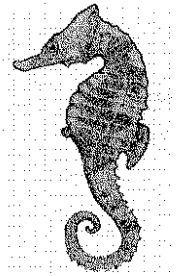


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Submission by the Australian Marine Sciences Association (AMSA) to the Joint Standing Committee on the External Territories' inquiry into the adequacy of funding for Australia's Antarctic Program

Background:

The Australian Marine Science Association is the largest association of professional marine scientists in Australia with a membership of around 1000. One of AMSA's key roles is to provide an independent voice for the marine science community. Here we respond to the call for submissions commenting on the adequacy of funding for Australia's Antarctic program.

For the planning period 2004/05-2008/09 the Antarctic Scientific Research Program is reportedly intending to focus primarily on three multi-disciplinary topics:

- Ice, Oceans, Atmosphere and Climate
- Southern Ocean Ecosystems, and
- Adaptation to Environmental Change

In addition there will continue to be an applied research program of

- Impacts of Human Activities in Antarctica

Marine research is a vital element of Australia's Antarctic program to meet the four Governmental goals and to address major elements of each of the four topics.

Australia's Antarctic science program was reviewed in late 2002 by a panel of eminent international scientists, chaired by Professor John White (FAA, FRS). The principal terms of reference for this committee were;

- To evaluate the relevance of the scientific output against the current strategic plan

- To evaluate the relevance of the scientific output to the goals of the national Antarctic program as measured against the strategic plan.

The committee's principal finding was "there is not a scintilla of doubt that Australia is well served by its Antarctic Science Program."

Considerations

The principal marine research undertaken within Australia's Antarctic program is to better understand and quantify the role of the high latitude Southern Ocean in the global climate system, to better understand the structure and dynamics of Antarctic ecosystems and the consequences of environmental change on them and investigations on krill and its associated and dependent species with respect to managing the harvest of marine living resources. Additionally some marine geoscience is undertaken.

The AAD charters the icebreaker *Aurora Australis* from P&O Polar as the platform from which to conduct this research. Marine research in support of the Antarctic strategic goals is also conducted in the inshore areas near Casey and Davis. In addition, investigations on marine mammals and birds are undertaken at Heard and Macquarie Islands and in the vicinity of Mawson station. As well as the work undertaken in Antarctica, analysis of data, and experimental studies on Antarctic material are carried out in laboratories in Australia.

Many university researchers, who are also AMSA members, use these facilities and depend on funding from the Antarctic Scientific Advisory Committee, which assesses research proposals using similar criteria to the Australian Research Council.

The Australian Antarctic Division is planning to use inter-continental air transport to move personnel and some light cargo (scientific equipment) between Hobart and the Antarctic station of Casey and intra-continental flights to link Casey with the other stations of Davis and Mawson. Air transport is expected to provide a major increase to Australia's Antarctic research effort by enabling senior scientists to more readily visit the continental stations, to establish research programs and supervise junior scientists and students. In addition, research groups on marine science cruises will be able to be changed over in Antarctica making more effective use of the *Aurora Australis*'s time. The use of the aircraft for remote sensing of the sea and for atmospheric sampling is seen as an additional major advantage.

The Australian Antarctic Division has been assigned responsibility for Australia's activities related to the International Whaling Commission (IWC) and the Agreement on the Conservation of Albatrosses and Petrels (ACAP) as a result of a reorganization of the Department of the Environment and Heritage. Both these international instruments require Australia to conduct research as well as developing conservation policies on whales, albatrosses and petrels. These additional activities represent substantial new, high-profile initiatives which can only be effectively undertaken with additional funding unless other strategic activities are curtailed or terminated.

Research in Antarctica is expensive with the requirement of specialized logistics (an icebreaker, remote stations and low temperature-functional equipment. The use of remote sensing (satellite data, drifting buoys) and moored arrays (sediment traps, current meters, upward looking sonar to measure sea ice thickness) and autonomous vehicles requires costly infrastructure. So too is the use of molecular biological techniques and other labour intensive activities associated with the acquisition of fundamental baseline information.

Conclusions

AMSA notes and applauds the outcomes of the evaluation of the Antarctic Science Program.

AMSA considers that there is pressing need for Australia to maintain a vigorous marine research program in the Southern Ocean to address the Government's goals in Antarctica.

AMSA believes that additional funding should be provided to the Australian Antarctic Division to ensure adequate funding of air transport and the added responsibilities that this new program will have on other areas of the AAD program.

AMSA believes that there should be an increase the number of new research scientist positions to tackle the big questions, and to establish teams/networks of multidisciplinary scientists working together on basic and applied issues.

AMSA supports a greater use of sustainable energy systems such as wind power - as is already happening at Mawson at all Australian outposts.

AMSA is concerned that the costs associated with introduction of the new air transport system may adversely impact on the research activities of the Australian Antarctic program, and believes funding for research should be adequate to ensure Australia maintains its prominence in Antarctic matters.

AMSA is keen to see Australia's Antarctic marine science programs utilize the most modern appropriate technology to continue at the forefront of research. These goals and increased commitments outlined here cannot be achieved without increased funding.

Associate Professor John Sherwood
President
Australian Marine Science Association