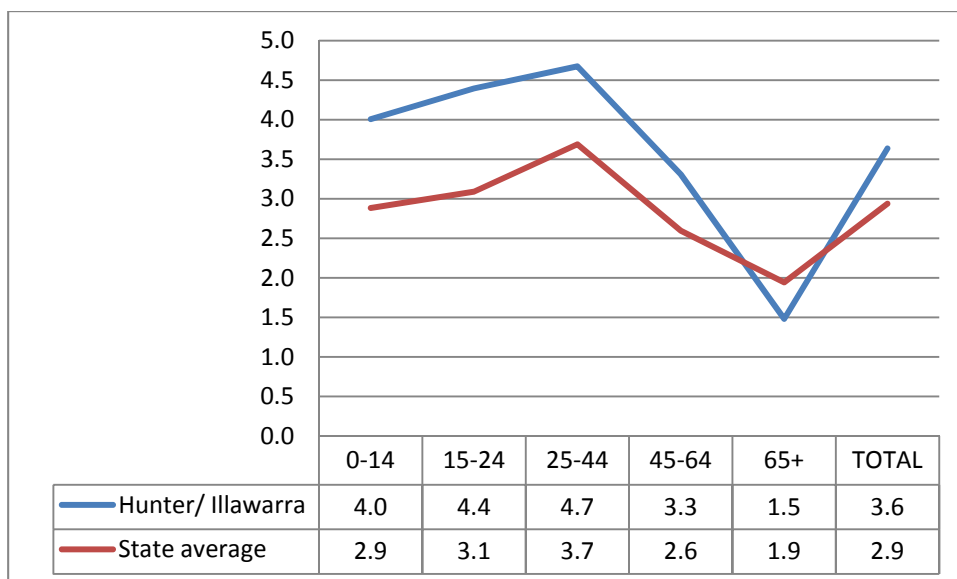


Figure 11: Sign languages users per 10,000 of general population – Central Coast/ Illawarra

## Southern regional NSW

This region represents a geographically diverse area, encompassing Bega to Broken Hill, Albury to Mittagong. This large area has a signing population of only 163 individuals, which is too small to support subdivision into smaller geographic regions. It also suggests that the area is not a popular place to live for Deaf people, perhaps because of the distance from many service providers. Table 4 gives the number and percentage of people in each age group, and Figure 10 gives a visual representation of this data.

Age groups	Sign language users		General pop	
	#	%	#	%
0-14	39	24%	142,429	21%
15-24	33	20%	86,738	13%
25-44	55	34%	167,798	25%
45-64	28	17%	178,656	26%
65+	8	5%	102,510	15%
<b>TOTAL</b>	<b>163</b>	<b>100%</b>	<b>678,131</b>	<b>100%</b>

Table 5: Age profile of signing and general population – Southern regional NSW

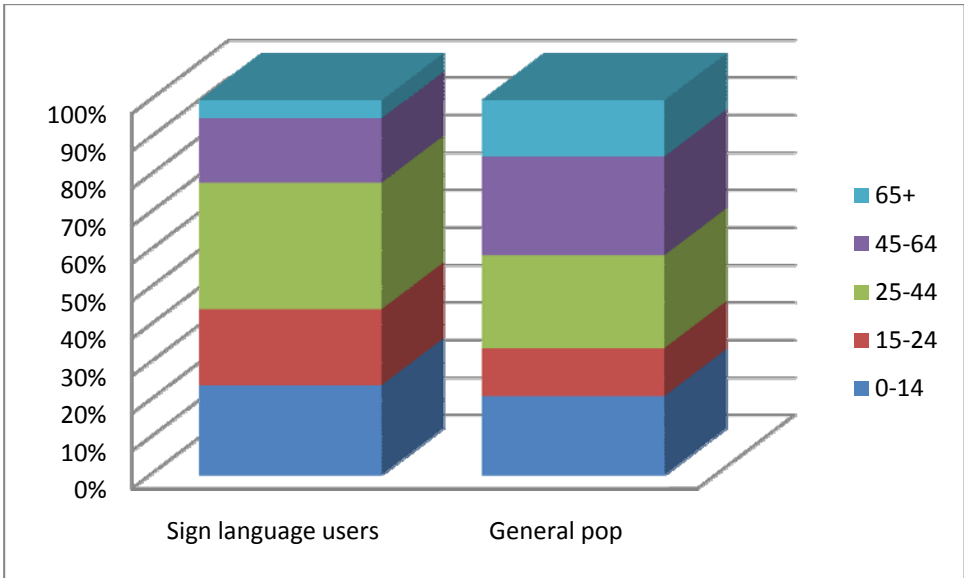


Figure 12: Age profile of signing and general population – Southern regional NSW

As in the Central Coast/ Illawarra region, the signing population in Southern regional NSW is markedly younger than the general population. This difference is particularly extreme in the 65+ age group, where only 8 sign language users are recorded for the entire region, and may reflect limited access to sign language for people living in rural areas in years gone by or a tendency for Deaf people of that generation to move to Sydney to access schools for the Deaf and remain there after having completed school.

While the age profile of sign language users is similar to that of the Central Coast/ Illawarra region, the overall number of sign language users in each age group are much lower. Figure 13 shows that in most age groups the Southern region has a much lower proportion of sign language users than the state average.

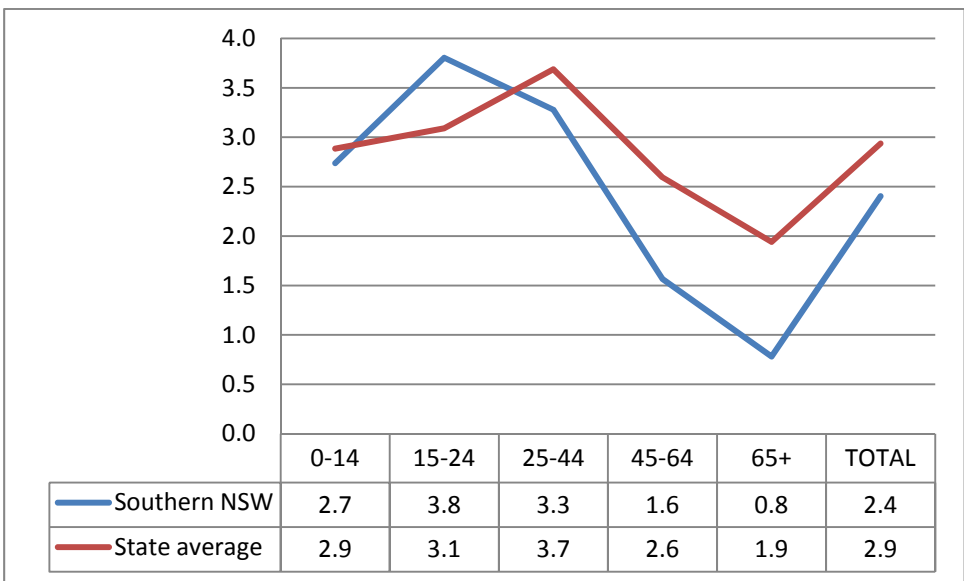


Figure 13: Sign languages users per 10,000 of general population – Southern regional NSW

## Northern regional NSW

This region encompasses all areas of the state north of the Hunter Valley and Central Coast. This large area has a signing population of only 213 individuals, which is too small to support subdivision into smaller geographic regions. There is a large signing population in Lismore (Willoughby 2009), but in most other areas there are few sign language users. Table 6 gives the number and percentage of people in each age group, and Figure 10 gives a visual representation of this data.

Age groups	Sign language users		General pop	
	#	%	#	%
<b>0-14</b>	54	25%	157,469	20%
<b>15-24</b>	18	8%	89,271	12%
<b>25-44</b>	78	37%	176,133	23%
<b>45-64</b>	42	20%	213,352	28%
<b>65+</b>	21	10%	139,408	18%
<b>TOTAL</b>	<b>213</b>	<b>100%</b>	<b>775,633</b>	<b>100%</b>

Table 6: Age profile of signing and general population – Northern regional NSW

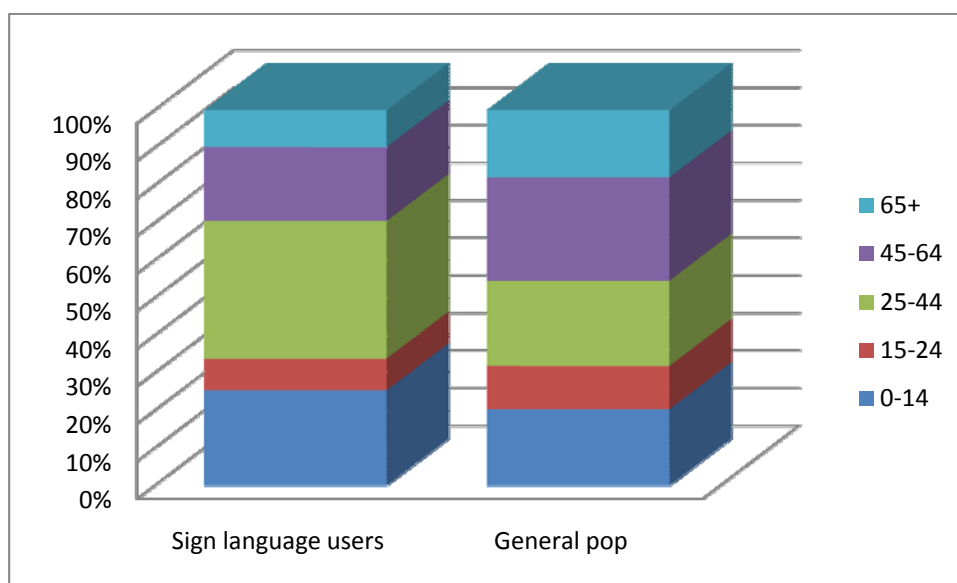


Figure 14: Age profile of signing and general population – Northern regional NSW

The age profile of sign language users in Northern regional NSW is somewhat similar to that of Northern and Inner Sydney: in both cases there are a large number of signers in the 0-14 and 25-44 age groups, but unexpectedly small numbers in the 15-24 and 45-64 age groups. While the areas have very different socioeconomic profiles, it may be that similar (yet to be identified) factors are driving these age profiles. The small proportion of sign language users aged over 45 is also something of a universal across the state, rather than being specific to this region.

As Figure 15 makes clear, the proportion of sign language users in Northern NSW is close to state averages overall, but fluctuates markedly across the age groups.

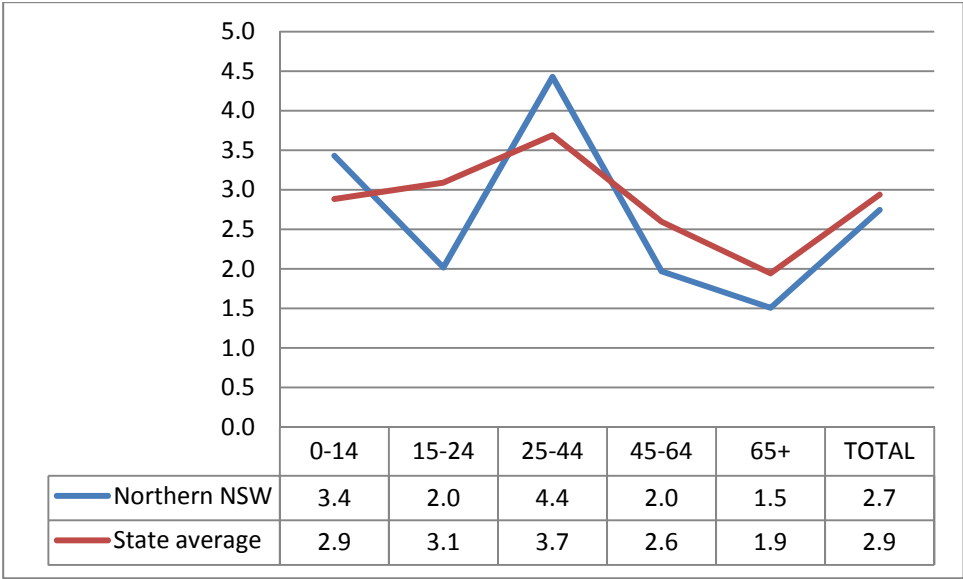


Figure 15: Sign languages users per 10,000 of general population – Northern regional NSW

# Conclusion

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This report has shown that the NSW signing population has a distinct age profile to that of the general population. Sign language users are on average younger than members of the general population, with only very small numbers of signers aged over 65. As noted in the introduction however, the way in which the data in this report was collected may have led to the under-estimation of the older signing population and the inclusion of a number of CODAs in the younger age groups, and thus the data needs to be interpreted with caution.

The report found that the age profile of the signing population varies across the regions, with particularly high numbers of children aged 0-14 living in rural and regional areas. This is quite different to the age profile of the general population, where rural and regional areas have a predominantly older population. It is hypothesised that this discrepancy may be because Deaf people and/or the parents of Deaf children may lack the financial resources to move to Sydney in the same numbers as members of the general population living in rural areas, however further research is required to confirm or deny this hypothesis.

# References

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# Appendix one: LGAs in each region

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## **Sydney Inner/Northern Region**

The Council of the Municipality of Ashfield  
The Council of the City of Botany Bay  
Burwood Council  
City of Canada Bay Council  
Canterbury City Council  
The Council of the Municipality of Hunters Hill  
Hurstville City Council  
Kogarah Municipal Council  
Lane Cove Municipal Council  
Leichhardt Municipal Council  
Manly Council  
Marrickville Council  
Mosman Municipal Council  
North Sydney Council  
Randwick City Council  
Rockdale City Council  
Strathfield Municipal Council  
Council of the City of Sydney  
Waverley Council  
Willoughby City Council  
Woollahra Municipal Council  
Sutherland Shire Council  
The Council of the Shire of Baulkham Hills  
The Council of the Shire of Hornsby  
Ku-ring-gai Council  
Pittwater Council  
Warringah Council  
Ryde City Council

## **Western Sydney Region**

Auburn Council  
Bankstown City Council  
Fairfield City Council  
Holroyd City Council  
Blacktown City Council  
Parramatta City Council  
Penrith City Council  
Blue Mountains City Council  
Camden Council  
Campbelltown City Council  
Liverpool City Council  
Wollondilly Shire Council

### **Hunter/Central Coast/Illawarra Region**

The Council of the Municipality of Kiama  
Shellharbour City Council  
Shoalhaven City Council  
Wingecarribee Shire Council  
Wollongong City Council  
Gosford City Council  
Hawkesbury City Council  
Wyong Shire Council  
Cessnock City Council  
Dungog Shire Council  
Gloucester Shire Council  
Great Lakes Council  
Lake Macquarie City Council  
Maitland City Council  
Muswellbrook Shire Council  
Newcastle City Council  
Port Stephens Council  
Singleton Shire Council  
Upper Hunter Shire Council

### **Southern Region**

Albury City Council  
Balranald Shire Council  
Bathurst Regional Council  
Bega Valley Shire Council  
Berrigan Shire Council  
Bland Shire Council  
Blayney Shire Council  
Bombala Council  
Boorowa Council  
Broken Hill City Council  
Cabonne Shire Council  
Carrathool Shire Council  
Central Darling Shire Council  
City of Lithgow Council  
Conargo Shire Council  
Coolamon Shire Council  
Cooma-Monaro Shire Council  
Cootamundra Shire Council  
Corowa Shire Council  
Cowra Shire Council  
Deniliquin Council  
Eurobodalla Shire Council  
Forbes Shire Council  
Goulburn Mulwaree Council  
Greater Hume Shire Council  
Griffith City Council  
Gundagai Shire Council  
Harden Shire Council

Hay Shire Council  
Jerilderie Shire Council  
Junee Shire Council  
Lachlan Shire Council  
Leeton Shire Council  
Lockhart Shire Council  
Mid-Western Regional Council  
Murray Shire Council  
Murrumbidgee Shire Council  
Narrandera Shire Council  
Oberon Council  
Orange City Council  
Palerang Council  
Parkes Shire Council  
Queanbeyan City Council  
Snowy River Shire Council  
Temora Shire Council  
The Council of the Shire of Wakool  
Tumbarumba Shire Council  
Tumut Shire Council  
Unincorporated Far West  
Upper Lachlan Shire Council  
Urana Shire Council  
Wagga Wagga City Council  
Weddin Shire Council  
Wentworth Shire Council  
Yass Valley Council  
Young Shire Council

### **Northern Region**

Armidale Dumaresq Council  
Ballina Shire Council  
Bellingen Shire Council  
Bogan Shire Council  
Bourke Shire Council  
Brewarrina Shire Council  
Byron Shire Council  
Clarence Valley Council  
Cobar Shire Council  
Coffs Harbour City Council  
Coonamble Shire Council  
Dubbo City Council  
Gilgandra Shire Council  
Glen Innes Severn Council  
Greater Taree City Council  
Gunnedah Shire Council  
Guyra Shire Council  
Gwydir Shire Council  
Inverell Shire Council  
Kempsey Shire Council

Kyogle Council  
Lismore City Council  
Liverpool Plains Shire Council  
Moree Plains Shire Council  
Nambucca Shire Council  
Narrabri Shire Council  
Narromine Shire Council  
Port Macquarie-Hastings Council  
Richmond Valley Council  
Tamworth Regional Council  
Tenterfield Shire Council  
Tweed Shire Council  
Uralla Shire Council  
Walcha Council  
Walgett Shire Council  
Warren Shire Council  
Warrumbungle Shire Council  
Wellington Council