

## **The Population Estimates**

- 5.1 Issues relating to the population estimates of the Commonwealth and the States and Territories, especially the NT, recurred throughout the inquiry. Three matters were particularly focussed on:
- what constitutes the “latest statistics of the Commonwealth”;
  - the methodology used to estimate the NT’s population; and
  - margins of error in the population estimates.

### **Latest statistics of the Commonwealth**

- 5.2 Section 24 of the Constitution and sections 46 and 48 of the Electoral Act stipulate that the “latest statistics of the Commonwealth” are to be used to determine State and Territory entitlements to House of Representatives seats.
- 5.3 The Constitution and the Electoral Act do not define what is meant by the “latest statistics of the Commonwealth”. The Explanatory Memorandum of the Electoral Act also does not define what is meant by the “latest statistics of the Commonwealth”.

### **Estimated Resident Population figures**

- 5.4 The Committee was told by the AEC and the ABS that the “latest statistics of the Commonwealth” are the Estimated Resident

Population (ERP) figures produced by the ABS for each State and Territory as at the end of March, June, September and December of each year.<sup>1</sup>

- 5.5 The Committee was initially given the impression that both the concept of the “latest statistics of the Commonwealth”, and the process by which these statistics are provided by the ABS to the AEC, was straightforward. The Committee was told that the AEC requests the latest population statistics and the ABS provides the most recent quarterly ERP figures:

The Electoral Commissioner writes to the Australian Statistician pursuant to section 47 of the Act requesting that the Australian Statistician provide the latest statistics of the Commonwealth during the month of ascertainment. The Australian Statistician then responds during the month of ascertainment with the latest available ERP.<sup>2</sup>

- 5.6 The ERP figures are published by the ABS in *Australian Demographic Statistics*<sup>3</sup> about five to six months after the reference period. The AEC explained that occasionally the latest ERP figures during the month of ascertainment may not have been published by the ABS:

Occasionally, the latest available ERP during the month of ascertainment may not yet have been published. This has occurred in 1994, 1999 and 2003. In these circumstances, the Australian Statistician will either arrange to ensure the latest ERP is released slightly earlier than anticipated to meet the timeline determined by section 46 of the Act, or provide the Electoral Commissioner with an embargoed version of the latest ERP for use in the ascertainment.<sup>4</sup>

- 5.7 Similarly, the ABS explained in its submission:

On those occasions where the AEC request for the latest statistics falls ahead of the publication of the quarterly estimates, but after a new set of estimates is internally available, it has been ABS practice to provide these to the AEC and make them publicly available. For example, in 1994, the Statistician released a press release on 4 March 1994...

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1 See submission #24 from the Australian Electoral Commission, p 5, and #6 from the Australian Bureau of Statistics, p 2.

2 Submission #24 from the Australian Electoral Commissioner, p 6.

3 Australian Bureau of Statistics, Cat. No. 3101.0.

4 Submission #24 from the Australian Electoral Commission, p 6.

several weeks in advance of the regular publication of the statistics in *Australian Demographic Statistics*...In 1999, the Australian Statistician brought forward the release of the regular quarterly publication by several days so it would coincide with the provisions of the Statistics to the Electoral Commissioner on 8 December 1999.<sup>5</sup>

- 5.8 In addition, the Australian Statistician told the Committee – in reference to the population estimates provided for the 2003 determination - that the ERP figures published in *Australian Demographic Statistics* are the same as those provided to the Electoral Commissioner for the purposes of the determination:

At the same time we gave the Commissioner the population estimates we had an electronic release to the general public. Four weeks later, we released this publication, *Australian Demographic Statistics*, which also contained those estimates. These were identical, but this publication contains a lot of other information ...<sup>6</sup>

- 5.9 The Committee was therefore led to believe that the ERP figures contained in *Australian Demographic Statistics* – whether this is a current, early or embargoed version of the published *Australian Demographic Statistics* - are the “latest statistics of the Commonwealth” provided to the Electoral Commissioner for the determination of entitlements.
- 5.10 During the course of the inquiry, it became apparent that this was not the case. Rather, much confusion surrounded the concept of the “latest statistics of the Commonwealth” and, more specifically, what is provided to the Australian Electoral Commissioner to make the determination.
- 5.11 This confusion was identified by Senator Crossin in her evidence to the Committee:

There is inconsistency in the advice the Australian Bureau of Statistics has given me and probably this Committee. There is

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5 Submission # 25 from the Australian Bureau of Statistics, paragraph 30. Legal advice provided to the AEC in 1980 states that “it is not necessary that the “latest statistical information” used by the Commissioner to ascertain the number of people of the Commonwealth etc must be information which has been made available to the public generally by the Australian Statistician. It is sufficient that the information has been provided by the Australian Statistician to the Commissioner.”

6 Hansard transcript of public hearing 18 September 2003, p 4.

a lack of clarity about exactly what statistics they used or what version of the statistics they used.<sup>7</sup>

- 5.12 The Committee pursued these issues extensively in the public hearings and in subsequent discussions with the two agencies. The Committee now understands that the publication *Australian Demographic Statistics* does not contain all of the ERP figures that are provided to the Electoral Commissioner by the ABS for the purposes of the determination.
- 5.13 The Committee understands that the process for obtaining the latest statistics of the Commonwealth involves a letter of request from the Australian Electoral Commissioner to the Australian Statistician. The Australian Statistician then responds in a letter of reply that contains population estimates, some of which – namely separate figures for the Territories of Jervis Bay, Christmas Island and Cocos (Keeling) Islands – are not published in *Australian Demographic Statistics*.
- 5.14 In this regard, section 46 of the Commonwealth Electoral Act requires the Electoral Commissioner to: ‘ascertain the numbers of the people of the Commonwealth and of the several States and Territories in accordance with the latest statistics of the Commonwealth’.
- 5.15 In its supplementary submission to the Committee, the Australian Electoral Commission noted that: ‘following legal advice, the AEC is of the opinion that the statistics compiled of the number of people of each State and Territory as at the end of each quarter by the Australian Statistician constitute the latest statistics of the Commonwealth’.<sup>8</sup>
- 5.16 Despite this, the population figures supplied by the Australian Statistician to the Electoral Commissioner are further supplemented by separate population figures for enrolled electors resident in Australia’s external Territories, and eligible electors from Norfolk Island obtained by the AEC. The Electoral Commissioner uses these additional figures to modify the population estimates of the States and Territories and determine House of Representatives entitlements.

## The “latest” statistics of the Commonwealth

- 5.17 Table 5.1 details information about the provision of the quarterly estimates to the Australian Electoral Commissioner. It lists the dates

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7 Hansard transcript of public hearing, Friday 29 August 2003, Darwin, p 49.

8 Submission #24 from the Australian Electoral Commission, p 5.

of the requests for statistics, and the dates of the replies from the Australian Statistician. Also listed are the quarterly estimates that were requested by the Commissioner, and the quarterly estimates that were provided by the ABS.

**Table 5.1. Provision of the “latest statistics of the Commonwealth” to the Australian Electoral Commissioner by the Australian Statistician**

Year	Requested date for provision of population estimates	ABS letter of request	ABS letter of reply	ERP Quarter Requested	ERP Quarter Provided
1984	As soon as possible after 22 February 1984	21 Feb 1984	27 Feb 1984	Not specified	Sept 1983
1986	As soon as possible after 22 January 1986	8 Jan 1986	10 Feb 1986	Not specified	Jun 1985
1988	As soon as possible after 15 June 1988	10 Jun 1988	27 June 1988	Not specified	Dec 1987
1991	Within a month of 9 February	8 Feb 1991	25 Feb 1991	Not specified	Jun 1990
1994	In the month commencing 5 February	4 Feb 1994	4 Mar 1994	September	Sep 1993
1997	Prior to 28 February	14 Feb 1997	27 Feb 1997	September	Jun 1996
1999	Before 9 December	18 Nov 1999	8 Dec 1999	June	Jun 1999
2003	Between 13 February and 12 March	22 Oct 2002	18 Feb 2003	September	Sep 2003

*Source: Australian Bureau of Statistics, 5 November 2003.*

5.18 From table 5.1, it can be seen that the month for which the population figures are requested is not determinative of the quarter for which figures are provided by the Statistician. For example, in both 1984 and 1997, population figures were requested in February. In 1984, the preceding September quarter figures were provided, but in 1997, the preceding June quarter figures were provided. And as already noted, in 2003, September quarter figures were provided for population estimates that were required “between 13 February and 12 March 2003”.

5.19 The absence of a legislative definition of the “latest statistics of the Commonwealth” provides the Australian Statistician, and to a lesser extent, the Electoral Commissioner, with a degree of unintended discretion when deciding which statistics will be used to determine State and Territory representative entitlements in the House of Representatives.

5.20 This was a matter of concern to the Committee. As Senators Ray and Brandis pointed out:

**Senator ROBERT RAY** - The danger is that it is open to manipulation. There is the fact of whether or not you pursue

a particular set of times or specially produced figures, where you already have the knowledge of where the trends may go or not go. You can just track it through the last five quarters, and you think, 'Gee, they haven't lost a seat yet.' You might be able to know in your own mind whether a fresh quarter is going to influence matters or not. I am not alleging that there is any conspiracy here; I am saying that we are open to dangerous ground here that I never understood before...

**Senator GEORGE BRANDIS** - Therefore, there is a lack of automaticity – or, to put the converse point, there is a dangerous element of discretion left as to when the statistics are called for, which exposes the AEC to the possibility that it could be alleged that the timing of its call under section 47 was being manipulated. Do you agree that that is the way the statutory scheme seems to work?

But, in fairness to you, Mr Becker – and in fairness to your agency – the statute under which you operate ought to protect you from the possibility of that being alleged. I do not think that it would be fair to Senator Ray to say that he has alleged anything, but he has raised the possibility that there could be manipulation.<sup>9</sup>

5.21 Moreover, contrary to the impression conveyed in the evidence that the process involved the ABS providing whatever population statistics they had available, it is clear that the AEC has closely monitored the evolution of the quarterly figures, and has at times pressed for later quarterly figures to be provided to it on the basis that getting more recent figures than the last published quarters was particularly sensitive.

5.22 For example, for the 1994 determination of entitlements the Electoral Commissioner wrote to the Australian Statistician requesting the early release of population estimates:

The entitlements to be determined in the month referred to...may on this occasion be very sensitive to which quarter's population figures are supplied by your office. On current (March Quarter 1993) figures, Queensland and the Australian Capital Territory would both gain a seat, while Victoria would lose one. However, the speed with which Queensland's population is growing indicates that it may in

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9 Hansard transcript of public hearing, Thursday 18 September 2003, p 26 and 29.

fact be eligible for a second extra seat by the December Quarter 1993. The Australian Capital Territory is also in an uncertain position regarding its extra seat, having been both above and below the figure that would have given it an additional seat were determinations made on the basis of figures for recent quarters...

I am concerned that a determination made in the February/March period using figures up to 9 months "old" could, on the basis of later figures released even before the redistribution is completed, be out of date.

I thought I should bring this matter to your notice in the event that it might be possible to have later than June 1993 quarter figures available before 4 March 1994.<sup>10</sup>

5.23 Similarly, in 1997 the Electoral Commissioner wrote to the Australian Statistician:

Following discussions between officers of our two Agencies, I understand that the latest available figures may only be those of the June 1996 quarter. Further, I understand that the September 1996 figures may not be available until early March 1997.

You will be aware that the population figures for the Australian Capital Territory (ACT) over the past few available quarters translate to a representation entitlement on the margin between 2 and 3 seats. You will appreciate that it is important that the population statistics used for the determination of the entitlements are, therefore, the very latest possible. On June 1996 figures, the ACT entitlement is 2 seats. I do not need to emphasise the concerns which would be expressed should I need to use these figures for the official determination, only for the unofficial entitlements to change (should that occur) within a few days, once the September figures are released.

Accordingly, I would appreciate whatever efforts you may be able to make to enable the September figures to be used for

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<sup>10</sup> Letter from Mr B Cox (Electoral Commissioner) to Mr I Castles (Australian Statistician), 22 November 1993.

the purpose of determining the entitlement of seats for the next federal election.<sup>11</sup>

- 5.24 It is interesting to note that while the Electoral Commissioner requested September quarter figures in 1997, the Australian Statistician provided the June statistics.
- 5.25 A file note from the ABS's records strengthens concerns about the process for obtaining the latest statistics of the Commonwealth:

The figures quoted are for June Q 1996 – the latest published figures. The Sept Q 1996 figures will not be published until late March 1997. Although they are virtually finalised now, they should not be released under embargo for this period – also AEC will want to use them and announce the outcome before end March. Incidentally, the Sept Q figures do not change the distribution of seats – AEC have been advised of this informally.<sup>12</sup>

- 5.26 It is apparent that the AEC not only monitors State and Territory entitlements as quarterly estimates are released<sup>13</sup>, but, as is revealed by the letters quoted above, is able to request that a particular set of quarterly statistics be released in advance of the usual date of publication for the purpose of the determination because of a situation of emergent population trends.

### **The “latest statistics of the Commonwealth” used in the 2003 determination**

- 5.27 Uncertainty about the date of the latest statistics was an issue in relation to the 2003 determination.
- 5.28 On 22 October 2002, the Australian Electoral Commissioner wrote to the Australian Statistician to advise that, in accordance with section 46 of the Electoral Act, he was required to ascertain the population of the Commonwealth and its States and Territories to determine representation entitlements in the House of Representatives. The Electoral Commissioner noted that he was required, between

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11 Letter from Mr B Gray (Electoral Commissioner) to Mr W McLennan (Australian Statistician), 14 February 1997.

12 Copies of correspondence between the Australian Electoral Commission and the Australian Bureau of Statistics were provided to the Committee by the Australian Bureau of Statistics on 6 November 2003.

13 Hansard transcript of public hearing, Thursday 18 September 2003, Canberra, p 25.



13 February 2003 and 12 March 2003 to ascertain the numbers of people of the Commonwealth.<sup>14</sup>

- 5.29 In the same letter, the Electoral Commissioner also sought to confirm the availability of a “special version” of the September quarter ERP figures to be used for the determination. This “special version”, which was, as usual, a letter from the Australian Statistician to the Australian Electoral Commissioner, containing population estimates for each State and Territory as well as Jervis Bay and Christmas and (Cocos) Keeling Islands, was provided to the Australian Electoral Commission (and released to the public) on 18 February 2003 as the latest statistics of the Commonwealth.
- 5.30 The AEC itself provides the population statistics for Norfolk Island and distributes them to the various States and the ACT.
- 5.31 At the time of the Commissioner’s letter in October 2002, neither the June 2002 nor the September 2002 quarterly figures had been published by the ABS<sup>15</sup>. Nonetheless, the Electoral Commissioner pursued the September 2002 figures for the purposes of the determination. A representative of the AEC explained that the September 2002 quarterly figures were sought because the AEC had a “good suspicion” that these figures would be ready for the February 2003 determination:

We know that each quarter’s statistics come out after a six month lag, so in October – while we may not have had June – come February-March we have a good suspicion that the September figures may well be available. That is the context in which we have sought advice from the Statistician as to whether, in that period of time, the September figures would be available. He has answered affirmatively and said that they would be published for us.<sup>16</sup>

- 5.32 In regard to the “special version” of the September 2002 quarterly figures, the ABS told the Committee:

It was established that within the time we had to produce a formal response to the Electoral Commissioner the September

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14 Exhibit #1 from the Australian Electoral Commission. Letter dated 22 October 2002 from the Australian Electoral Commissioner to the Australian Statistician.

15 The June 2002 quarterly figures were released on 12 December 2002. Australian Bureau of Statistics, Cat. No 3101.0 *Australian Demographic Statistics: June Quarter 2002*.

16 Hansard transcript of public hearing, Thursday 18 September 2003, Canberra, p 28.

quarter 2002 estimates actually would be available internally, so they would be, in our view, the latest available statistics.<sup>17</sup>

- 5.33 The ABS conceded that if the September figures could not have been produced in time for the Electoral Commissioner to make his determination then the June figures would have been provided.<sup>18</sup>
- 5.34 It is not clear whether the September 2002 or the June 2002 figures were in fact the latest statistics of the Commonwealth given that there was an early release of September 2002 figures.<sup>19</sup>
- 5.35 If the June 2002 figures were used as the latest statistics in the 2003 determination, the NT would have retained its second seat. Table 5.2 shows the State and Territory representation entitlements to seats in the House of Representatives based on June 2002 figures.<sup>20</sup>

Table 5.2. State and Territory representation entitlements - June 2002 ERP figures.<sup>21</sup>

State/Territory	Population	Quotas	No. of HoR Members	Change from 40th Parliament
New South Wales	6,663,735	50.0278	50	none
Victoria	4,883,295	36.6612	37	none
Queensland	3,708,720	27.8431	28	+1
Western Australian	1,929,260	14.4838	14	-1
South Australia	1,522,240	11.4282	11	-1
Tasmania	473,639	3.5558	5 <sup>1</sup>	none
Northern Territory <sup>2</sup>	202,148	2.4338	2	none
Australian Capital Territory <sup>3</sup>	324,195	1.5176	2	none

Source: Australian Electoral Commission, 20 November 2003.

<sup>1</sup>Tasmania, as an original State, is guaranteed a minimum of five House of Representatives seats.

<sup>2</sup>Comprises NT population of 200,107 people plus the populations of Christmas (1,400 people) and Cocos (Keeling) (601 people) Islands.

<sup>3</sup>Comprises ACT population of 323,594 plus the population of Jervis Bay (551 people).

- 17 Hansard transcript of public hearing, Thursday 18 September 2003, Canberra, p 10.
- 18 Hansard transcript of public hearing, Thursday 18 September 2003, Canberra, p 11.
- 19 See Hansard transcript of public hearing, Friday 29 August 2003, Darwin, p 49 – 57.
- 20 The Australian Electoral Commission advises that the figures included in this table are not official figures but rather indicative calculations that have been prepared for information only. The Australian Electoral Commission further advises that these calculations are not the same as those required under sections 46 and 48 of the Electoral Act – for example, the population figures for Norfolk Island – which are negligible – are not included in the table.
- 21 Figures are based on Australian Bureau of Statistics' *Australian Demographic Statistics: June Quarter 2002*, Table 4: Estimated Resident Population, States and Territories. Figures for the external Territories were separately provided to the Australian Electoral Commission by the Australian Bureau of Statistics.

- 5.36 The Committee has to admit its surprise that the meaning of the “latest statistics of the Commonwealth” is so fluid, and that there appears to be an unintended degree of discretion afforded to the Australian Statistician and the Australian Electoral Commissioner to determine which quarterly estimates are the “latest statistics of the Commonwealth”.
- 5.37 There is a recollection that the 1986 Committee, which framed the recommendations leading to the current formula in the Commonwealth Electoral Act for determining the number of Members of the House of Representatives for the ACT and NT, had an expectation that it would be based on the latest *published* quarterly statistics.<sup>22</sup>

### Recommendation 1

- 5.38 **The Committee recommends that in order to make the process of determining the representation of the Territories in the House of Representatives more transparent and certain, the *Commonwealth Electoral Act 1918* be amended:**
- **to require the Australian Statistician to include in the quarterly Estimates of Resident Population published in *Australian Demographic Statistics*, in addition to the estimated populations of the States, the Australian Capital Territory and the Northern Territory, estimates of the populations of the Territories of Jervis Bay, Cocos (Keeling) Islands and Christmas Island;**
  - **to require the Australian Electoral Commissioner:**
    - ⇒ **on a date twelve months after the first sitting of a new House of Representatives, to take note of the latest statistics of the population of the Commonwealth, including separate statistics of the populations of each of the States and Territories of the Commonwealth, that have been published as Estimates of Resident Population in *Australian Demographic Statistics*; and**
  - **to require the Australian Electoral Commissioner:**
    - ⇒ **to make to those statistics whatever adjustments are required by other sections of the Commonwealth Electoral Act 1918 for the purposes of making the determination, for example the Norfolk**

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22 Senator Robert Ray, Chair of the Joint Select Committee on Electoral Reform in the 34th Parliament, reported his recollection to the Committee.

**Island statistics; and**

⇒ **to make and publish the determination including details of the adjustments and the calculations involved,**

**within one month after the end of the twelfth month after the first sitting of a new House of Representatives.**

## **Issues in estimating the population of the NT**

5.39 The 2003 determination of State and Territory entitlements to seats in the House of Representatives was based on the September 2002 quarterly ERP figures. According to the ABS, the statistics provided to the Australian Electoral Commissioner to make this determination were:

the best estimates that [could] be made, given our current methodologies and available data sources.<sup>23</sup>

5.40 Concerns about these estimates were expressed in a number of submissions to the inquiry. Members of Parliament from the NT, and the NT Government, expressed the view that the Census methodology used by the ABS to enumerate the population, particularly of the NT's indigenous communities, lends itself to under-estimating the population of the Territory.<sup>24</sup>

5.41 In support of this argument, evidence was presented to the Committee concerning:

- NT administrative records, such as health care service and housing records;
- independent research undertaken by the Australian National University's Centre for Aboriginal Economic Policy Research; and
- the conduct of the ABS's Post Enumeration Survey (PES).

## **Administrative records**

5.42 The ABS's estimates were contested by some on the basis that population figures derived from the Census differ greatly from

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23 Hansard transcript of public hearing, Monday 18 August 2003, Canberra, p 2.

24 See submissions: #14 from Mr David Tollner MP, #19 from the NT Government, #20 from Senator Trish Crossin, and #22 from the Hon Warren Snowdon MP.

population figures derived from administrative records (eg, health care service and housing records). On the basis of administrative data, some submissions have argued that the population of some of the NT's indigenous communities is greater than that estimated by the ABS.<sup>25</sup>

- 5.43 The ABS has responded that its population estimates rarely match those derived from administrative records. This is predominantly because of the different purposes and principles governing the data sets:

The business rules which determine whether a person is entitled to access a service and therefore is on an administrative list in a particular location can differ markedly from Census or Estimated Resident Population concepts.<sup>26</sup>

- 5.44 The ABS explained that it is possible that people are included on a community's administrative list when they may not be currently present in a particular community or meet the ABS's criteria for "usual residence". For example, a resident of a community may be undergoing long term medical treatment and temporarily residing in Darwin. In this case, the person may be counted in the population of Darwin rather than in the population of the community which includes the person on its administrative records. It is also possible that individuals are on a number of administrative lists in different localities which may lead to double-counting.<sup>27</sup>

## Centre for Aboriginal Economic Policy Research

- 5.45 A number of submissions cited research by the Australian National University's (ANU) Centre for Aboriginal Economic Policy Research (CAEPR) to support arguments that the NT's indigenous population was underestimated. The Hon Warren Snowdon MP noted in his submission:

In 2001, the ABS was forced to correct the undercount in the community of Arukun from the statewide indigenous undercount of 8 per cent to 17 per cent following the results

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25 See submissions: #19 from the NT Government, #20 from Senator Trish Crossin, #22 from The Hon Warren Snowdon, MP.

26 See submission #25 from the Australian Bureau of Statistics, paragraph 11.

27 Submission #24 from the Australian Bureau of Statistics, paragraph 11-12.

of a study by Dr John Taylor of the Centre for Aboriginal  
Economic Policy Research at the ANU.<sup>28</sup>

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28 Submission #22 from the Hon Warren Snowdon MP, p 23.

- 5.46 Senator Trish Crossin and the NT Government also refer to the apparent undercount in Arukun, and cite comments by Dr John Taylor from CAEPR:

The manner of ABS enumeration in remote Aboriginal communities can serve to undercount the population and... the adjustment factor applied to compensate for this may be inadequate.<sup>29</sup>

- 5.47 In contrast, the Centre's research was also used to support a claim by the ABS that there is evidence to suggest that its methods may lead to an overcount of the indigenous population.<sup>30</sup> The ABS referred to the CAEPR report, *Making Sense of the Census: Observations of the 2001 Enumeration in Remote Aboriginal Australia*<sup>31</sup>, and quoted comments made by CAEPR - such as "exemplary" and "as good as it could be" - to describe the ABS's count in two NT indigenous communities. The ABS also cited comments made by CAEPR in the same report regarding the overall conclusion drawn from studies undertaken in three NT indigenous communities:

As we have suggested, this methodology will, if anything, err towards double counting.<sup>32</sup>

- 5.48 As a general response to submissions to the inquiry that cited CAEPR research to support assertions of either undercounting or of overcounting in NT's indigenous communities, witnesses from CAEPR told the Committee that:

For the record... misrepresentations, misunderstandings and misinterpretations of our research findings... have no doubt crept inadvertently into aspects of the evidence to date by other parties.<sup>33</sup>

- 5.49 As a specific response to the CAEPR quotes used by the ABS in its submission, CAEPR told the Committee:

In our view, paragraph 6 essentially comprises a collection of select quotes that, out of their textual context, take on greater force of meaning than was intended in the original

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29 See submissions # 19 from the NT Government, p 12 and # 20 from Senator Trish Crossin, p 1.

30 Submission # 25 from the Australian Bureau of Statistics, paragraph 6.

31 D.F Martin, F. Morphy, W.G.Sanders and J. Taylor, *CAEPR Research Monograph No. 22*, 2002. Australian National University.

32 Submission # 25 from the Australian Bureau of Statistics, paragraph 6.

33 Hansard transcript of public hearing, Thursday 18 September 2003, Canberra, p 33.

manuscript. I think it would be fair to say that, if you read the text as tabled, you would discover that the intent is to be far more circumspect than is suggested here.<sup>34</sup>

- 5.50 The witnesses from CAEPR were reluctant to provide a definitive opinion about the methodology used by the ABS to enumerate the indigenous population of the NT. Instead, the witnesses discussed studies undertaken in Aurukun, Wadeye and an Alice Springs town camp, which showed undercounts of the population in these communities. The witnesses declined to quantify the undercount in these areas, or to say whether the undercounts were atypical. However, representatives of CAEPR did agree that the methodology used by the ABS tends to undercount indigenous populations in remote areas:

The methodology applied by the ABS to count Indigenous peoples in remote areas has an inherent tendency to undercount young children and young men, in particular.<sup>35</sup>

## Post Enumeration Survey and indigenous communities

- 5.51 The most recent Census of Population and Housing provides the basis for subsequent quarterly population estimates.<sup>36</sup>
- 5.52 Although the ABS states that every effort is made to count all Australians on Census night, it acknowledges that a small percentage of the population is missed, and that an even smaller percentage is counted more than once.
- 5.53 Accordingly, a PES is conducted by the ABS approximately three weeks after the Census. The purpose of this survey is to assess “the level and characteristics of people undercounted or overcounted”<sup>37</sup> by the Census.

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34 Hansard transcript of public hearing, Thursday 18 September 2003, Canberra, p 36.

35 Hansard transcript of public hearing, Thursday 18 September 2003, Canberra, p 39.

36 To determine the quarterly estimates of the population of Australia as well as of each of the States and Territories, the results of the Census are adjusted using a range of data – in addition to the PES which is discussed in detail here - including birth and death statistics; overseas arrivals and departures data; interstate migration estimates modelled from Medicare data on changes of address and Census based expansion factors; and changes in defence force personnel levels within States and Territories, that are not accounted for in Medicare changes of address. See Australian Bureau of Statistics, Cat No. 2940.0, *Information Paper: Census of Population and Housing, Data Quality, Undercount - Australia 2001*, Appendix 2.

37 See submission #6 from the Australian Bureau of Statistics, p 5.



- 5.54 Through the PES, the ABS estimates the net undercount<sup>38</sup> of a population, which is used to adjust the Census.
- 5.55 The ABS explained that the PES does not include dwellings in very sparsely populated areas due to cost considerations. The PES also does not include remote indigenous communities because close involvement of the indigenous community organisations in the original Census count makes it impractical to conduct an independent PES for these communities. In addition, the PES does not include persons in non-private dwellings such as hotels, motels, hospitals and other institutions.<sup>39</sup>
- 5.56 To adjust the Census results in the NT's remote indigenous areas where the PES is not conducted, the ABS applies the net undercount rate calculated for the urban areas of the NT where the PES is conducted. The PES net undercount for the surveyed area is 4%. The figure applied to adjust the whole of the NT population count is 4%.
- 5.57 Witnesses from the NT expressed concern about this process and argued that the Census figures for the NT may not have been appropriately adjusted.<sup>40</sup> This is because the PES is not conducted in the NT's remote indigenous communities, and the characteristics of the NT's urban and remote populations are not the same.
- 5.58 The Committee appreciates the concerns about the method of adjusting the NT's population for undercount. It has difficulty understanding why a 4% net undercount should be applied to the whole of the NT. This is particularly so as remote indigenous communities have been adjusted by a factor greater than 4% in secondary analyses carried out by the ABS.

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38 Net undercount refers to the difference between the gross undercount (the number of people who should have been counted in the Census but were not) and the gross overcount (the number of people in the Census who were counted but should not have been either because they had already been counted or were overseas or should not have been counted at all). See submission # 6 from the Australian Bureau of Statistics, p 21.

39 The ABS stated that while it does not conduct a PES in remote indigenous communities, it does invest more resources and adopt more intensive methods when undertaking the Census in these areas. See Hansard transcript of public hearing, Monday 18 August 2003, Canberra, p 3. The ABS intimates that this is likely to result in a better count of these populations compared to the count that would be obtained using the mainstream Census methodology and PES. The ABS further argued that because of this, the adjustment derived from the PES and other calculations, which is applied to the whole of the NT, actually overcompensates for the net undercount in remote and indigenous areas.

40 See Hansard transcript of public hearing, Friday 29 August 2003, Darwin – evidence from the Hon Warren Snowdon MP and Senator Trish Crossin. Also see submission #19 from the NT Government.

- 5.59 The Committee notes the controversy surrounding the population estimates for the NT, including:
- the methodology used to estimate the population, including conflicting opinions as to the efficacy of the population count in remote and indigenous communities; and
  - questions about determining the percentage net undercount to be applied to the whole of the NT.
- 5.60 The ABS has acknowledged there are shortcomings in some areas, and a project to validate the methodology of the undercount is underway.
- 5.61 For the most part, the matters in contention are for statisticians and demographers to work through. It is important, however, that the ABS and the AEC resolve these issues promptly.

## Margins of error

- 5.62 Table 5.3 shows the net undercount estimates of the 2001 Census and the error margins at a 95% confidence level.

**Table 5.3. Net undercount 2001 Census**

	Net Undercount		Net Undercount - 95% confidence interval		
	Number	Rate %	Error margin*	Lower limit	Higher limit
<i>New South Wales</i>	130,100	2.0	0.4	103,700	156,500
<i>Victoria</i>	67,300	1.4	0.4	49,800	84,700
<i>Queensland</i>	68,500	1.9	0.4	51,700	85,300
<i>South Australia</i>	24,300	1.6	0.4	17,800	30,800
<i>Western Australia</i>	37,400	2.0	0.6	26,800	48,100
<i>Tasmania</i>	7,400	1.6	0.6	4,700	10,100
<i>Northern Territory</i>	7,800	4.0	1.2	5,200	10,400
<i>A.C. Territory</i>	3,300	1.0	0.8	800	5,700
<i>Australia</i>	346,100	1.8	0.2	307,600	384,600

Source: adapted from Information paper: *Census of Population and Housing, Data Quality – Undercount, Australia 2001*, ABS Catalogue No 2940.0 in submission #6 from the ABS.

\*Percentage points.

- 5.63 The first set of columns lists the estimated net undercount figures derived from the PES survey.<sup>41</sup> It shows that the NT had the highest estimated net undercount of all the jurisdictions, at 4.0% or 7,800 people.
- 5.64 The second set of columns under the heading “Net undercount – 95% confidence interval”, refers to the margin of error surrounding the estimated net undercount figures - that is, the number of people by which the net undercount could actually be over or under estimated. The figures listed here are reported at the 95% confidence level; the number of people by which a net undercount may be under or over estimated is generally reported at this level.
- 5.65 The table shows that for the NT, we can be 95% confident that the estimated net undercount is within 1.2 percentage points or 2,600 people above or below the estimated undercount of 7,800 people. In other words, with an estimated net undercount of 7,800 people, there is a 95% chance that the net undercount is actually between 5,200 and 10,400 people.
- 5.66 The significance of the margins of error in the net undercount is this: when the net undercount is applied to the Census figures, the margins of error in the net undercount carry through to the adjusted Census figures, and hence to the quarterly population estimates that are used to determine State and Territory entitlements to seats in the House of Representatives.<sup>42</sup>
- 5.67 For the NT, this means that its estimated population of 199,760 people is actually an estimated population range of between 197,160 and 202,360 people (that is, 199,760 plus or minus 2,600 people, at a 95% confidence level). Similarly, for the ACT, its estimated population of 322,871 people is actually an estimated population range of between 320,471 and 325,271 people (that is, 322,871 plus or minus 2,400 people, at a 95% confidence level).
- 5.68 From Table 5.3, it can be seen that:
- the NT has the largest estimated undercount of the jurisdictions, at 4.0% of its population;

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41 These figures also include demographic consistency adjustments, and a separately estimated adjustment for the over estimation of the number of persons in occupied dwellings from which a completed Census form was not obtained.

42 The ABS concedes that after all the adjustments to the Census figures have been made there is still a margin of error surrounding the population estimates. See Hansard transcript of public hearing, Monday 18 August 2003, Canberra, p 5-6.

- the NT has the widest margin of error at 1.2 percentage points;
- the ACT has a margin of error of 0.8% - up to twice the equivalent rate for the States; and
- the error margin for Australia is 0.2% - one-sixth of the error margin for the NT.

5.69 This means that, compared with the estimates made for the States, there is greater variability in the estimates for the Territories. It is clear that the population estimates for the NT and the ACT are less reliable than they are for other jurisdictions.

5.70 The Committee has been advised that margins of error in the estimated populations of the Territories are significantly higher in relative terms than the margins for the States because of the difficulty associated with deriving an accurate estimate from a smaller population.

5.71 This is an important issue when considering cases such as the NT, as it lost a seat on a shortfall of 295 people, which is well within the margin of error surrounding its population estimate. The ABS acknowledges:

There is a margin of error around our population estimates. In fact, the margin of possible error is greater than the difference between our population estimates and the number of people that were required for the Northern Territory to have two seats in the House of Representatives... Committee Members should be aware that our population estimates are as likely to have overstated the true population as they are to have understated the true population.<sup>43</sup>

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43 Hansard transcript of public hearing, Thursday 18 September 2003, Canberra, p 2.

