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USE OF INFORMATION TECHNOLOGY ON FARMS

AUSTRALIA
PRELIMINARY

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- For further information about these and related statistics, contact Philip Adey on Canberra 02 6252 5382, or Client Services in any ABS office as shown on the back cover of this publication.

NOTES

- ABOUT THIS PUBLICATION Policy makers and commentators are increasingly interested in the spread of Information Technology (IT) throughout Australia, and especially in regional Australia. To assist understanding of this issue, the Australian Bureau of Statistics (ABS) has collected data on the use of IT by farms, from questions included in the 1998 and 1999 Agricultural Commodity Surveys. This publication presents preliminary results from the 1999 survey. Final data, including information on other data items, will be available in *Use of Information Technology on Farms, Australia, 1998–99* (Cat. no. 8150.0) scheduled for release in March 2000.
- ESTIMATES IN THIS PUBLICATION The preliminary results in this publication are based on a 75% response rate. These preliminary results may therefore be revised following receipt of further responses and more extensive data editing.
- COMMENTS ON THIS PUBLICATION The ABS welcomes comments and suggestions on data items for inclusion in future surveys. Please contact the Director, Science and Technology Statistics Section, Australian Bureau of Statistics, PO Box 10, Belconnen ACT 2616, or phone 02 6252 5019.

W. McLennan
Australian Statistician

MAIN FEATURES

FARMS USING A COMPUTER

Farm use The statistics in this publication refer to farms in scope of the Agricultural Commodity Survey, i.e. farms with an estimated value of agricultural operations (EVAO) of \$5,000 or more.

At the end of March 1999, an estimated 49% of the 147,160 farms in Australia owned or used a computer. This represents a 26% increase over the number of farms using a computer at March 1998.

States/Territories The Northern Territory (65%), the Australian Capital Territory (62%) and Western Australia (59%) had the highest proportion of farms using a computer. Queensland (45%) and New South Wales (48%) had the lowest proportion of farms using a computer. The largest increase in the number of farms using a computer occurred in Tasmania (up 36% over March 1998) and Victoria (up 34%).

1

FARMS USING A COMPUTER, BY STATE/TERRITORY

| | March 1998 | | March 1999 | | Change since March 1998 |
|------------------------------|---------------------------|-------------|---------------------------|-------------|----------------------------|
| | Farms using a computer | | Farms using a computer | | |
| | no. | %(a) | no. | %(a) | |
| New South Wales | 16 934 | 39.8 | 21 288 | 48.4 | 25.7 |
| Victoria | 13 538 | 36.9 | 18 073 | 48.5 | 33.5 |
| Queensland | 11 311 | 36.5 | 13 820 | 44.5 | 22.2 |
| South Australia | 6 795 | 43.1 | 8 354 | 52.7 | 22.9 |
| Western Australia | 6 850 | 49.0 | 8 242 | 58.7 | 20.3 |
| Tasmania | 1 608 | 35.9 | 2 185 | 48.7 | 35.9 |
| Northern Territory | 196 | 52.0 | 237 | 64.6 | 20.9 |
| Australian Capital Territory | 58 | 55.1 | 68 | 61.5 | 17.2 |
| Australia | 57 290 | 39.5 | 72 266 | 49.1 | 26.1 |

(a) Percentages are of all farms.

(b) Percentages are of farms using a computer.

Regions The Statistical Divisions in each State (outside the capital city Statistical Divisions) with the highest proportion of farms using a computer were:

- Murray (58%) and Far West (57%) in New South Wales,
- Mallee (58%) and Ovens-Murray (56%) in Victoria,
- Mackay (58%) and Fitzroy (51%) in Queensland,
- Eyre (57%) and Yorke and Lower North (54%) in South Australia,
- Kimberley and Upper Great Southern (both 65%) in Western Australia, and
- Northern (50%) in Tasmania.

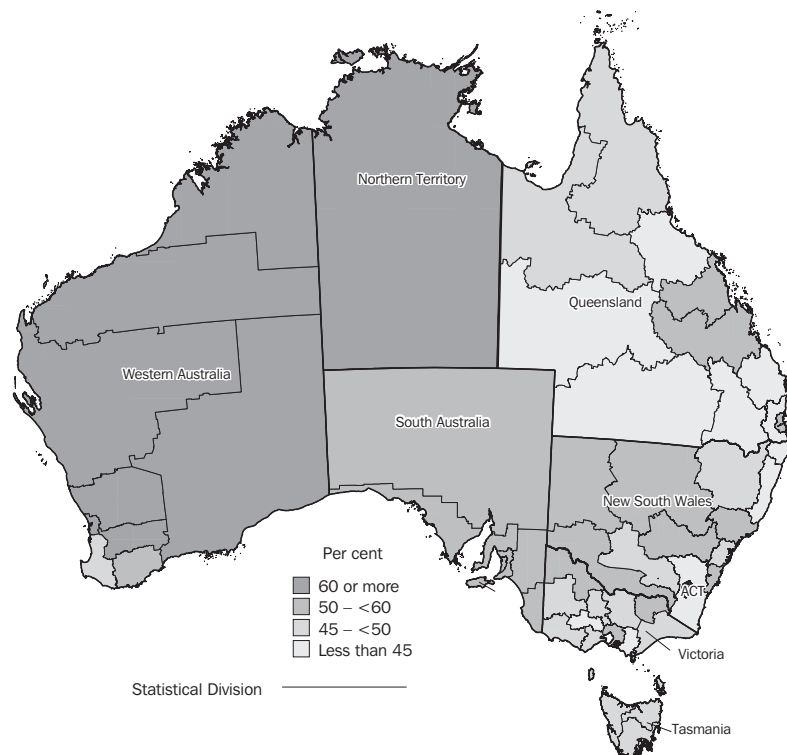
Regions *continued*

The Statistical Divisions in each State (outside the capital city Statistical Divisions) with the lowest proportion of farms using a computer were:

- Mid-North Coast (39%) and Richmond Tweed (41%) in New South Wales,
- Gippsland (38%) and Central Highlands (43%) in Victoria,
- Wide Bay Burnett (38%) and Central West (39%) in Queensland,
- Murray Lands and South East (both 51%) in South Australia,
- South West (50%) and Lower Great Southern (54%) in Western Australia, and
- Southern (47%) in Tasmania.

Data for all Statistical Divisions are included in table 3 on page 7.

FARMS USING A COMPUTER, BY STATISTICAL DIVISION—MARCH 1999



For identification of individual Statistical Divisions, please see the reference map at the back of this publication.

FARMS USING THE INTERNET

Farm use At the end of March 1999, an estimated 20% of the 147,160 farms in Australia used the Internet. This represents an 84% increase over the number of farms using the Internet at March 1998.

States/Territories The Northern Territory (36%) and the ACT (29%) had the highest percentage of farms using the Internet. Tasmania followed with 25%. South Australia, Western Australia and New South Wales all had 20%. Victoria had 19% and Queensland 17%. The largest increase in the number of farms using the Internet occurred in Tasmania (up 104% over March 1998) and Victoria (up 98%).

2

FARMS USING THE INTERNET, BY STATE/TERRITORY

| | March 1998 | | March 1999 | | Change since March 1998 |
|------------------------------|--------------------------|-------------|--------------------------|-------------|-------------------------|
| | Farms using the Internet | | Farms using the Internet | | |
| | no. | %(a) | no. | %(a) | |
| New South Wales | 5 006 | 11.8 | 8 919 | 20.3 | 78.2 |
| Victoria | 3 621 | 9.9 | 7 175 | 19.2 | 98.1 |
| Queensland | 3 075 | 9.9 | 5 225 | 16.8 | 69.9 |
| South Australia | 1 896 | 12.0 | 3 401 | 20.3 | 79.4 |
| Western Australia | 1 428 | 10.2 | 2 770 | 19.7 | 94.0 |
| Tasmania | 552 | 12.3 | 1 124 | 25.0 | 103.6 |
| Northern Territory | 81 | 21.5 | 133 | 36.2 | 64.2 |
| Australian Capital Territory | 21 | 19.9 | 32 | 28.7 | 52.4 |
| Australia | 15 680 | 10.8 | 28 778 | 19.6 | 83.5 |

(a) Percentages are of all farms.

(b) Percentages are of farms using the Internet.

Regions The Statistical Divisions in each State (outside the capital city Statistical Divisions) with the highest proportion of farms using the Internet were:

- Illawarra (30%) and Hunter (24%) in New South Wales,
- Mallee (29%) and Loddon and Goulburn (both 21%) in Victoria,
- Mackay (25%) and Far North (21%) in Queensland,
- Outer Adelaide and Murray Lands (both 23%) in South Australia,
- Central and Kimberley (both 27%) in Western Australia, and
- Southern (29%) in Tasmania.

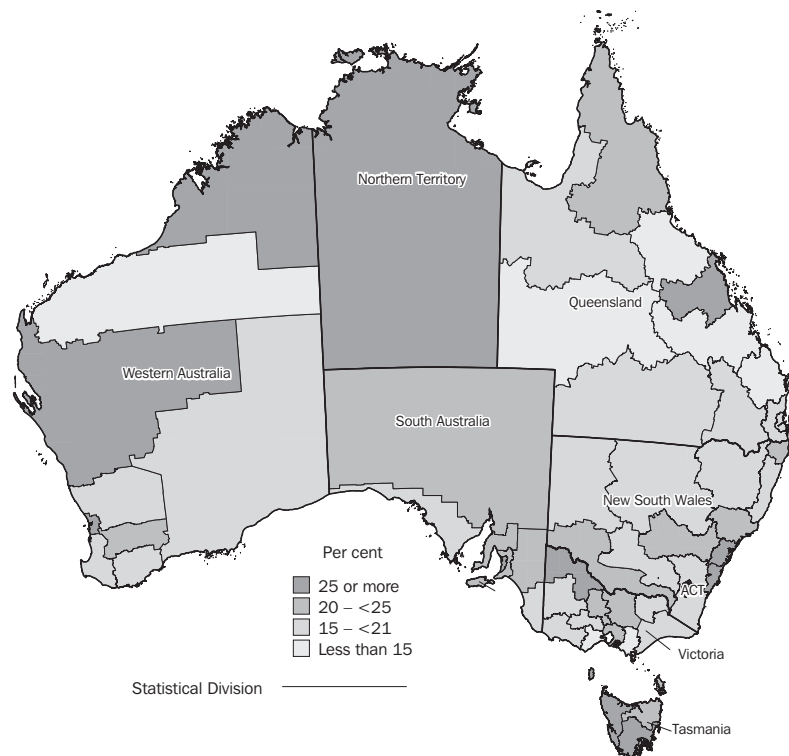
Regions *continued*

The Statistical Divisions in each State (outside the capital city Statistical Divisions) with the lowest percentage of farms using the Internet were:

- South Eastern (17%), Mid-North Coast and Murrumbidgee (both 18%) in New South Wales,
- Gippsland (11%) and Barwon (13%) in Victoria,
- Northern, Wide Bay Burnett, Fitzroy, and Central West (all 15%) in Queensland,
- Eyre (19%) and South East and Northern (both 20%) in South Australia,
- Pilbara (5%), South Eastern and South West (17%) in Western Australia, and
- Northern (23%) in Tasmania.

Data for all Statistical Divisions are included in table 3 on page 7.

FARMS USING THE INTERNET, BY STATISTICAL DIVISION, MARCH 1999



For identification of individual Statistical Divisions, please see the reference map at the back of this publication.

3

FARMS USING A COMPUTER AND THE INTERNET, BY STATISTICAL DIVISION

| Statistical Division | March 1998 | | | March 1999 | | |
|----------------------|--------------------------|-------------|-------------|--------------------------|-------------|-------------|
| | Total number of farms | Computers | Internet | Total number of farms | Computers | Internet |
| | | % | % | | % | % |
| NEW SOUTH WALES | | | | | | |
| Sydney | 1 892 | 40.7 | 19.0 | 2 247 | 49.3 | 27.2 |
| Hunter | 2 707 | 36.5 | 13.9 | 3 051 | 53.1 | 24.3 |
| Illawarra | 953 | 39.7 | 13.6 | 913 | 54.2 | 29.5 |
| Richmond-Tweed | 3 133 | 32.4 | 12.3 | 3 364 | 41.2 | 21.7 |
| Mid-North Coast | 3 378 | 27.6 | 10.7 | 3 398 | 39.2 | 17.5 |
| Northern | 6 921 | 42.8 | 12.4 | 7 053 | 48.5 | 18.9 |
| North Western | 4 377 | 43.6 | 8.5 | 4 356 | 51.6 | 19.0 |
| Central West | 5 872 | 42.5 | 11.5 | 5 730 | 51.3 | 21.0 |
| South Eastern | 4 297 | 37.4 | 11.1 | 4 403 | 41.7 | 16.5 |
| Murrumbidgee | 4 709 | 39.8 | 9.7 | 5 218 | 47.2 | 17.9 |
| Murray | 3 932 | 47.8 | 13.1 | 3 959 | 57.5 | 22.5 |
| Far West | 324 | 39.2 | 11.0 | 298 | 57.2 | *19.3 |
| Total | 42 496 | 39.8 | 11.8 | 43 990 | 48.4 | 20.3 |
| VICTORIA | | | | | | |
| Melbourne | 3 014 | 42.9 | 15.7 | 2 969 | 50.9 | 23.1 |
| Barwon | 1 941 | 35.2 | 6.7 | 1 928 | 48.1 | 13.3 |
| Western District | 5 198 | 35.4 | 7.9 | 5 160 | 49.8 | 17.6 |
| Central Highlands | 1 955 | 35.8 | 11.4 | 2 062 | 43.1 | 16.9 |
| Wimmera | 3 317 | 36.5 | 7.9 | 3 177 | 46.5 | 18.0 |
| Mallee | 4 609 | 37.7 | 10.9 | 4 676 | 57.6 | 29.3 |
| Loddon | 2 375 | 34.7 | 9.8 | 2 405 | 45.4 | 20.7 |
| Goulburn | 6 362 | 37.5 | 9.5 | 6 498 | 47.3 | 20.5 |
| Ovens-Murray | 2 239 | 29.5 | 9.6 | 2 692 | 56.0 | 17.0 |
| East Gippsland | 2 361 | 38.9 | 9.2 | 2 204 | 45.7 | 15.8 |
| Gippsland | 3 317 | 38.8 | 10.6 | 3 513 | 37.8 | 11.4 |
| Total | 36 687 | 36.9 | 9.9 | 37 284 | 48.5 | 19.2 |
| QUEENSLAND | | | | | | |
| Brisbane | 1 090 | 44.9 | 17.7 | 1 352 | 57.6 | 19.9 |
| Moreton | 4 372 | 33.1 | 11.0 | 4 113 | 40.5 | 16.2 |
| Wide Bay Burnett | 5 207 | 32.4 | 7.8 | 5 325 | 37.7 | 14.8 |
| Darling Downs | 6 828 | 36.3 | 8.6 | 6 872 | 42.8 | 15.5 |
| South West | 1 774 | 39.6 | 11.6 | 1 824 | 44.5 | 18.0 |
| Fitzroy | 3 110 | 42.7 | 11.4 | 3 107 | 51.2 | 14.8 |
| Central West | 709 | 46.8 | 13.3 | 630 | 38.7 | *14.9 |
| Mackay | 2 152 | 39.1 | 8.1 | 1 834 | 57.8 | 25.3 |
| Northern | 2 136 | 36.4 | 8.9 | 2 318 | 41.8 | *14.6 |
| Far North | 3 094 | 33.3 | 11.3 | 3 194 | 47.6 | 20.9 |
| North west | 480 | 39.6 | 9.1 | 472 | *49.0 | *17.6 |
| Total | 30 951 | 36.5 | 9.9 | 31 041 | 44.5 | 16.8 |

...continued

FARMS USING A COMPUTER AND THE INTERNET, BY STATISTICAL DIVISION—*continued*

| | March 1998 | | | March 1999 | | |
|------------------------------|--------------------------|-------------|-------------|--------------------------|-------------|-------------|
| | Total number of farms | Computers | Internet | Total number of farms | Computers | Internet |
| | | % | % | | % | % |
| SOUTH AUSTRALIA | | | | | | |
| Adelaide | 1 102 | 39.4 | 17.4 | 1 017 | 51.1 | 25.6 |
| Outer Adelaide | 2 976 | 42.7 | 13.3 | 3 124 | 52.8 | 23.0 |
| Yorke and Lower North | 2 196 | 45.1 | 13.9 | 2 340 | 54.4 | 20.7 |
| Murray Lands | 3 810 | 41.8 | 12.1 | 3 654 | 51.0 | 22.5 |
| South East | 2 676 | 41.0 | 10.4 | 2 718 | 51.2 | 19.5 |
| Eyre | 1 635 | 50.8 | 8.5 | 1 661 | 57.4 | 19.1 |
| Northern | 1 379 | 42.3 | 9.0 | 1 341 | 52.4 | 20.1 |
| Total | 15 774 | 43.1 | 12.0 | 15 855 | 52.7 | 20.3 |
| WESTERN AUSTRALIA | | | | | | |
| Perth | 1 279 | 41.6 | 16.8 | 1 371 | 61.0 | 27.2 |
| South West | 2 793 | 37.1 | 8.5 | 2 767 | 49.9 | 17.0 |
| Lower Great Southern | 2 451 | 49.0 | 9.3 | 2 461 | 54.1 | 18.7 |
| Upper Great Southern | 1 849 | 54.7 | 10.0 | 1 935 | 64.8 | 21.4 |
| Midlands | 3 172 | 56.2 | 9.8 | 3 095 | 63.3 | 18.0 |
| South Eastern | 773 | 53.9 | 11.1 | 732 | 61.2 | 16.5 |
| Central | 1 426 | 51.3 | 9.3 | 1 417 | 61.5 | 27.2 |
| Pilbara | 59 | 56.3 | *2.5 | 60 | 62.1 | 5.2 |
| Kimberley | 189 | 55.6 | 17.7 | 191 | 65.1 | 26.8 |
| Total | 13 990 | 49.0 | 10.2 | 14 029 | 58.7 | 19.7 |
| TASMANIA | | | | | | |
| Greater Hobart | 240 | 38.8 | *13.6 | 242 | 49.7 | 28.0 |
| Southern | 898 | 36.0 | 14.2 | 899 | 46.9 | 28.8 |
| Northern | 1 584 | 37.4 | 11.0 | 1 594 | 49.6 | 23.4 |
| Mersey-Lyall | 1 761 | 34.0 | 12.4 | 1 752 | 48.6 | 27.2 |
| Total | 4 482 | 35.9 | 12.3 | 4 487 | 48.7 | 25.0 |
| NORTHERN TERRITORY | | | | | | |
| Darwin | 11 | 46.2 | 11.6 | 16 | 75.3 | 58.2 |
| Northern Territory — Balance | 363 | 52.6 | 21.8 | 350 | 64.1 | 35.2 |
| Total | 374 | 52.0 | 21.5 | 366 | 64.6 | 36.2 |
| AUSTRALIAN CAPITAL TERRITORY | | | | | | |
| Total | 105 | 55.1 | 19.9 | 111 | 61.5 | 28.7 |
| AUSTRALIA | | | | | | |
| Total | 144 859 | 39.5 | 10.8 | 147 160 | 49.1 | 19.6 |

EXPLANATORY NOTES

INTRODUCTION

1 This publication presents preliminary results on farm use of a computer and the Internet at March 1999, which were obtained from the 1998–99 Agricultural Commodity Survey. Some comparative data have been included from the 1997–98 Agricultural Commodity Survey.

AGRICULTURAL COMMODITY SURVEY

2 Farming establishments were in scope of the collection if their estimated value of agricultural operations (EVAO) was \$5,000 or more. Farms with a smaller EVAO were excluded, being considered more akin to hobby farms than farm businesses. Also excluded were establishments with some farming activity but where this was not the predominant activity. The 1998–99 survey sampled approximately 25% of the farming establishments operating in Australia in March 1999. Farms have been classified to Statistical Divisions (SD) within States and Territories, as set out in the *Australian Standard Geographical Classification (ASGC)* (Cat. no. 1216.0).

3 The information technology questions included in the 1998–99 Agricultural Commodity Survey covered use of a computer and the Internet at March 1999, and plans to connect to the Internet by March 2000. A supplementary survey of farms with Internet access at March 1999 was also conducted. The questions included in the 1998–99 Agriculture Internet Use Survey covered frequency of Internet access, cost of Internet access, services accessed via the Internet, and purchases of goods and services via the Internet. This information will be published in *Use of Information Technology on Farms, Australia, 1998–99* (Cat. no. 8150.0) due for release in March 2000.

ACCURACY OF DATA

Sampling error

4 Since the estimates in this publication are based on information obtained from a sample drawn from units in the surveyed population, the estimates are subject to sampling variability; that is, they may differ from figures which would have been produced if all units had been included in the survey. One measure of the likely difference is given by the relative standard error (RSE) which indicates the extent to which an estimate might have varied by chance because only a sample of units was included. The RSE is a useful measure in that it provides an immediate indication of the percentage standard errors likely to have occurred due to sampling and avoids the need to also refer to the size of the estimate involved. Estimates with a RSE greater than 25% but less than 50% are marked with an asterisk (*). The following table provides RSEs for a selection of estimates presented in this publication. The Northern Territory and the ACT have been excluded because all farms there were surveyed.

RELATIVE STANDARD ERRORS FOR SELECTED INDICATORS

| | NSW | Vic. | Qld | SA | WA | Tas. | Aust. |
|------------------------------|-----|------|-----|-----|-----|------|-------|
| Farms owning/using computers | 2.0 | 2.2 | 2.3 | 1.8 | 1.7 | 1.9 | 1.0 |
| Farms using the Internet | 3.8 | 4.4 | 4.5 | 3.4 | 3.9 | 3.2 | 1.9 |

5 There are about 19 chances in 20 that the difference will be within two standard errors. If, for example, the estimated proportion of farms in New South Wales with Internet access is 20.3% and the RSE on this estimate is 3.8%, then we can say there are about 19 chances in 20 that the true value lies within the range 18.8% to 21.8%.

Non-sampling error

6 Other errors can occur whether the estimates are derived from a sample or from a complete enumeration and are generally referred to as non-sampling errors. Three major sources of non-sampling errors are:

- inability to obtain comprehensive data from all businesses included in the sample. These errors arise because of differences which exist between the characteristics of respondents and non-respondents;
- errors in reporting which may arise through inappropriate wording of questions, misunderstanding of what data are required, inability or unwillingness to provide accurate information and mistakes to answers in questions; and
- errors arising during the processing of the survey data. These processing errors may arise through mistakes in coding and data recording.

7 Every effort has been made to reduce non-sampling error to a minimum by careful design and testing of questionnaires, efficient operating procedures and systems, and appropriate methodology.

Acknowledgment

8 ABS publications draw extensively on information provided freely by individuals, businesses, governments and other organisations. Their continued cooperation is very much appreciated; without it, the wide range of statistics published by the ABS would not be available. Information received by the ABS is treated in strict confidence as required by the *Census and Statistics Act 1905*.

ABS PUBLICATIONS

9 The latest ABS publications on the production and use of information technology and telecommunication goods and services in Australia are:

Business Use of Information Technology, Australia, 1997–98
(Cat. no. 8129.0)

Government Use of Information Technology, Australia, 1997–98
(Cat. no. 8119.0)

Report on Use of Information Technology on Farms, Australia, 1997–98
(Cat. no. 8150.0.40.001).

Household Use of Information Technology, Australia, 1998
(Cat. no. 8146.0)

Use of the Internet by Householders, Australia, August 1999
(Cat. no. 8147.0)

AVAILABILITY OF
UNPUBLISHED STATISTICS

10 As well as statistics included in this paper, the ABS has a range of data on the use of selected information technologies in households. Inquiries about these statistics should be directed to John Ovington on Canberra 02 6252 5189.

SYMBOLS AND OTHER
USAGES

| | |
|------|--|
| ABS | Australian Bureau of Statistics |
| IT | information technology |
| n.a. | not available |
| RSE | relative standard error |
| SD | Statistical Division |
| * | estimates have a relative standard error greater than 25% and less than 50% |
| — | nil or rounded to zero |

REFERENCE MAP: AUSTRALIA: STATES, TERRITORIES AND STATISTICAL DIVISIONS



SELF-HELP ACCESS TO STATISTICS

- CPI INFOLINE* For current and historical Consumer Price Index data, call 1902 981 074 (call cost 75c per minute).
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| | Sydney | 02 9268 4611 | 02 9268 4668 |
| | Melbourne | 03 9615 7755 | 03 9615 7798 |
| | Brisbane | 07 3222 6351 | 07 3222 6283 |
| | Perth | 08 9360 5140 | 08 9360 5955 |
| | Adelaide | 08 8237 7400 | 08 8237 7566 |
| | Hobart | 03 6222 5800 | 03 6222 5995 |
| | Darwin | 08 8943 2111 | 08 8981 1218 |

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