

Funding for Australia's Antarctic Program

An overview

- 2.1 The main source of funding for Australia's Antarctic Program is through the AAD as the lead agency for the program. The AAD's appropriation for 2004-05 was \$88.04 million with expenditure divided between the Australian Government's four stated goals for Australia's Antarctic Program. Each of the Government's goals constitutes an output for the AAD's budget as detailed in Table 2.1.
- 2.2 The Government's goals for the Antarctic program are achieved primarily through Australia's policy positions in international fora within the Antarctic Treaty System, and through the conduct of science directly targeted at the Government's goals.¹ With respect to the fourth goal (that is, 'to undertake scientific work of practical, economic and national significance') the Government stated that:
- ...the Government accepts ASAC's cautionary advice about the potential for large-scale and high-cost international research to jeopardise the long-term viability of other research activity if funds are diverted from these areas. Accordingly, the Government agrees that such high-cost research, including research of national significance, should

1 Department of the Environment and Heritage, Portfolio Budget Statements 2003-04, Budget Related Paper no. 1.7, viewed 2 February 2005, <<http://www.deh.gov.au/about/budget/2003/pbs/partc-deh-s2-outcome2.html>>.

generally secure funding from sources beyond the Antarctic Program before it can be supported as part of the Antarctic Program. In doing so, the Government notes that its direct funding support for the Antarctic Program is only a relatively small component of the total support available for Australian scientific research.²

Table 2.1 Summary of resources for the Australian Antarctic Division, 2003-04 and 2004-05

| | Budget 2003-04 | Revised 2003-04 | Actual expenses 2003-04 | Variation (Actual minus revised) | Budget 2004-05 |
|--|---------------------------|----------------------------|--|---|---------------------------|
| | \$'000 | \$'000 | \$'000 | \$'000 | \$'000 |
| <i>Outputs</i> | | | | | |
| Influence in Antarctic Treaty System | 13 332 | 14 424 | 14 287 | -137 | 13 842 |
| Protecting the Antarctic Environment | 33 411 | 36 794 | 37 238 | 444 | 34 689 |
| Understanding the global climate system | 20 747 | 22 031 | 21 832 | -199 | 21 540 |
| Undertake scientific work of practical, economic or national significance ³ | 17 311 | 17 901 | 17 733 | -168 | 17 973 |
| Total | 84 801 | 91 150 | 91 090 | (60) | 88 044 |

Source Department of the Environment and Heritage Annual Report 2003-04, p 194.

2.3 Table 2.2 provides a breakdown of the AAD's budget by function. The high level of expenditure on shipping and aircraft, and station infrastructure and management, is indicative of an environment which, by its nature, is difficult to operate in and requires a substantial level of logistics and operational support.

2 Commonwealth Government, 1998, *Our Antarctic Future: Australia's Antarctic Program Beyond 2000: The Howard Government response to Australia's Antarctic Program Beyond 2000: A Framework for the Future: A Report to the Federal Government by the Antarctic Science Advisory Committee*, p 4.

3 As of 2005-06, AAD expenditure is divided between the two outputs 'Antarctic policy' and 'Antarctic science'.

Table 2.2 Australian Antarctic Division Budget % by Function

| | % |
|---|-------------|
| Antarctic Logistics (Shipping & Aircraft) | 29 |
| Depreciation | 20 |
| Scientific Research | 14 |
| Antarctic Station Infrastructure | 12 |
| Corporate Costs | 10 |
| Insurance | 7 |
| Antarctic Station Management | 5 |
| Medical Services | 2 |
| Policy development and Territory Administration | 1 |
| Total | 100% |

Source: Australian Antarctic Division, Submission no. 24, p 19.

2.4 An analysis of the AAD revenue since the introduction of accrual financial management in 1999 (see Table 2.3 below) reveals that prior to the announcement of the 2005-06 Budget, the AAD's appropriation had been maintained at a generally static level. In informal discussions with the Committee, the Division reported that there had been no new money invested in the AAD for many years.⁴ As a result, there has been little or no money available to fund infrastructure for new science initiatives or new logistical projects. In particular, the AAD had been unable to proceed with its plans to introduce an inter-continental air link between the Australian mainland and the AAT.

Table 2.3 Australian Antarctic Division revenue since 1999-2000

| Financial year | Appropriation (\$'000) | Capital Use Charge | Net Appropriation* (\$ '000) | Percentage change (%) |
|----------------|------------------------|--------------------|------------------------------|-----------------------|
| 1999-00 | 96,419 | 17,712 | 76,214 | |
| 2000-01 | 98,752 | 19,716 | 81,529 | 6.97% |
| 2001-02 | 98,279 | 18,158 | 80,121 | -1.73% |
| 2002-03 | 109,893 | 27,987 | 82,186 | 2.58% |
| 2003-04 | 85,484 | n/a | 85,484 | 4.01% |
| 2004-05 | 86,472 | n/a | 86,472 | 1.16% |
| 2005-06 | 94,563 | n/a | 94,563 | 9.36% |

* This appropriation is adjusted to reflect the amount available to the AAD after the Government's Capital Use Charge (which ceased in 2003-04) was applied to original funding figure.

Source: Australian Antarctic Division, 2005.

4 See also Australian Antarctic Division (Allen R), *Transcript*, 23 June 2004, p 9.

2005-06 Federal Budget

- 2.5 On 10 May 2005, Treasurer the Hon Peter Costello MP, unveiled the 2005-06 Federal Budget whereby agency resourcing for the Department of the Environment and Heritage included a commitment of \$46.3 million over four years (including \$7 million capital funding) to establish an inter-continental air link between Australia and Antarctica. The issues regarding the air link are discussed in further detail in chapter three.
- 2.6 The AAD's total appropriation for 2005-06 is \$99.4 million⁵ with expenditure divided between the two outputs, '*Antarctic policy*' and '*Antarctic science*'. Aspects of Antarctic scientific research were previously attributed to the four outputs in line with the Government's stated goals for Australia's Antarctic Program (see Table 2.1), but are now aggregated into the *Antarctic science* output. The total resources for the Department of the Environment and Heritage's Antarctic outcome are shown in Table 2.4.

Antarctic Climate & Ecosystems Cooperative Research Centre

- 2.7 A significant component of Australia's Antarctic science program is the work carried out through the Antarctic Climate and Ecosystems Cooperative Research Centre (CRC). The Centre was established in Hobart in July 2003, replacing the CRC for Antarctica and Southern Oceans which ceased to exist on 30 June 2003. The new CRC consists of approximately 100 scientists and support staff. The Centre will receive Commonwealth funding of \$23.5 million over seven years, supplemented by the cash and in-kind contributions of the CRC's partner organisations, of which the Australian Antarctic Division is the largest (with a 60 per cent stake).
- 2.8 The Centre's work involves five main research programs focused on Antarctic marine ecosystems, climate variability and change, ocean control of carbon dioxide, sea level rise, and Antarctic and Southern Ocean policy.⁶ The research programs support each of the Government's goals for Australia's Antarctic Program, in particular

5 This figure includes a Departmental Capital Equity Injection of \$4.805 million for the establishment of an air link between Australia and Antarctica.

6 Australian Government, Budget 2004-05, *Ministerial Statements, Environment and Heritage*, Department of the Treasury, Canberra, viewed 18 August 2004, <<http://www.budget.gov.au/2004-05/ministerial/html/environment-05f.htm>>.

the goal of understanding the role of Antarctica in the global climate system, and are closely aligned with AAD research and policy activities.⁷

Table 2.4 Total resources for Outcome 2: Antarctic

| | Estimated Actuals 2004- 05 (\$'000) | Budget Estimates 2005-06 (\$'000) |
|--|--|--|
| ADMINISTERED APPROPRIATION | - | - |
| ADMINISTERED SPECIAL ACCOUNTS | - | - |
| DEPARTMENTAL APPROPRIATIONS | | |
| Output 2.1 – Antarctic Policy | 28,968 | 31,679 |
| Output 2.2 – Antarctic Science | 57,504 | 62,884 |
| TOTAL REVENUE FROM GOVERNMENT (Appropriation) | 86,472 | 94,563 |
| <i>Contributing to Price of Departmental Output</i> | 98.9% | 99.0% |
| REVENUE FROM OTHER SOURCES | | |
| Output 2.1 – Antarctic Policy | 308 | 308 |
| Output 2.2 – Antarctic Science | 611 | 611 |
| TOTAL REVENUE FROM OTHER SOURCES | 919 | 919 |
| TOTAL PRICE OF DEPARTMENTAL OUTPUTS | 87,391 | 95,482 |
| DEPARTMENTAL SPECIAL ACCOUNTS | - | - |
| TOTAL ESTIMATED RESOURCING FOR OUTCOME 2 | 87,391 | 95,482 |

Source Department of the Environment and Heritage, *Portfolio Budget Statements 2005-2006*, p 71.

Tasmanian Government contribution

- 2.9 During a public hearing in Hobart, the State Government of Tasmania expressed concern about the AAD scaling back its activities on Macquarie Island. As discussed in chapter one, Macquarie Island is a World Heritage listed Nature Reserve managed by the Tasmanian Parks and Wildlife Service.

7 Australian Antarctic Division, 'The Antarctic Climate and Ecosystems CRC: A truly collaborative partnership', *Australian Antarctic Magazine*, no. 6, Autumn, 2004, p 12.

2.10 The Tasmanian Government stated that 'any downsizing of the (Commonwealth Government's) present financial commitment to Macquarie Island will have a devastating effect on Tasmania's ability to continue its current management on the island'.⁸ Table 2.5 provides a snapshot of the financial and in-kind contributions that the Tasmanian Government has made over a five year period in supporting scientific programs and undertaking management activities on Macquarie Island.

Table 2.5 Tasmanian Government Expenditure for Management of Scientific Programs on Macquarie Island

| Expenditure Description | Amount | Comments |
|---|-----------------------------|---|
| Macquarie Island Management | \$180,000 p.a. | Executive Officer Fulltime Ranger Operational Budget |
| | \$50,000 p.a. | Tourism Ranger (4 months p.a.) & shipping costs |
| | \$20,000 p.a. | District Manager – South East District (0.25 FTE) |
| Macquarie Island Science Program | | |
| Macquarie Island Research Advisory Group (MIRAG) | \$43,000 p.a. | Undertakes assessment of all Macquarie Island scientific research proposals and advises on conservation management. Expenditure comprises of salaries for Department of Primary Industries, Water and Environment (DPIWE) specialists and a Nature Conservation Manager that is allocated to the MIRAG. |
| Albatross Program | \$7,000 p.a. | Component of salary allocated to Macquarie Island Albatross Project supervision (0.1 FTE) |
| Sub-Antarctic Plant House at the Royal Tasmanian Botanical Gardens (RTBG) | In-kind contribution | RTBG provides plant research facilities to the scientists for studying sub-Antarctic plants of Macquarie Island and Heard Island. |
| Heritage Management | \$10,000 p.a. | Heritage Officer, Department of Tourism and Parks, Heritage and Arts (0.1 FTE) |
| Feral Cat Eradication Program | \$1,000,000 project funding | Total Tasmanian Government contribution over 5 years. Average of 6-8 program staff and 2 tracker dogs deployed on Macquarie Island. Funds were provided as matching funds for National Heritage Trust (NHT) funding. |
| Macquarie Island Management Plan | \$120,000 project funding | Project Officer (2 years - 2003/2004) Project funds expended over 2 years. |

Source State Government of Tasmania, Submission no. 36, p 2.

8 State Government of Tasmania (Giddings L), Transcript, 16 March 2004, p 3.

Concerns over the adequacy of AAD funding

2.11 In 2001, an Output Pricing Review was conducted jointly by the AAD and the Department of Finance and Administration as part of the broad government financial management and market testing framework. The review included benchmarking against commercial organisations, government agencies and other national Antarctic programs to identify better practices in the delivery of government services.⁹ The AAD stated that:

...The primary conclusion of the review is that the price of outputs for the Antarctic outcome was reasonable.¹⁰

2.12 Despite the findings of the 2001 review, the evidence the Committee has received from stakeholders in Australia's Antarctic Program has raised serious concerns about the AAD's capacity to respond to the unique and changing nature of its operations in the Antarctic region and the possible implications this could have for the future of the program. These concerns, which are summarised below and are addressed in greater detail throughout the rest of the report, extend across a broad range of areas of the program, including:

- new initiatives such as the inter-continental air link;
- grants to support Antarctic research;
- logistical support, in particular for the marine science program, and infrastructure to support 'new' science projects;
- strengthening Australia's involvement in the Antarctic Treaty system, including participation in the International Polar Year 2007-08;
- environmental protection of Antarctica, including protection of fish stocks, waste remediation, and cultural preservation; and
- maintaining Australia's four stations in the Antarctic and sub-Antarctic.

9 Department of the Environment and Heritage, Submission no. 24, p 20.

10 Department of the Environment and Heritage, Submission no. 24, p 20.

- 2.13 The perception that the AAD has exhausted all avenues to produce further savings was evident from a number of submissions to the Committee's inquiry.¹¹ ASAC, for example, stated:

...It is quite clear to ASAC that the AAD has approached its maximum capacity with the resources it has available and that it may not be able to meet all the goals set for the program.¹²

- 2.14 ASAC Chairman, Professor Kurt Lambeck, acknowledged that the issue of funding for the Antarctic program is problematic. Professor Lambeck told the Committee:

...Throughout our evaluation of the program, we have recognised that funding is not open-ended and that, in wanting to go in new directions, some areas may have to cease. That is, in a sense, one of the challenges that ASAC have: what areas we go into and at what cost to existing programs.¹³

- 2.15 The Bureau of Meteorology relies on the AAD to provide logistical support in order to undertake its weather and climate observation and research at Australia's Antarctic stations. The Bureau stated:

...We sense that the AAD, like the Bureau, has reached a point where the resources available to it are not sufficient to support the scientific activities that need to be undertaken in the Antarctic region.¹⁴

- 2.16 The AAD has continued to advance Australia's Antarctic interests in spite of the funding problems it has encountered through operational efficiencies and cost-shifting measures. For example, the Division recently introduced cost-effective renewable energy sources with the installation of wind turbines at Mawson Station. The first two turbines were installed at the station in March 2003 and fuel costs were reduced by approximately 27 per cent over the first year of operation. The AAD reported that this constituted a saving of
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11 Australian Marine Sciences Association, Submission no. 6, p 3; Runcie, John, Submission no. 7, p 1; University of NSW Antarctic Astronomy Group, Submission no. 11, pp 4-5; Antarctic Climate and Ecosystems Cooperative Research Centre, Submission no. 12, p 7; Antarctic Science Advisory Committee, Submission no. 13, p 9; Commonwealth Scientific Industrial and Research Organisation, Submission no. 14, pp 3-4; and Commonwealth Bureau of Meteorology, Submission no. 16, p 3.

12 Antarctic Science Advisory Committee, Submission no. 13, p 9.

13 Antarctic Science Advisory Committee (Lambeck K), *Transcript*, 23 June 2004, p 18.

14 Commonwealth Bureau of Meteorology, Submission no. 16, p 3.

approximately 159 000 litres of fuel with a purchase price of just under \$100 000.¹⁵ While this is a significant saving, there is a limit to which the AAD can continue to do this. Therefore, there is a need to increase the recurrent funding notwithstanding the \$46.3 million allocated under the current budget for the inter-continental air link.

- 2.17 A transferral of responsibilities within the Department of the Environment and Heritage has seen the AAD assume responsibility for Australia's Southern Ocean whale research program, including leading Australia's input at meetings of the IWC.¹⁶ The Australian Marine Sciences Association warned that such additional activities 'can only be effectively undertaken with additional funding unless other strategic activities are curtailed or terminated'.¹⁷
- 2.18 The AAD advised that new innovations such as the recent introduction of two aircraft for intra-continental flights between Australia's Antarctic stations (\$5.9 million) have had to be absorbed within the AAD's budget, largely through a re-arrangement of the logistics budget.¹⁸ Staffing and operational increases and capital purchases have also had to be absorbed within a generally static budget.

Committee comment

- 2.19 The Committee is gravely concerned that there is a considerable danger that Australia's leading work in Antarctic policy and research may erode over time, unless the Commonwealth Government is prepared to make a significant commitment to increase its support for Australia's Antarctic program. While the Committee acknowledges that funding for the air link has been allocated under the 2005-06 Budget, it has sought to identify specific areas of the program where additional funding is required, and in some areas urgently required, and to address these areas in the following chapters of this report.
- 2.20 The Committee is conscious that the recommendations throughout this report call on the Government to significantly increase the level of funding attributed to Australia's Antarctic Program. These

15 Australian Government, Budget 2004-05, *Ministerial Statements, Environment and Heritage*, Department of the Treasury, Canberra, viewed 18 August 2004, <<http://www.budget.gov.au/2004-05/ministerial/html/environment-05f.htm>>.

16 Department of the Environment and Heritage, Submission no. 24, p 26.

17 Australian Marine Sciences Association, Submission no. 6, p 2.

18 See Australian Antarctic Division (Allen R), *Transcript*, 23 June 2004, p 9.

recommendations arise from the Committee's concern that the Government's goals for the Antarctic program are at risk of being forfeited due to funding constraints which are restricting the AAD's ability to respond to the variable nature of its operations. The overwhelming message from the evidence to the Committee's inquiry is that if Australia is to maintain its high reputation as a leader in Antarctic affairs, the Government must provide additional funding.

- 2.21 Such a commitment should be to an extent which not only reflects Australia's standing as the nation with the largest territorial claim in Antarctica, but also allows Australia to retain a competitive edge in the conduct of Antarctic science.
- 2.22 Specific areas of Australia's Antarctic Program which the Committee has identified as requiring additional funding and are discussed later in this report include:
- supporting Australia's role in the International Polar Year 2007-2008;
 - the remediation of past work sites in the Australian Antarctic Territory; and
 - increasing funding available under the Australian Antarctic Science grants scheme.