

# Trends in Per Capita Alcohol Consumption in Australia, 1990/91-1998/99.

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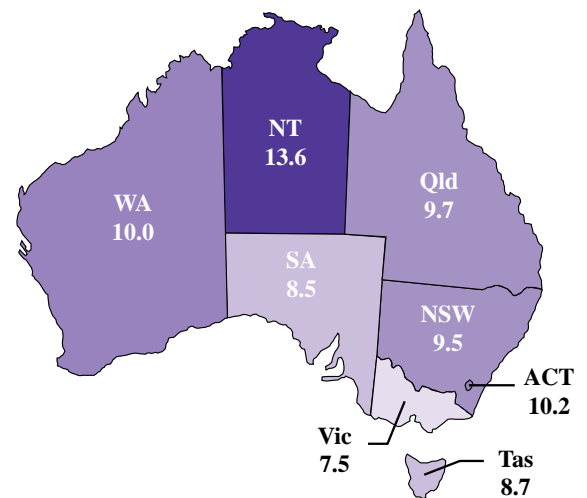
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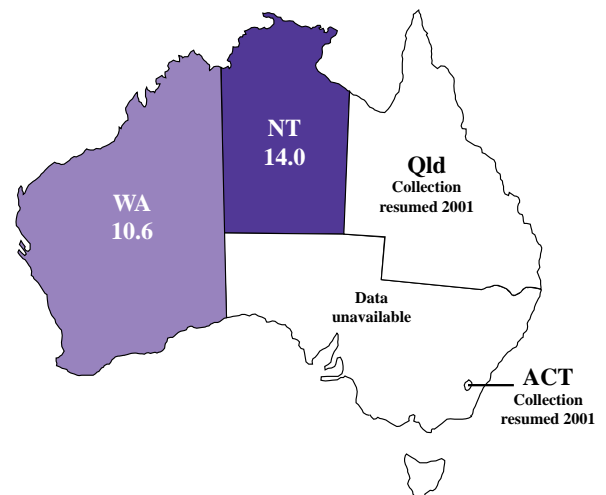
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## Summary Points

- This Bulletin presents, for the first time, national and state estimates of adult per capita pure alcohol consumption.
- Adult per capita alcohol consumption is calculated based upon methods that account for visitors and variations in typical alcohol content.
- There was a general decline in adult per capita consumption in the early 1990s for most states/territories, although Queensland and Western Australia show some evidence of increasing consumption.
- Adult per capita consumption was consistently highest in the Northern Territory and lowest in Victoria.
- Overall, non-metropolitan consumption was consistently higher than that in the metropolitan areas.
- Trends in adult per capita consumption closely reflect patterns in alcohol-related deaths and road crash injuries.
- Data required for estimating per capita consumption is no longer available for most jurisdictions, except WA and NT. Queensland and the ACT have recently reinstated collection of these data.



Map 1: Estimated visitor adjusted, adult per capita consumption of pure alcohol (litres) by state/territory, 1995/96.



Map 2: Estimated visitor adjusted, adult per capita consumption of pure alcohol (litres) by state/territory, 1998/99, where available.

## Introduction.

Adult per capita pure alcohol consumption (APCC) is an important indicator of the level of alcohol-related harm in a community. There are strong relationships between APCC and alcohol-caused morbidity and mortality including that from alcohol-related car crashes (Chikritzhs et al., 2000ab, Chikritzhs et al., 1999). A recent comprehensive analysis of data for 14 European countries found strong and significant relationships between PCC and rates of death caused by injuries from all causes (Skog, 2001). This Bulletin provides, for the first time, state and territory estimates for APCC that are adjusted for tourism and differences in the typical alcohol contents of the various beverages sold throughout Australia. These data represent the only source of information in Australia on the regional differences in APCC. This Bulletin is accompanied by a Technical Report, which is available on request.

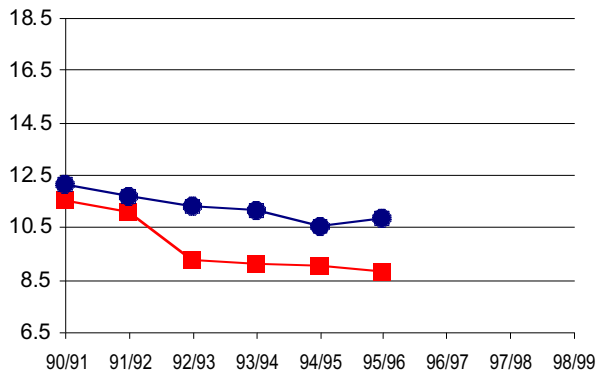
## State and territory alcohol consumption, 1990/91-1998/99.

Map 1 shows estimated APCC for 1995/96 for states/territories in Australia. As can be seen from the map, the Northern Territory recorded the highest APCC, followed by the ACT and WA. Victoria and SA record the lowest levels of APCC. Unfortunately, most jurisdictions ceased collecting data on alcohol consumption in 1997 when the Federal High Court held that state governments could not levy alcohol taxes. As can be seen in Table 1 and Map 2 the failure of jurisdictions to continue to collect data means that the current level of consumption for most jurisdictions is unknown. Only WA and the NT continue to collect data for public health purposes, though Queensland and the ACT have reinstated collection.

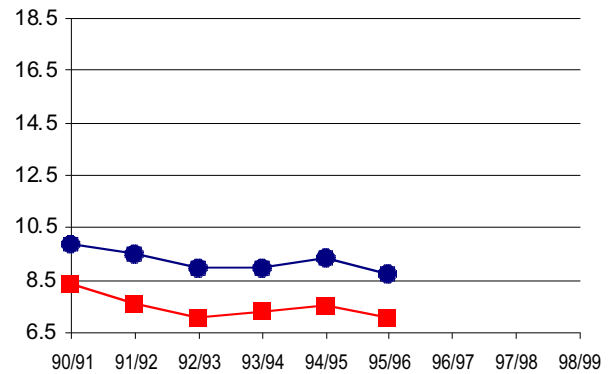
Estimated adult per capita pure alcohol consumption by jurisdiction.

Legend: ■ metro ● non-metro ▲ combined  
 Y Axis: estimated adult per capita pure alcohol consumption

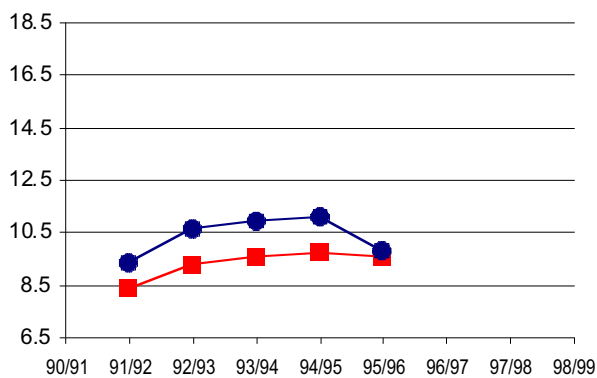
**Fig 1: New South Wales**



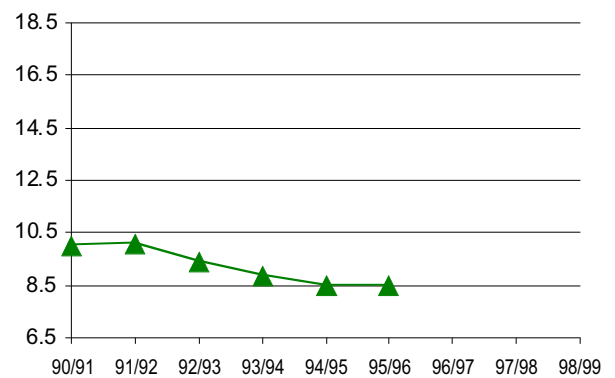
**Fig 2: Victoria**



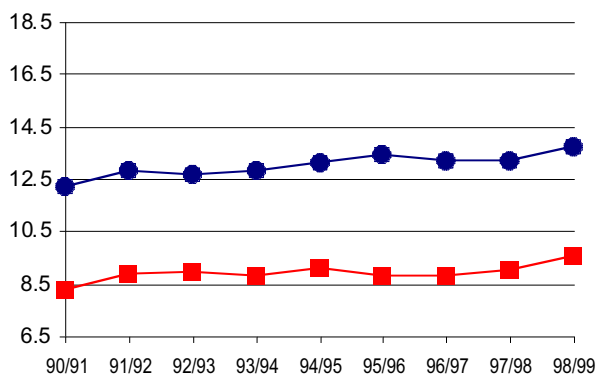
**Fig 3: Queensland**



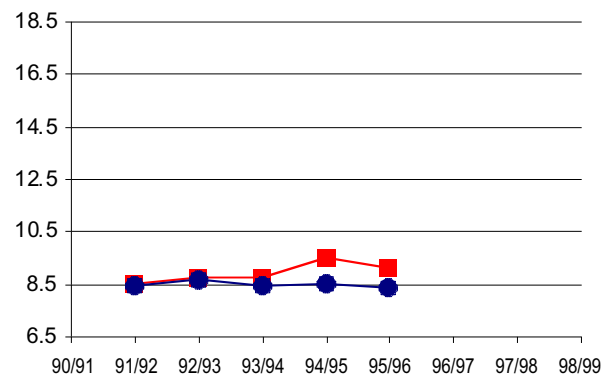
**Fig 4: South Australia (whole state only)**



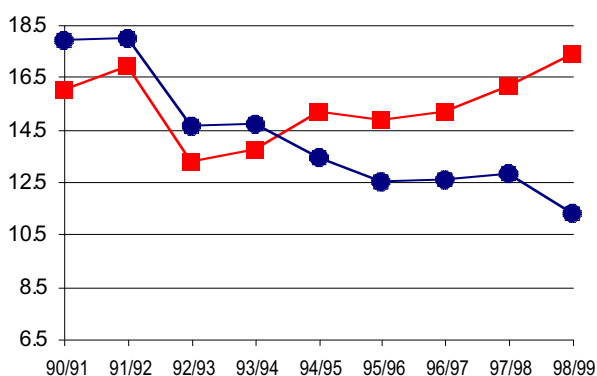
**Fig 5: Western Australia**



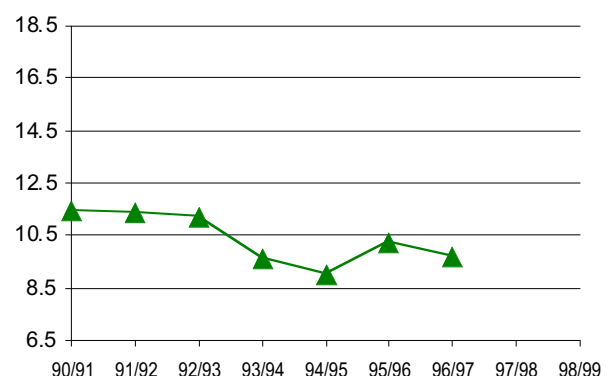
**Fig 6: Tasmania**



**Fig 7: Northern Territory**



**Fig 8: ACT (whole territory only)**



**Table 1:** Estimated visitor adjusted, adult per capita consumption of pure alcohol (litres) by state/territory, 1990/91-1997/98.

Year	NSW	Vic	Qld	SA	WA	Tas	NT	ACT
90/91	11.7	8.7	-	10.0	9.3	-	17.0	11.4
91/92	11.3	8.1	8.9	10.0	9.9	8.5	17.5	11.4
92/93	10.0	7.6	10.0	9.4	10.0	8.6	14.0	11.2
93/94	9.8	7.7	10.3	8.9	9.9	8.5	14.2	9.6
94/95	9.6	8.0	10.4	8.5	10.2	8.9	14.2	9.0
95/96	9.5	7.5	9.7	8.5	10.0	8.7	13.6	10.2
96/97	-	-	-	-	9.9	-	13.7	9.7
97/98	-	-	-	-	10.3	-	14.3	-
98/99	-	-	-	-	10.6	-	14.0	-

Figures 1 to 8 and Table 1 present estimated APCC according to the service population for metro and non-metro regions of each state/territory. The "service population" (see Method) takes into account the total number of residents and visitors in an area and is a more realistic measure of the number of people likely to have consumed alcohol in an area than estimates of the residential population alone. Figures 1 to 8 show a general decline in APCC throughout the 1990s, although Qld and WA both show predominantly increasing trends. The NT consistently recorded the highest levels of APCC while the lowest levels of consumption were observed in Victoria. For the majority of jurisdictions it was apparent that the rapid decline in consumption in the early 1990s tapered off by 1995/96. However, jurisdictions with more years of available data (WA and NT) show that APCC may have increased in recent years.

With the exception of Tasmania and the NT, non-metropolitan regions showed higher levels of consumption than metropolitan areas. For Tasmania this may be due to the comparatively small metropolitan area. Metropolitan and non-metropolitan comparisons were not available for SA and the ACT since authorities were only able to provide consumption data for the whole jurisdiction. The incomplete nature of the data makes regional and national comparison difficult and limits analysis to restricted time frames and geographic areas.

**National levels of alcohol consumption by beverage type, 1991/92-1995/96.**

In order to calculate APCC, it was first necessary to determine the volumes of beverages consumed and the percentage pure alcohol content of the beverages. Table 2 shows the estimated average national levels of pure alcohol contained in each major beverage type. These alcohol contents were calculated based upon information on alcohol content from national and state/territory data. It is important to note that the estimated average alcohol content varied by jurisdiction and over time. This was particularly so for spirits, where, for example in WA the pure alcohol content was estimated at 24.6% in 1991/92 and 21.1% in 1995/96, compared to NSW where the alcohol content was 32.4% in 1991/92 and 27.5% in 1995/96. Low alcohol beer, while more stable in alcohol content over time, shows variation between jurisdictions as well. For example, in 1995/96 the alcohol content for low beer was highest in WA at 3.5% and lowest in Tasmania at 2.8%.

**Table 2:** National average percentage of pure alcohol content in major types of alcoholic beverages, 1991/92-1995/96 (%).

Year	Low Beer	Regular Beer	Wine	Spirits
91/92	3.07	4.80	11.31	30.76
92/93	3.07	4.80	11.30	29.55
93/94	3.07	4.80	11.22	28.15
94/95	3.15	4.80	11.27	26.60
95/96	3.21	4.80	11.26	24.97

**National level of per capita pure alcohol consumption, 1991/92-1995/96.**

Table 3 shows national levels of APCC based on the service population. As can be seen, overall consumption of alcohol slowly fell between 1991/2 and 1995/96. This was due to significant falls in both regular beer and wine consumption that were only partially offset by increased consumption of low beer and spirits. While the total volume of spirit consumption has increased the pure alcohol consumed in this category has declined due to the growing popularity of lower alcohol pre-mixed spirit beverages (e.g. UDL cans). This can be seen in the falling percentage pure alcohol content for spirits in Table 2. It should also be noted that while pure alcohol consumption of low beer is about five times smaller than high beer, on average, a much larger volume of beverage (including the non alcohol component) must be consumed to reach similar levels of pure alcohol to high beer.

**Table 3:** Estimated visitor adjusted national levels of adult per capita consumption of pure alcohol (litres) by beverage type, 1991/92-1995/96.

Year	Low Beer	Regular Beer	Wine	Spirits	Total
91/92	0.849	4.773	2.773	1.402	9.796
92/93	0.905	4.403	2.645	1.420	9.373
93/94	0.845	4.394	2.627	1.446	9.313
94/95	0.860	4.312	2.619	1.551	9.343
95/96	0.898	4.113	2.549	1.469	9.030

Total APCC estimates for Australia, provided by World Drink Trends (2000), which used Australian Bureau of Statistics (ABS) alcohol excise data, continue to be available. Figure 9 shows the trend for current estimates of APCC against those derived by World Drink Trends (2000) between 1991/92 and 1995/96 (after being adjusted for the adult population). The World Drink Trends estimates were notably higher than the present calculations. However, it has been found that the ABS data are not necessarily comparable to state level retail consumption due to stockpiling (particularly of spirits) and other effects that occurred at the time of importation. These sources are therefore not completely comparable to the present estimates. Arguably, wholesale sales data is likely to provide a better estimate of actual consumption levels since it is less removed from the consumer than customs or excise data. For the years following 1995/96, World Drink Trends (2000) record a continuation of the decline in per capita consumption. Figure 9 also shows trends in numbers of alcohol-caused deaths and alcohol-related road fatalities. Alcohol-related mortality is presented as the rate per 10,000 persons and alcohol related road deaths as the rate per 100,000 persons. The harm measures show similar trends to the declining APCC measures.

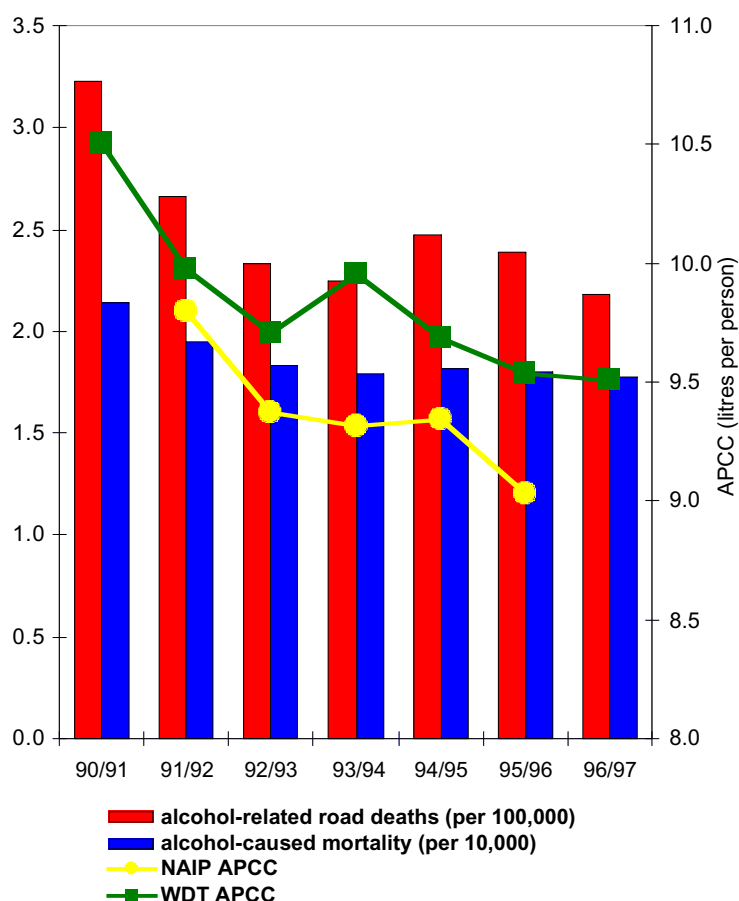


Figure 9: NAIP estimated, visitor adjusted, Australian APCC compared to World Drink Trends APCC, alcohol-caused mortality and alcohol-related road deaths.

**Discussion.**

This Bulletin provides, for the first time, national and state estimates of adult per capita pure alcohol consumption adjusted for visitors and differences in the alcohol content of beverages sold in the individual states and territories of Australia. There was a general decline in consumption in the 1990s, although Queensland, Western Australia and metropolitan Northern Territory all showed increasing trends. This overall decline was due to falls in both regular beer and wine consumption that were only partially offset by increased consumption of low alcohol beer and, particularly, pre-mixed spirit beverages. The Northern Territory consistently recorded the highest levels of consumption while Victoria recorded the lowest. Overall, non-metropolitan consumption was consistently higher than that in the metropolitan areas. While it has been possible to compare state trends to 1995/96, most jurisdictions ceased collecting data on alcohol consumption in 1997 due to a Federal High Court ruling. This is unfortunate as these data provide the only source regional consumption patterns, which have been shown to be an extremely useful indicator of community levels of alcohol-related harm.

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**Method**

The methodology included two separate tasks. The first was to determine alcohol consumption for states and territories using jurisdiction specific data. These calculations also included identifying quantities consumed in metropolitan and non-metropolitan areas. The second task was to determine the appropriate population to use in calculating per capita consumption.

As each jurisdiction had its own way of recording beverage consumption it was necessary to develop a method for each to estimate the amount of alcohol consumed. The overall approach was to calculate conversion factors first using state and where necessary national data and then apply these to the recorded volumes of beverages. Conversion factors were calculated separately for beer, wine and spirits and where possible these categories were divided into "high" and "low" alcohol beverages. For example, low alcohol content beer was distinguished from regular beer and pre-mixed spirit drinks were distinguished from straight spirits. In some cases jurisdictions supplied data in terms of only the dollar sales value so it was necessary to estimate volumes from values.

The division of state and territory data into metropolitan and non-metropolitan was done using the capital city as representative of the metropolitan region. The remainder of each jurisdiction was considered non-metropolitan. While not completely satisfactory, this definition was required due to data limitations and the need to match regions to existing ABS population boundaries.

The population used for calculating per capita consumption was based on the concept of a "service population", that is, the population serviced by a particular region. Such a population includes the tourists and visitors to the area and makes allowances for residents who are away from their homes. This is an important issue in calculating per capita consumption, as it is unrealistic to use resident population when it is possible that visitors and tourists may account for a significant proportion of consumption. To calculate service population the approach was to count residents, visitors in paid accommodation and visitors in other accommodation using resident, tourist and other surveys published by the ABS. As the interest is in calculating the population of alcohol drinkers, the population was limited to only those persons who were aged 15 years and older and excluded persons in prisons and hospitals.

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