

THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA

## TOURISM IN ANTARCTICA

Report of the House of Representatives  
Standing Committee on Environment, Recreation and the Arts

May 1989

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<sup>1</sup>Resigned 22 May 1989

# Unit 1: Introduction to Algebra

Mathematics is a subject that is both challenging and rewarding. In this unit, we will explore the foundations of algebra, which is a branch of mathematics that deals with symbols and the rules for manipulating these symbols. Algebra is a powerful tool that allows us to solve problems and understand the world around us.

The first part of the unit will focus on the basic concepts of algebra, including variables, constants, and operations. We will learn how to write algebraic expressions and equations, and how to solve for unknown values. This will involve using the properties of numbers and the order of operations.

In the second part of the unit, we will explore the concept of functions. A function is a relationship between two sets of objects, where each object in the first set is associated with exactly one object in the second set. We will learn how to represent functions using graphs, tables, and equations, and how to use functions to model real-world situations.

Finally, we will look at the concept of polynomials. A polynomial is an expression consisting of variables and coefficients, combined using addition, subtraction, and multiplication. We will learn how to add, subtract, multiply, and divide polynomials, and how to solve polynomial equations.

## TERMS OF REFERENCE

That the Committee inquire into and report on tourism in Antarctica with particular reference to:

- nature and scale of tourism activity;
- role of the government and private sectors in tourism activities, developments and the provision of infrastructure;
- impact on the environment;
- impact on scientific programs;
- financial costs to the Commonwealth;
- planning and regulatory requirements; and
- Australia's international obligations.



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## RECOMMENDATIONS

### Recommendation 1

the Minister for Arts, Sport, the Environment, Tourism and Territories direct that a conservation strategy be urgently developed for the Australian Antarctic Territory in accordance with recommendations 11 to 15 of the Australian Science Advisory Committee report on Australia's Antarctic Science Program.

(paragraph 2.44)

### Recommendation 2

the Minister for Arts, Sport, the Environment, Tourism and Territories -

- request the Australian Government to provide funds to enable studies to be undertaken relating to the development of a conservation strategy for the Australian Antarctic Territory.

(paragraph 2.47)

### Recommendation 3

the Australian Government urgently develop guidelines for visits to the Mawson's Huts site to include:

- numbers in each group;
- prohibited areas, and
- access to the buildings and artifacts.

(paragraph 3.14)

### Recommendation 4

the initial voyages to the Mawson's Huts site be accompanied by an Australian Government official.

(paragraph 3.15)

### Recommendation 5

the Australian Government recognise the historic significance of the Mawson's Huts site and provide the necessary resources to enable:

- adequate conservation works;
- a supervision, protection and inspection program, and
- an assessment of tourism impacts.

(paragraph 3.16)

Recommendation 6

the Australian Government review its decision relating to the provision of financial assistance to the International Antarctic Centre.

(paragraph 3.44)

Recommendation 7

- the Australian Antarctic Division immediately commence work on the development of management regimes including environment protection and assessment procedures for the planning, assessment, administration, supervision and monitoring of tourist ventures and non-government activities in the Australian Antarctic Territory, and
- the Australian Antarctic Division be provided with the resources to bring this activity up to a level that is appropriate given the tourist ventures which are presently proposed.

(paragraph 3.59)

Recommendation 8

- the Australian Government at the next Antarctic Treaty Consultative Parties Meeting initiate discussions for the development of a *tourism convention for Antarctica*; and
- the Australian Government apply domestic legislation relating to environment and conservation aspects of tourism to the Australian Antarctic Territory.

(paragraph 4.32)

Recommendation 9

the Australian Government propose at the Antarctic Treaty Consultative Party Meeting, the establishment of a ship's register and shipping convention relating to shipping activities in Antarctic and sub-Antarctic waters.

(paragraph 4.40)

Recommendation 10

- the Australian Antarctic Division identify sites that are specifically suitable or unsuitable for tourist visits in the Australian Antarctic Territory; and
- the Australian Government seek to have these areas identified as Areas of Special Tourist Interest and Specially Protected Areas respectively under the Antarctic Treaty.

(paragraph 4.44)

Recommendation 11

any tourism activity proposed for the Australian Antarctic Territory which requires Australian Government approval or assistance be subject to appropriate environmental and technical assessment.

(paragraph 4.46)

Recommendation 12

- the Australian Government examine the feasibility of declaring as national parks or reserves in accordance with the provisions of the *National Parks and Wildlife Conservation Act 1975* the areas of the Australian Antarctic Territory considered to require immediate protection; and
- the Australian Government examine the feasibility of using the legislation as a major management mechanism for conservation in the Australian Antarctic Territory.

(paragraph 4.48)

Recommendation 13

- the Australian Antarctic Division actively monitor and directly supervise tourism activity close to Australia's Antarctic bases;
- consideration be given to establishing a summer base at Commonwealth Bay, initially to undertake conservation and other activities relating to the Mawson's Huts site; and
- Australian Government officials accompany larger sea based tourist activities to monitor activities remote from Australian bases.

(paragraph 4.50)

Recommendation 14

until such time as a detailed conservation strategy is developed for the Australian Antarctic Territory the Australian Government not approve tourist proposals which consist of the construction of airstrips and on-shore tourist accommodation.

(paragraph 4.51)

# PROBABILITY

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# 1. INTRODUCTION

## The Inquiry

1.1 On 16 March 1988 the Minister for Arts, Sport, the Environment, Tourism and Territories requested that the Committee inquire into and report on tourism in the Antarctic with particular reference to:

- nature and scale of tourism activity;
- role of the government and private sectors in tourism activities, developments and the provision of infrastructure;
- impact on the environment;
- impact on scientific programs;
- financial costs to the Commonwealth;
- planning and regulatory requirements; and
- Australia's international obligations.

1.2 In referring the matter to the Committee the Minister noted that tourism in the Antarctic offers one of the last tourism frontiers but raises a variety of environmental issues, particularly the possible degradation and change to the Antarctic's unique environment. He believed that before tourism to the area is developed the issues outlined in the terms of reference needed to be addressed.

1.3 The Committee held hearings in Canberra, Sydney, Melbourne, Hobart and Adelaide. A Sub-committee visited the Australian Antarctic Territory (AAT) during January and February of 1989, and inspected Davis and Mawson Stations and Law Base. The Sub-committee visited the Russian and Chinese Stations in the Larsemann Hills and inspected several sites in the Vestfold Hills where proposed tourism facilities and supporting infrastructure (including airstrips) may be located. The Chairman of the Committee had also two years previously, visited Macquarie Island, Casey and Davis Stations, Dumont d'Urville and the Law Base. He had also inspected the Mawson's Huts site at Commonwealth Bay. During the visits to Davis station and on board the M.V. Lady Franklin the Sub-committee conducted informal forums where base personnel and expeditioners were able to put their views regarding tourism to the Sub-committee. The Sub-committee did not visit Casey station, but station personnel provided the Committee with their written views. While at Mawson the Sub-committee held a meeting which is understood to be the first formal meeting of a Committee of the House of Representatives to be held in the AAT.

## Antarctic Tourism Policy

1.4 The Committee was advised that the Government's tourism policy for Australia is to encourage economic growth in harmony with environment protection. The environment policy is similarly based on the belief that protection of the environment and generation of employment opportunities can be interdependent and compatible goals, rather than conflicting ones. The Commonwealth's approach to tourism developments incorporates the following safeguards:

- the preparation of management plans;
- the requirement for environmental impact studies to be completed prior to approving major tourist development projects;
- the provision for adequate resources (including human resources and public utilities and services) to cater for visitor flows consistent with an area's carrying capacity; and
- increasing public awareness of the value and requirements of appropriate environmental conservation.

1.5 The Department of Arts, Sport, the Environment, Tourism and Territories (DASETT) believes that it is by no means certain that this approach would provide adequate protection for tourists or the environment in the Antarctic. In considering the AAT account must also be taken of a number of domestic legal complexities and the international context. Australia is an original signatory to the 1961 Antarctic Treaty. It maintains its position of influence in the Treaty system by a credible and continuing scientific and operational program, and by taking a leading role in Antarctic Treaty forums.

1.6 Australia's policy objectives in the Antarctic are to:

- preserve its sovereignty over the AAT, including rights over the adjacent offshore areas;
- maintain Antarctica free from strategic and/or political confrontation;
- protect the Antarctic environment, having regard both to its special qualities and its effects on the climate of the Australian region;
- take advantage of the special opportunities Antarctica offers for scientific research;
- be informed about and able to influence developments in a region geographically proximate to Australia; and
- derive any reasonable economic benefit from the living and non-living resources of the Antarctic.

1.7 On 22 May the Government announced that it would pursue the urgent negotiation of a comprehensive environmental protection convention within the framework of the Antarctic Treaty System.

1.8 In the absence of organised or regular tourism in the AAT, and because of a relatively low level of interest by Australians in conducting such operations, the Australian Government has tended to take a generally neutral position on tourism and non-government expeditions, treating all expeditions on their individual merits. The Antarctic Division of DASETT has maintained contact with a number of these expeditions during their planning phases, and has expressed concern to some organisations over their safety in the extreme conditions which characterise the Antarctic. Where there are reservations about a proposal its approach is based on either encouraging the proponents to improve arrangements or dissuading them from proceeding.

### **What is a Tourist?**

1.9 The text of the Antarctic Treaty makes no specific reference to tourism. Antarctic Treaty meetings and public discussions on Antarctic tourism have often not distinguished the two broad categories of non-government activity, that is non-government expeditions (which are not primarily of a commercial nature) and commercial tourist activities. While the Committee does not consider that the definition of a tourist is important it agrees with the Antarctic Treaty Nations that commercial Antarctic tourism should be considered jointly with other recreational non-profit, non-government expeditions. The Committee would also include the recreation activities of government and government sponsored personnel. Accordingly the Committee's definition includes all existing human activities other than those directly involved in scientific research and the normal operations of Antarctic bases.

### **Current Tourism**

1.10 To date Antarctic tourism has been largely confined to the Antarctic Peninsula where cruise ships and some tourist flights operate and to a lesser extent the Ross Sea. The Peninsula is some 600 nautical miles from South America and offers the possibility of landings at a number of scenic and historic locations along the Peninsula and nearby archipelagos.

1.11 Presently tourist activities are the only significant commercial activity which use the natural resources of the Antarctic continent. Commercial tourism commenced there in the mid 1950's, with Argentinian and later Chilean cruises in the Antarctic Peninsula area. Most commercial tourism operations at the present time occur by ship, but commercial air operations in the Peninsula area are growing, and there is an emerging interest in 'adventure' tourism using small vessels and aircraft. Patrons of organised commercial Antarctic tourism operations tend to be affluent older people, with potential medical/fitness problems; the average age of the 80 passengers on one cruise was 60 years.

1.12 Tourist activities can be generally classified into overflights, cruises and other sea-based activities and air-supported land-based tourism. Overflights are not generally available at present, although they were popular from 1976 to 1980 and may have carried a total of up to 4 000 people per year during that period.

1.13 Cruises appear to be the most popular form of tourism in the Antarctic. The numbers of tourists and cruises have steadily grown. It is estimated that currently between 2 500 and 3 000 tourists per year visit Antarctica. This compares with 1.6 million visitors to Australia in 1987.

1.14 The few land-based facilities established in Antarctica for air-supported tourism are unsophisticated and include:

- hostel accommodation for up to 80 in the aircrew barracks at the Chilean station Teniente Marsh, on King George Island, and
- two expedition-style base camps operated by Antarctic Airways near the Ellsworth Mountains and the Thiel Mountains, at the southern end of the Antarctic Peninsula.

1.15 Both these facilities depend on infrastructure provided by the Chilean Air Force, including a 1305 metre all-year-round airstrip on Fildes Peninsula, King George Island, air control services, air navigation systems, fuel resupply facilities, a hangar with capacity to maintain two helicopters or Twin Otter aircraft and air terminal buildings, including the barracks mentioned above.

### **Tourism in the Australian Antarctic Territory**

1.16 There has been no organised commercial tourism in the AAT to date. Tourist and non-government expeditions to the AAT have been limited by a more severe climate, the lack of landing facilities for intercontinental aircraft, the 3-4 weeks necessary for the sea voyage from Australia, less abundant wildlife compared with the Antarctic Peninsula and the less spectacular (although still outstanding) scenery.

1.17 Overflights of Antarctica by intercontinental airliners are not generally available at present. These charter flights were scheduled regularly between 1976/77 and 1979/80 summers when Qantas and Air New Zealand operated a total of 44 flights, carrying a maximum of more than 4000 passengers per season. Interest in the overflights was already declining before the Mount Erebus air disaster in November 1979 and flights were discontinued shortly thereafter.

1.18 The Committee received conflicting information on the potential tourist market for the AAT. One witness advised that preliminary examination indicated that his project had a market potential of 16 000 persons per year. Another advised that from his research on a world scale possibly less than 25 000 per annum would be willing to visit Antarctica, possibly increasing by 5 per cent per annum.



1.19 It was disputed that there would be significant tourism to the AAT because of costs. One witness argued that the market would be for ad hoc rather than sustained visits. Antarctic overflights ceased, he argued, not because of the Erebus disaster but because they became uneconomical. Qantas on the other hand, believed that a tourist market should exist to service the commercial requirements of an air supported land based facility in the AAT. The company noted however that on the question of the long term sustainability of the demand pattern they did not have sufficient knowledge to venture a firm opinion.

1.20 Irrespective of what the market may be the Committee notes that there are a number of entrepreneurs who believe that the market for tourism to the AAT exists and exists at levels which would make it economic. They have put forward proposals for various tourism ventures and in some cases have already put resources into developing their proposals and conducting market surveys.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that this is crucial for ensuring transparency and accountability in the organization's operations.

2. The second part of the document outlines the various methods and tools used to collect and analyze data. It highlights the need for consistent and reliable data collection processes to support informed decision-making.

3. The third part of the document focuses on the role of technology in modern data management. It discusses how advanced software solutions can streamline data collection, storage, and analysis, leading to more efficient and accurate results.

4. The fourth part of the document addresses the challenges associated with data management, such as data quality, security, and privacy. It provides strategies to mitigate these risks and ensure the integrity and confidentiality of the organization's data.

5. The fifth part of the document concludes by summarizing the key findings and recommendations. It stresses the importance of a proactive approach to data management to maximize the value of the organization's data assets.

## 2. IMPACT OF TOURISM

### Tourism Activities

2.1 Overflights generally put minimal pressure on the environment, the major impacts being fallout from engines and disturbance of wildlife due to noise. They have no requirement for permanent facilities in Antarctica, although they do rely on established observation and communications networks for weather and navigation information.

2.2 DASETT believes that ship based activities are less likely to cause environmental impact than permanent land based tourist facilities. Private expeditions on small ships, eg for mountaineering or historic re-enactment, generally involve relatively transient environmental effects and only rarely involve an overwintering presence. In one typical documented tourist cruise involving 48 passengers and lasting 23 days, only about 18 hours were spent on land. Nevertheless, cruises can also have potentially adverse environmental effects by virtue of tourist numbers putting significant pressures on locations of tourist interest.

2.3 Adventure type activities would generally involve small numbers of people on an irregular basis and therefore their environmental impact is likely to be minimal. On the other hand ill planned or logistically unsound expeditions could place strains on existing government facilities in terms of the provision of supplies and the necessity in the event of a mishap for government personnel to undertake search and rescue activities.

2.4 Conservationists and scientists believed permanent onshore facilities and infrastructure have potential for a range of environmental impacts; they increase demands on the relatively small amount of ice free land available and other resources such as fresh water supply, and by focussing effects on individual localities, can cause cumulative impacts. Major facilities could pose problems in terms of the disposal of sewage and rubbish, supply of food and other necessities and medical, laundry and other services not only for tourists but for support staff. It is likely that an all weather airstrip capable of handling larger commercial jet aircraft would be needed with support infrastructure. The sustained pressure of the larger number of people involved could cause severe environmental and other problems. The most interesting places in terms of tourist interest could be severely degraded by a constant stream of visitors. Likely sites for shore based tours would be near scientific bases and the likelihood of disruption to the bases is high.

2.5 On the other hand a number of witnesses disagreed with the view that sea based tourism is necessarily of a lesser environmental impact than land based tourism. It was argued that ship based activities are much harder to regulate because a ship basically can go anywhere. It is impossible to control the cruise plans of these ships. It may eventuate that cruise operators with their flexibility to move from site to site and their capacity to make infrequent visits to remote locations will not

develop an interest in protecting and maintaining the values of sites in the way that land based operators might. Cruises would also coincide with the peak breeding times for many species and will concentrate on the prime breeding sites.

2.6 In addition ships can freely pollute over a wide area through indiscriminate disposal of intractable wastes and sewage. Oil spills resulting from damage to the ship could cause irreparable harm to fragile ecosystems. One witness advised the Committee that as many as 40 vessels have sunk in the Antarctic and sub-Antarctic region (6 in the last 5 years) including the Australian re-supply ship Nella Dan at Macquarie Island.<sup>1</sup> Most of these vessels have been re-supply ships supporting national bases and expeditions. The most recent example, the Bahia Paraiso was carrying tourists but most of the lost fuel was destined for Argentinian bases in the Antarctic Peninsula area and the ship was carrying out a re-supply voyage. Commercial tourist cruise ships would normally take fewer risks than resupply ships servicing national bases but they may also be less suited to Antarctic conditions. *Even the Antarctic waters close to scientific stations are poorly chartered. Re-supply vessels including Australia's own vessels have hit submerged rocks. Some vessels involved in adventure type activities were considered totally unsuitable for Antarctic voyages.*<sup>2</sup>

2.7 It was argued that the impact of the buildings and airstrips associated with land based tourism would not be significant if these were located close to existing bases and on sites which had already been severely disturbed by existing activities. The impacts are likely to be concentrated on smaller areas and would be easier to supervise. Clustering of developments would also involve less effort on the part of either governments or developers to provide supporting services and facilities such as meteorology. However even moderate scale land based operations in the AAT would need to be supported by periodic re-supply ship visits bringing in bulk cargo including fuel. They would therefore not necessarily be immune from some of the hazards associated with cruises.

### **Environmental Impacts**

2.8 The term wilderness generally refers to relatively large and undisturbed areas of land or sea. In its vast relatively pristine tracts Antarctica exhibits these values more than any other land area on earth and has been described as the world's last great wilderness area. Most of the witnesses agreed that the wilderness value of Antarctica is likely to be its most important value to the peoples of the World in the foreseeable future. The remoteness and lack of human interference in wilderness areas is also cited as having important social and cultural values.

2.9 None of the witnesses who appeared before the Committee argued that wilderness values mean the total exclusion of all human activity. The Wilderness Society, for instance, stated that they do not advocate that humans should be

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<sup>1</sup>Helmut Rohde and Partners. Submission, p6.

<sup>2</sup>Transcript p 155.

excluded but that the area should be managed in a manner so that humans leave minimal signs and hopefully no indication of having been there. Any human activities in Antarctica likely to reduce the wilderness value should be kept to a minimum. Witnesses agreed that protection of wilderness values and tourism in Antarctica could be compatible if adequate resources were made available for proper research and good management and that tourism was confined to specified activities and locations.

**2.10** The Antarctic is a unique region; the last remaining continental near-pristine wilderness containing unique terrestrial and marine ecosystems and a scientific laboratory of global significance. All submissions which addressed the question agreed that the ability of Antarctic ecosystems to withstand changes induced by humans is less than that of most ecosystems elsewhere, because of the extreme conditions, the specialised nature of many of the local species and the simplicity of its ecosystems. Pollution in the marine environment as well as on land has the potential to cause major disruption of the entire ecosystem. In the low temperatures and ice conditions that prevail, wastes can persist for long periods without decomposing, resulting in long-term pollution. High winds may distribute waste material over extensive areas. Because of infinitesimal growth rates, a footprint made in a moss bed may still be visible ten years later, or it may have been further exploited by the wind, with the destruction of an entire plant community.

**2.11** About 40 to 50 million years ago, Australia and South America drifted north from Antarctica.<sup>3</sup> This separation led to the formation of the Southern Ocean and the development of circumpolar currents (the East and West Wind Drifts). These currents and the Antarctic Convergence isolated cold Antarctic waters from warmer temperate waters and acted as oceanographic barriers for some species. Isolation of Antarctica has resulted in the development of unique communities in both terrestrial and marine environments. At least 60 per cent of all terrestrial and 70 per cent of all marine species are endemic to Antarctica; they are found nowhere else.

**2.12** Since the break-up of the southern continents, a series of ice ages have occurred. During these ice ages, the entire continent of Antarctica (including the continental shelf) was scraped by massive glaciers which removed all life. Thus species now inhabiting Antarctica have migrated there from elsewhere. The usual route for this migration has been via Drake's Passage from South America. The Vestfold Hills are on the opposite side of Antarctica to South America and are therefore furthest removed from the major source of immigrants. Thus they represent one of the most 'Antarctic' of all coastal sites.

**2.13** The Vestfold Hills area is the largest coastal ice-free area in the Australian Antarctic Territory (AAT), and in fact in all of East Antarctica. This comparatively small area is the only space in which a wide variety of animal and plant life can exist. The Vestfold Hills are an area of enormous biological activity and represent an oasis of life in a desolate continent.

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<sup>3</sup>Kirkwood, J.M. Submission.

2.14 Less than 2 per cent of the Antarctic continent is bare rock, the rest being covered by an ice sheet which has an average thickness of about two kilometres (up to 4.8 kilometres in some places). Within the AAT, the ice-free area is less than 0.3 per cent. Utilisation of the few ice free areas by wildlife is therefore comparatively high, and sometimes there are competing demands by both wildlife and humans for the same resources. There are six major ice free areas along the coastline of the AAT which would tend to be of interest to scientists and tourists alike.

2.15 The Wilderness Society and the Centre for Environmental Studies, University of Tasmania pointed to the importance of Australia's two sub-Antarctic island groups, Macquarie Island and Heard and McDonald Islands. The Wilderness Society believes that the islands should be set aside as high quality scientific reserves and that any form of tourism should be prohibited. Small islands are highly fragile and one rat or one cat is quite capable of wiping out an entire population of some species.

2.16 Scientific studies relating to the Antarctic environment have mainly been the necessary basic studies, such as life-cycle studies, taxonomy and species inventories. *DASETT and many scientists advised that there is inadequate knowledge at present on which to base an assessment of the likely environmental impacts of significantly increased non-governmental activity in the AAT.* Environmental research is a relatively new area of study, even on the Australian continent, and dedicated environmental research is only now beginning to be undertaken in Antarctica.

2.17 *While it is argued that there is inadequate knowledge to assess the impact of tourism proposals there is some information available on the impact of human activity in Antarctica.* The most obvious impact is the presence of the scientific stations themselves. Even so adverse environmental impacts are difficult to assess because as the Antarctic Division told the Committee no routine monitoring is undertaken nor were the location or construction of the stations subject to detailed environmental assessment. An obvious impact of the stations is the visual impact of the buildings, road works and other activities. Other impacts include pollution resulting from the consumption of hundreds of thousands of litres of fuel a year, burning of rubbish and the disposal of sewage and untreated liquid wastes. The effects of these activities are not known.

2.18 Information relating to human impacts on wildlife is too incomplete to be conclusive however there is some indication that there have been impacts on sea birds by destruction and disturbance of breeding habitat resulting from construction and operations of stations. Rubbish dumps and burn-off sites provide hazards to scavenging sea birds. A penguin colony close to the New Zealand and American stations in the Ross Sea sector declined markedly over a short period of time following repeated visits by station personnel, parliamentarians, members of congress and other visiting dignitaries but recovered when visits were strictly controlled. Regular overflights of penguin colonies have been shown to cause panic stampedes or desertion of nests with considerable loss of eggs by crushing or from subsequent predation by skuas.

2.19 Human activities already have had some impact on the in-shore marine environment and many submissions argued that proposed tourism activities are likely to have significant and potentially destructive impacts. It was argued that simply by occupying the extremely limited ice-free areas, humans are displacing birds. A marked decline in the number of elephant seals on a beach near Davis Station has been observed in the last 10 years. In addition the activities associated with the re-building program has resulted in dust created by explosions, quarrying and cement which is blown into the sea. The impact is not known. However if this material reaches sufficient quantities in the water, marine organisms would be killed. There have been regular accidental and deliberate oil spills around scientific stations. Diesel fuel has been shown to be highly toxic to algae and zooplankton.

### **Impacts on Scientific Programs**

2.20 It was generally agreed that tourist activities have the potential to adversely affect scientific programs in the Antarctic. This view however was not held by all witnesses including some scientists.

2.21 DASETT argued there is potential for goodwill among Antarctic Treaty nations to be impaired by the possible disruption of other nations programs by tourist visits to stations or diversion of resources from scientific activities if search and rescue or other assistance, such as medical services and an environmental clean up, are needed. The Committee is aware that the normal spirit of co-operation and goodwill has been strained to Australia's detriment by recent experience with non-government expeditions in the Ross Sea sector. The attitude of United States of America authorities has been hardened in response to the demands that have been placed on their resources by private ventures and commercial tourism. The Committee agrees with the views of DASETT that Australia's own ability to meet any major emergencies is limited and it would be detrimental to Australia's relations with Treaty partners to allow Australian tourist activities to be scaled up without enhancing search and rescue capabilities.

2.22 It is likely that tourists to the AAT would wish to visit bases. The Tasmanian Government in its submission referred to a British study which ranked tourist interests as visits to bases, viewing wildlife and viewing scenery - in that order. The Committee doubts that the spectacular Antarctic scenery and wildlife would be less interesting than the bases but notes however that tourist brochures prominently feature the opportunity to visit working scientific bases. Indeed the proposals submitted to the Committee indicated that visits to the bases would be included in the tourist programs. One proposal included development of accommodation and other facilities adjacent to one of our bases. It was argued disruption to Australia's scientific program was therefore inevitable.

2.23 Non-government activities could not only affect the logistic operations of national programs but could also interfere with scientific programs. Uncontrolled tourist activities could reduce the scientific value of certain areas and damage specific sites used for long-term scientific studies. The Antarctic Division manual on

the environmental management of Antarctic bases refers to environmentally sensitive areas around the permanent bases including areas around some scientific facilities which need to be kept free of electrical, magnetic or light interference. The operation of tourist facilities could interfere with the research unless the tourist facilities were subject to the same management guidelines.

**2.24** The Antarctic Division advised that clear management plans are required in order to properly regulate tourism. This would require a refocussing of Australia's scientific programs and without the provision of additional resources this refocussing could have serious implications for Australia's broad basic research.

**2.25** On the other hand the Committee was advised that tourism could have positive impacts on Australia's scientific program which could include:

- increased public awareness of the government's Antarctic program and commitment to support it; and
- improved transportation and other facilities providing supplementary support for scientific programs.

**2.26** An example of improved transportation would be the construction of a landing strip for international aircraft in the AAT. The Antarctic Science Advisory Committee (ASAC) and some tourist developers advised the Committee that one such outcome of the construction of an airstrip would be the ability to fly in scientists engaged in scientific programs in Antarctica within about 5 hours instead of by ship which presently takes about 20 days for the return journey. ASAC argues that the extended journey by ship requires more time than most scientists are prepared to donate to carrying out research in Antarctica. Furthermore the relatively restricted time that ships can penetrate the extensive sea ice barrier around the AAT very seriously limits the length of time available for field studies in Antarctica given the short summer period. Another advantage would be the ability to have direct access to at least one of our Antarctic stations on a year round basis. The Antarctic Division agrees but does not support the construction of a rock based strip at Davis on environmental grounds. The Division supports an ice airstrip at Casey. Such a strip has little tourist potential. The Committee believes that the ability to service Australian stations by air would be of great scientific value but remains unconvinced that the use of large jet aircraft is necessary.

**2.27** The shared use of scientific infrastructure such as the supply vessels and the bases was rejected by the Division on the basis that it would necessarily require use of limited resources and be disruptive.

**2.28** The Committee agrees that tourism may have adverse impacts on Australia's scientific programs. It believes however that sites of scientific interest which are likely to be affected by tourists can be identified and tourists excluded. Such zoning works well in other areas which are subject to tourist pressures such as the Great Barrier Reef and Kakadu National Park. This system already exists to a limited



extent in Antarctica for the most significant sites, and operates in the form of procedures under the Antarctic Treaty which allows for a formal designation of sites of special scientific interest, entry to which is only possible by way of permit.

**2.29** It is not clear what impact tourism will have on the general operation of scientific stations particularly if permanent tourist facilities are located in close proximity. By far the greatest impact would be if resources were diverted from scientific programs to accommodate the interests of tourists. The only means by which no disruption can be assumed would be by excluding tourist access. This may be difficult and also undesirable but necessary if unacceptable disruption was to occur. The Committee believes that there is value in tourists becoming familiar with our stations and our programs. Some scientists support this view. This does not necessarily mean that tourists should have access to the bases themselves but rather access to areas adjacent to the bases which would enable tourists to observe base layouts and some activities. The Committee does not support any tourism activity which would divert resources from scientific programs or lead to disruption.

**2.30** The social impact on station life that would be caused by a permanent tourist facility adjacent to the base is a more difficult problem to quantify but one which concerned some personnel at Davis. It was suggested that a tourist facility would be so intrusive that it would significantly alter the character of the base and make it difficult to attract suitable personnel and scientists. On the other hand it is proposed that the tourist facility will include laboratories and accommodation for scientists and may make research opportunities more accessible.

### **Environmental Research**

**2.31** The tourism impacts on Antarctic ecosystems cannot be predicted at present because in general not enough is known about these systems nor is it possible to predict how much disturbance these ecosystems can be subjected to before they are altered irreversibly. Most witnesses argued that further research into Antarctic ecosystems to establish base line environmental information be undertaken before tourist developments proceed.

**2.32** The Centre for Environmental Studies, University of Tasmania noted that the Antarctic Division has never undertaken an adequate environmental impact assessment and base line monitoring program for any of its stations, field bases or operations. It has no program of environmental research, no full time environmental planner on staff and has not prepared any regional or station management plans for their activities. The Antarctic Division did however provide the Committee with a copy of its manual of Environmental Management of Australia's Antarctic Stations which, among other things, sets down the duties of station environment officers. The Centre believed that until deficiencies it has identified in relation to government sponsored operations are rectified, that is, until the base line data and environmental impact assessment that should form the basis for all human activity in Antarctica are in place, there can be no justification for substantially increasing human presence by way of commercial tourist operations. The Centre argued the need for a natural

resource inventory for the Australian Antarctic Territory as the basis for environmental planning and nature conservation. The Centre considered that the inventory should consist of three parts, namely:

- mapping of plants and animals to identify and select species to be managed in certain environmentally sensitive areas;
- a human impact directory of all human impact in the AAT; and
- the development of regional plans of management to serve as base lines for future human impact assessment.

2.33 ASAC noted that whatever level of activity occurs in the future, effective management and protection of the Antarctic environment cannot occur without an adequate understanding of the systems involved. This requires more emphasis on environmental research than is presently been accorded by Antarctic Treaty Nations. ASAC believed that there is an urgent need for a dedicated Australian program of environmental research. Reviews of existing experience, the preparation of guideline documents, the preparation of specific environmental impact assessments and the development of monitoring programs would all be required before any new major initiatives are undertaken in Antarctica (see Appendix 4).

2.34 One submission pointed to the value of Australian negotiators having at their disposal a geographic information system with data banks as full as possible and the results of many analyses at their disposal, as crucial information in the development of a proper management regime for the Continent as a whole.<sup>4</sup>

2.35 The Australian Conservation Foundation (ACF) advised that in every field of the sciences Antarctic base line monitoring is important on a global scale and as such the value of Antarctica in as near pristine condition as can be maintained cannot be estimated in purely economic terms. As yet there is no biological inventory of species in the AAT let alone detailed knowledge of the biology of each species and their ability to adapt to introduced environmental pressures. ACF believed that such a biological inventory should be undertaken as a priority.

2.36 These views relating to the need of the development of base line data were not only put to the Committee by those with a purely scientific or conservation interest in Antarctica but also by some of those interested in tourist development. Helmut Rohde and Partners, for instance, fully endorsed the development of a conservation strategy and a dedicated environmental research program. The company believed that with the assistance of the private sector the process could be greatly accelerated.

2.37 The company stated that a conservation strategy is a strategy for the conservation or best use of resources. For it to be soundly based, such a strategy needs to recognise that natural systems are dynamic entities. This implies that a description of the resources (often discussed in terms of their relative abundance)

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<sup>4</sup>Monash University. Submission.

and their perceived importance to humankind alone, is not a sufficient basis for a strategy. An understanding of the resilience of the systems to which the resources belong, is also required. This in turn, implies a knowledge of the physical and biological processes that are operating within those systems and their probable responses to disturbance. To base a conservation strategy merely on an inventory of resources can lead to the unnecessary 'locking up' or preservation of resources, or worse, their over-exploitation and ultimate destruction.

**2.38** To assist the preparation of resource management plans, Helmut Rohde & Partners wish to conduct a detailed assessment of the compatibility of land-based tourism with conservation requirements, having particular regard to technologies and concepts produced by the company and their consultants. The company advised the Committee that it recognises fully and accepts the possibility that land based tourism of any kind may ultimately prove incompatible with conservation as expressed through resource management plans. A suggested flow chart for the development of data base is shown in Figure 1.

**2.39** The Antarctic Division advised that substantial research has been undertaken over the last 40 years but that it has been of a very broad nature. Given that pressure for tourism is increasing it will be necessary to refocus some of the research activity. The Division warned however that care should be taken that Australia did not lose sight of its broad basic research aims. Much of the data collected on wildlife would be an important foundation data for any assessment of tourist impacts. This data however, is extremely limited. Very little research has been undertaken for instance, about the impact of large tourist numbers on say, a penguin rookery. The Antarctic Division advised that a refocussing of research activities would only occur by way of government directive and would require the provision of additional resources.

**2.40** DASETT believes that the scale of non-government activity in the AAT should not be increased significantly until there is a better basis for assessment of the environmental risk. In the absence of effective international arrangements to control tourist development DASETT considers that before major tourist operations could be considered there must be an adequate infrastructure in place, including amongst other things, adequate scientific data on which to base judgments regarding the impacts of tourist activities on the sensitive Antarctic environment.

**2.41** The DASETT position on tourism is that, taking account of the likely limited benefits of Antarctic tourism in the medium term (up to at least 5 years), it is not in Australia's interest to divert its limited existing resources to establishing the necessary infrastructure to manage major tourist activities within this time frame.

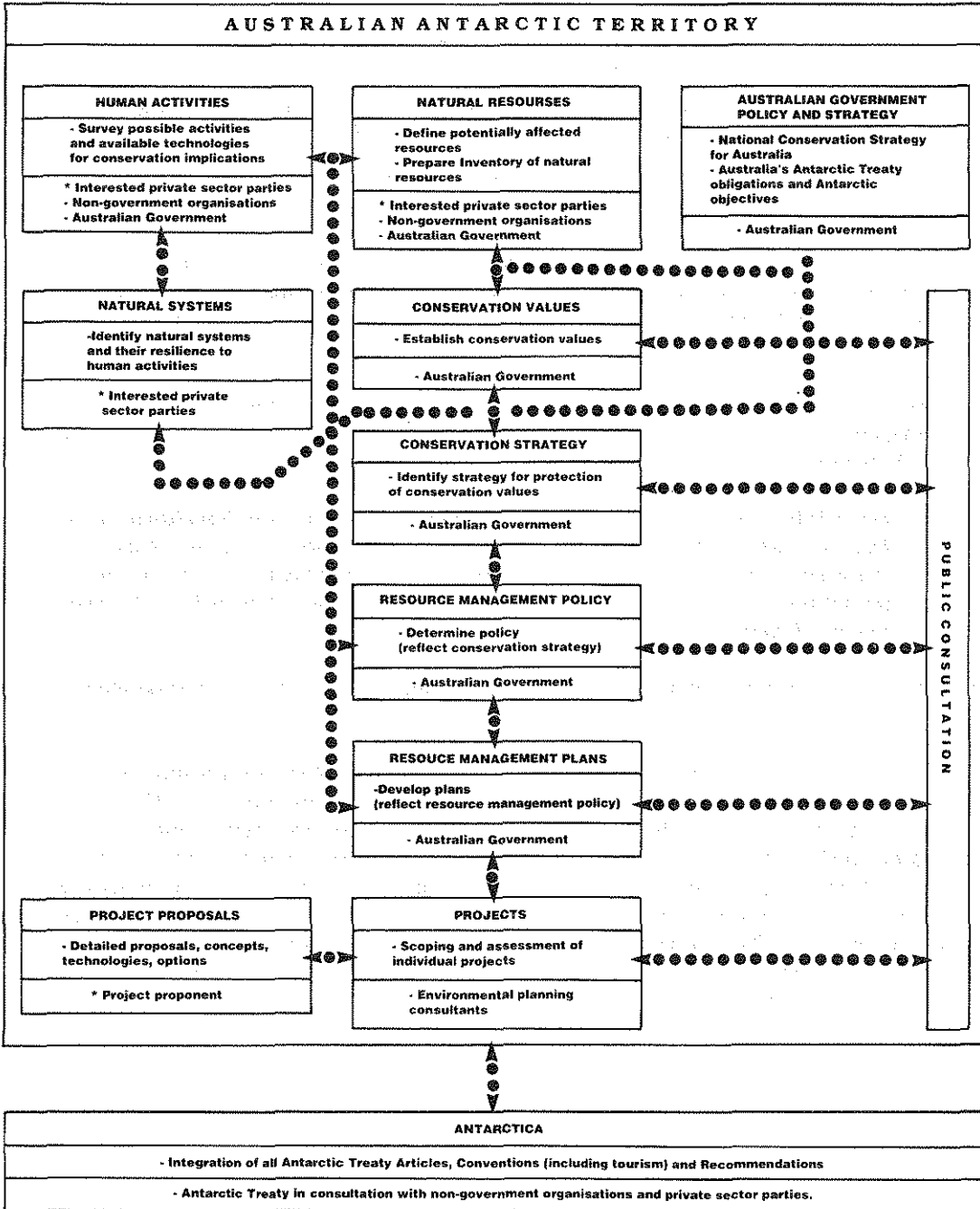


FIG. 1 THE TOURISM STUDY SHOWN IN RELATION TO A  
 FLOW CHART FOR THE DEVELOPMENT OF A CONSERVATION STRATEGY  
 AND RESOURCE MANAGEMENT POLICY AND PLANS FOR THE  
 AUSTRALIAN ANTARCTIC TERRITORY AND ULTIMATELY ANTARCTICA

Flow chart boxes are divided into:

- component (top)
- tasks (middle)
- responsibilities (bottom)

\*The Tourism Study



Note: Once developed, the conservation strategy, and resource management policy and plans must be continually evolved and refined as information and understanding improves

## Development of a Conservation Strategy

2.42 The Committee finds it difficult to accept the low priority which the Division gives to the collection of base line data and the development of a resources inventory. It is clear that most scientists who gave evidence to the inquiry and ASAC believe that environmental and ecological research should be given a high priority. This is because:

- such activity is itself of scientific value;
- government and non-government activity is occurring and will increase and the impacts of this activity are unknown, and
- there is a need to develop a conservation strategy/management regime for the AAT and Antarctica as a whole.

2.43 It appears that for Australia to ignore these requirements would be contrary to a number of its policy objectives, particularly protection of the Antarctic environment and Australia's capacity to be informed about, and able to influence, developments in the region.

2.44 The Committee fully supports the recommendations relating to environmental management in the ASAC Report on Australia's Antarctic Science Program and recommends that:

**the Minister for Arts, Sport, the Environment, Tourism and Territories direct that a conservation strategy be urgently developed for the Australian Antarctic Territory in accordance with recommendations 11 to 15 of the Australian Science Advisory Committee report on Australia's Antarctic Science Program.**

2.45 The Committee believes that the strategy should relate to the management of all activities not just non-government operations.

2.46 The Committee accepts that the development of the conservation strategy cannot be undertaken without the allocation of additional resources. The Committee notes that much data exists which would be useful in the development of the strategy but which as yet is unpublished or in a form which is not readily accessible. The Committee also notes that at least one company is willing at its own expense to access this information, consolidate it, augment it with additional data where needed and publish it. The company is also willing at its own expense to undertake the necessary research into those aspects which would be potentially affected directly or indirectly by tourism.

2.47 The Committee believes that additional resources must be provided to enable the development of the strategy and cannot see any objection to the involvement of individual firms or any other body provided that it is clear that such involvement places no obligations on the Australian Government. The Committee recommends that:

**the Minister for Arts, Sport, the Environment, Tourism and Territories -**

- **request the Australian Government to provide funds to enable studies to be undertaken relating to the development of a conservation strategy for the Australian Antarctic Territory.**

2.48 Quite apart from the lack of commitment of the Antarctic Division to develop a conservation strategy it does not appear to have the necessary expertise. The Australian National Parks and Wildlife Service and the Great Barrier Reef Marine Park Authority as well as State wildlife authorities have developed management regimes for areas of conservation, scientific and tourist interest. This includes the Tasmanian Government which advised the Committee that it was developing a management plan for Macquarie Island. It is the Committee's view that DASETT should urgently undertake discussions with these organisations to develop a broad framework for the development of a conservation strategy and seek guidance in the development of a data collection program.

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### **3. TOURISM PROPOSALS FOR THE AUSTRALIAN ANTARCTIC TERRITORY**

#### **Introduction**

**3.1** The submission from DASETT identified six tourism proposals:

- a Sydney group proposing an Antarctic visitors' centre and convention centre near Davis, based on an airstrip in the Vestfold Hills;
- a private Melbourne based consortium interested in developing a tourist facility and cruising operation based on an airstrip in the Davis region;
- another Sydney company investigating 'adventure' cruises for groups of up to 30 passengers to and from Antarctica and sub-Antarctic islands, combined possibly with a cargo operation;
- media reports of the possibility of a floating hotel in Antarctica, along the lines of the development on the Great Barrier Reef, had been raised;
- a study by another group into the feasibility of spring and autumn cruises to sub-Antarctic islands and the Antarctic ice edge in an ice-strengthened resupply vessel, and
- press reports about a Sydney businessman who was apparently seeking to resume the chartered overflights of Antarctica from Australia.

**3.2** Some of the reports appear to be rumours or not based on actual proposals. The Committee itself received submissions or heard evidence from proponents involved in four of these proposals. The Committee also became aware of a venture being developed by a consortium including the Master of the Antarctic Division chartered re-supply ship. It also received evidence from representatives of Society Expeditions which proposes tours to the AAT including visits to the Mawson's Huts site. All of these proposals are discussed below.

#### **Overflights**

**3.3** The Department of Arts, Sport, the Environment, Tourism and Territories advised that there is currently some interest in resuming overflights but so far air safety authorities have objected owing to lack of search and rescue facilities and navigational difficulties in the Antarctic. The Australian Geographic Society has about 2 000 names of people who wish to participate in day flights. The flights have not been organised because air operators such as Qantas do not have aircraft available because of market pressures. The Committee accepts that these flights are unlikely to have any measurable impacts on the environment.

## Ship Based Tourism

3.4 The traditional tourist access to Antarctica is by either cruise ship or smaller adventure type vessels. The Committee received information on a number of proposals including Society Expeditions, Australian Antarctic Adventures, Bounty Voyages and Polar Adventures.

### *Society Expeditions*

3.5 Society Expeditions operate two vessels which during the 1987/88 summer offered a total of 16 cruises, accommodating 110 and 140 passengers on the ships at an approximate cost of \$US5 000 - \$US7 000 for 15 days, twin share per person, primarily centred on the Antarctic Peninsula although at least one visit has been made to Commonwealth Bay in the eastern sector of the AAT. Society Expeditions have planned a number of cruises for the 1990/91 season which will include, Hobart, Macquarie Island and Commonwealth Bay (Mawson's Huts site). The Committee is not aware of any proposal to visit other parts of the AAT or Heard and McDonald Islands.

3.6 The company advised the Committee that it has promoted the principles of conservation as a central theme in all programs. Each voyage is accompanied by highly qualified naturalists, historians and expedition leaders. The passengers generally are highly motivated conservationists, and are well briefed and are closely supervised. The company also advised that they would abide by any guidelines provided by the Australian or Tasmanian Governments.

3.7 One witness with extensive experience in Antarctic science support areas and in field work in the AAT and on Macquarie Island supervised guided tours for passengers on Society Expeditions cruises.<sup>5</sup> He noted that the passengers were well informed and had a sympathetic approach to the environment. The Tasmanian Department of Lands, Parks and Wildlife is preparing formal guidelines and arrangements for tourist visits to Macquarie Island. A management plan which addresses the question of tourism is nearly complete. The Department will restrict the number of landing points to two, observation platforms will be constructed and duck boards will be constructed if required. Permits are required to visit the island.

3.8 The Committee accepts that the tourist proposal for Macquarie Island will have minimum impacts because of the detailed management regime and the presence of Tasmanian Government officials who will act as tour guides and enforce regulations.

3.9 The proposed visit to Commonwealth Bay and the Mawson's Huts site is of great concern to the Committee. This concern is shared by both the Australian Heritage Commission and the Antarctic Division. Mawson's Hut is highly fragile and

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<sup>5</sup>Transcript p 207.

there is no guarantee that it could withstand a few, let alone the hundred or so, passengers who will be involved in the voyages. There is no government presence at the site to ensure that no damage occurs or that artifacts are not stolen.

**3.10** The company indicated that on-shore visits would be conducted in small groups of a dozen or so persons. These would be closely supervised and would approach no closer to the buildings than the guidelines allowed. The company stated that it would welcome the presence of an officer of the Australian Heritage Commission or some other government body who could ensure compliance with the guidelines. The Committee has been advised and accepts that Society Expeditions is a highly reputable company and values that reputation. It seems likely that they would respect the government's wishes.

**3.11** In the absence of any guidelines relating to visitors to the Mawson's Huts site the Committee cannot support tourist visits. Members were concerned at the neglect and lack of interest which various governments have shown concerning the preservation of these historic sites. While the Committee supports the development of adequate conservation works and the development of appropriate management plans for the site in the longer term, as an interim measure, guidelines on visitation need to be developed urgently. It is totally inappropriate that government authorities are in the position where they are required to react to each individual proposal on an ad hoc basis. Once these guidelines have been developed the Committee has no objection to the visits to the area by Society Expeditions or any other company which has similar expertise and conservation principles.

**3.12** It is the Committee's view that a government official be present on initial voyages. This will enable the credibility and competence of the company to be observed and ensure that the guidelines are followed. It would also enable the guidelines to be assessed and reviewed for further voyages as necessary.

**3.13** The Committee believes that while the salary of the government official should be met by the government all other costs should be met by the company. The Committee notes that as part of its marketing strategy Society Expeditions highlight the fact that experts are on board to lecture passengers on various matters of interest. A suitably qualified Australian government official could be part of this educative process and integrated into the company's program and used as part of its marketing strategy.

**3.14** Accordingly the Committee recommends that:

**the Australian Government urgently develop guidelines for visits to the Mawson's Huts site to include:**

- numbers in each group;
- prohibited areas, and
- access to the buildings and artifacts.

3.15 The Committee further recommends that:

the initial voyages to the Mawson's Huts site be accompanied by an Australian Government official.

3.16 The Committee is aware of pressures to have Mawson's Hut removed from Antarctica and placed in museums either in Adelaide or in Hobart. This attitude is in part, a result of the neglect and lack of interest shown by various governments in the preservation and proper management of this historic site. The Australian Heritage Commission advised that it does not support this proposal. The Heritage Commission advised that the Mawson's Huts historic site is in fact comprised of four huts and proposals to move Mawson's 'Hut' fail to recognise the historic significance of the other buildings on the site. The buildings and artifacts are not simply objects awaiting any museum that will take them. They have a context of historical associations, geographical meaning and symbolism to our society which gives the Mawson's Huts site an importance *in situ* which would be lost if they were removed to Australia. The Committee agrees but considers that urgent action must be taken to ensure conservation of the buildings and artifacts and proper management of the site. Accordingly the Committee recommends that:

the Australian Government recognise the historic significance of the Mawson's Huts site and provide the necessary resources to enable:

- adequate conservation works;
- a supervision, protection and inspection program, and
- an assessment of tourism impacts.

#### *Australian Antarctic Adventures*

3.17 Australian Antarctic Adventures Pty Ltd intends operating a number of 52 passenger cruise vessels from various ports, principally Hobart to the sub-Antarctic islands lasting from 10-12 days duration to 20-30 days duration. A total of 9 voyages are envisaged per Antarctic season. The vessels have been designed deliberately small to reduce environmental damage to a minimum. The 52 persons will be sub-divided into smaller easily handled groups under strict trained leadership and will leave a very small 'footprint', if any. By varying the voyages the company argues that the small footprint will only be left in each landing place once per season. The group leaders will be trained personnel with knowledge of Antarctic survival and knowledge of the various environmental and conservation details of the Antarctic.

3.18 The vessels are designed specifically to have minimum environmental impact. Most of the voyaging across the Southern Ocean will be under sail, the main diesel engine will only be used to negotiate the pack ice or whenever wind strength prevents normal sailing.

3.19 The company advised that all sewage will be treated on board prior to discharge. All garbage and waste matter will be compacted and stored on board for disposal on voyage return. With the minimum of fuel oil operation and level of pollution control equipment fitted there should be no discharge of oil into the sea. If Project Oasis was to proceed (see later) a number of voyages would be planned using Oasis as a base.

3.20 The company advised that co-operation between it and the Antarctic Division would reduce any environmental impact to a minimum. The company would submit voyage itineraries and the authorities could nominate specific landing areas at least 12 months in advance to allow the necessary marketing and voyage plans to be developed.

3.21 It is the Committee's view that the environmental impacts of the proposal are difficult to assess in the absence of data relating to the impact of people on wildlife particularly penguin colonies. It would also be difficult for regulatory authorities to ensure that the company abided by its pre-voyage commitments. The Committee considers that regulatory authorities should satisfy themselves concerning the character and expertise of the group leaders. At least on the preliminary voyages a Government official should be present on the tours and it would be desirable if they were included on all voyages.

### *Bounty Voyages*

3.22 Bounty Voyages Pty Ltd have proposed a joint venture with the Australian Government to utilise empty berths on the chartered Antarctic supply vessel Icebird. The company advised that Icebird undertakes four voyages to the Antarctic each season and on each middle voyage there can be up to 25 vacant berths. With no disruption to the normal operations of the re-supply vessel the company proposes that these vacant berths be sold and consequently generate returns for the Antarctic Division. These returns could be used to fund additional research. The company believes revenue in the order of \$200 000 per annum can be generated with just 12 berths on each middle voyage. The company is confident that a market currently exists in Australia for extended voyages of up to 100 berths per season, at a retail price per berth of around \$8 000.

3.23 The Antarctic Division does not consider that this proposal is workable. It advised that there are likely to be increased costs and serious disruption to ship personnel and base personnel who would be required to look after these passengers. The Division also argued that the 'spare berths' are used for other legitimate purposes.

3.24 The Committee believes that it is for the Antarctic Division and the Government to decide whether or not the proposal is feasible or desirable. Whilst it notes that of all proposals this would be the most easy to regulate and has the least

environmental impacts, the demands of fare paying passengers may place unreasonable demands on the Antarctic Division and disrupt the prime purpose of the voyages which is the support of Australia's scientific program in the AAT.

### *Polar Adventures*

**3.25** The Committee was advised by the Master of the Icebird that he was associated with a company which was planning to build an icebreaking cruise ship to conduct tourists to both the Arctic and the Antarctic. He described the proposed ship as the world's first double hulled ice breaker passenger ship specifically designed for Antarctic cruises. The ship will carry out several tours during the Antarctic summer, sailing from Hobart to various parts of the AAT including historic sites. Over 100 passengers would be accommodated on each cruise which would take from 10 to 20 days depending on the locations to be visited. Longer cruises would also be undertaken and short cruises in conjunction with flights to American, Russian or French airstrips are envisaged. The first tour could be conducted towards the end of the 1990/91 season.

### **Land Based Air Supported Tourism**

**3.26** A detailed proposal was submitted by Helmut Rohde and Partners which proposes the development, operation and environmental monitoring of an airport, visitor education and research centres, accommodation, hospital, search and rescue and Antarctic Treaty related organisation facilities. The proposal is known as Project Oasis.

**3.27** Subject to a detailed resource and environmental study the proposal is to locate an airstrip and the other facilities in the Vestfold Hills area near Davis Station on the basis that it is probably the most acceptable location for a year round air supported land base tourism facility.

**3.28** The company advised that Project Oasis is an integrated conservationist, political, technical and economic concept. The architecture utilises the fluid dynamics of snow drifting, wind and water, the structural properties of ice, prefabricated construction, energy autonomy and waste recycling. The buildings are designed to withstand winds exceeding 300 kilometres per hour. They are of ultra light weight construction floated complete from the Australian mainland to the site, slid across the ice and land into position and secured to withstand these winds.

**3.29** The wind is harnessed by the building to scour away snow from entries and operational areas while selectively creating snow drifts to entrap fresh water supplies.

**3.30** The size of the accommodation and visitor facilities is determined by current civil aviation requirements that the only aircraft operating in Australia which could be licensed to fly to Davis are Boeing 747 aircraft. This will require a 2 800 metre runway to be constructed near Davis.

**3.31** The visitor and accommodation facility provides for 344 visitors, 70 researchers, 174 staff. It is proposed that two flights per week would operate. The company advises that weather conditions are suitable for aircraft operations on 250 days per year. Up to 16 000 people per year could use the facilities.

**3.32** The company claims that should a project such as this be allowed to proceed, it would be able to:

- protect the Antarctic environment and achieve a sustainable development by being managed and operated in accordance with rigorously researched and agreed environmental criteria, in accordance with Australian legislation and in compliance with all Antarctic Treaty conventions and recommendations;
- offer the general public an affordable, educational, conservation oriented experience of Antarctica;
- provide highly cost-effective facilities for Antarctic scientific research and the promotion of that research to the international public;
- provide facilities for international conventions and Antarctic Treaty related conferences;
- provide funding to have the compliance of its operations monitored by an independent environmental agency. The results of this monitoring would limit any further development until such time as the sustainability of such a project can be assessed;
- provide funding to undertake periodic refinements of the environmental criteria upon which the operations of the project are based; and
- provide a surety and/or insurance against environmental accidents or, the possible need to remove the project in the event of economic failure.

**3.33** A hovercraft based transport system would be used with vehicles for passenger transitting and sightseeing (80-100 people), freight (15 tonnes) and search, rescue, recovery and medical evacuation (600 kilometre radius of operations at approximately 100 kilometres per hour). The hovercraft have a ground pressure of 135 kilograms per square metre and use the local fjords instead of roads.

**3.34** Most scientists and all conservation groups are opposed to land based air supported tourism in the Antarctic particularly in the Vestfold Hills area. The views of ACF are indicative of these views. ACF believes that hard rock airstrips with associated logistical infrastructure would impact and compete with flora and fauna for the small area of ice free rock on the continent. Such ice free areas are biological oases for the indigenous flora and fauna of Antarctica. Large groups of tourists would be necessary to make the proposal economically viable but would create greater impact problems for the fragile environment.

**3.35** The Committee notes that in its examination of transport options for the AAT the Antarctic Division has rejected an international runway at Davis on *environmental and economic grounds*. The Committee considers that any tourist proposal that involves significant new infrastructure or servicing by government should only proceed if the planned developments are in accordance with other infrastructure developments proposed to support Australia's scientific effort in Antarctica.

**3.36** Helmut Rohde and Partners advised that they recognise fully and accept the possibility that land based tourism of any kind may ultimately prove incompatible with conservation as expressed through environment management plans and environmental impact assessment. The company argues for a detailed conservation strategy to be developed before any decision is made on their proposal and indicated that it was prepared to assist in the preparation in that study. Greenpeace Australia, while opposing air supported land based tourism such as that proposed in Project Oasis believed that the environmental assessment process proposed by Project Oasis is laudable. They believed that the evaluation process proposed is one which should apply to all activities which occur in the Antarctic.

### **Adventure Type Tourism**

**3.37** The Australian Tourism Industry Association advised the Committee that there is an increasing world-wide interest in remote locations and opportunities for 'adventure' tourism. This interest ranges from those wishing to go to places few others have seen, to those interested in educational travel involving either research or academic study. The Association believed that interest in Antarctic visitations will increase considerably in the future. The Committee received no details of specific adventure type activities proposed for coming summer seasons. These are by nature generally ad hoc but it could include flights by small aircraft to the continent, small boats such as yachts and overland expeditions.

### **Hobart and Antarctic Tourism**

**3.38** While Hobart cannot strictly be considered an Antarctic tourism destination it is included in the Committee's inquiry for two reasons, namely:

- because of its links with Antarctica as a administrative research and supply centre Hobart can provide an 'Antarctic' experience without any detrimental *affects on the continent, and*
- as a base for tourism operations can sensitise proposed visitors to the unique and delicate ecosystems.

**3.39** Among Hobart's major links with Antarctica are:

- the presence of Australia's Antarctic Division headquarters;
- the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR), established its Secretariat in Hobart in 1982;



- the CSIRO's Divisions of Oceanography and Fisheries Research are based in Hobart.
- the University of Tasmania has established an Institute of Antarctic and Southern Ocean Studies (IASOS) in Hobart;
- the Tasmanian Department of Lands, Parks and Wildlife administers the sub-Antarctic Macquarie Island and conducts its own wildlife research programs on the Island, and
- it has been chosen as the venue for a number of international meetings concerned with Antarctica including the Antarctic Minerals Regime Conference and the Scientific Committee on Antarctic Research (SCAR) meetings.

**3.40** In addition, Hobart is an important staging point for Antarctic operations because of its port, training facilities and industry which has developed expertise in cold weather technology.

**3.41** The Tasmanian Government in recognition of Hobart's potential as a springboard to the Antarctic has undertaken to consolidate its links by establishing a world standard International Antarctic Centre. The Centre will provide Australian and foreign visitors with a window to the Antarctic - its past, present and future - and will provide a forum, through displays and exhibitions, for public and scientific interaction on matters relating to the Antarctic.

**3.42** In terms of tourism in the Antarctic, the Centre will provide the infrastructure for tourist education and gain recognition worldwide as a major reference source. Further, the Centre can act as a pre-tour briefing point to sensitise visitors. In this context, the International Antarctic Centre will contain exhibitions which focus directly on the Antarctic environment, scientific research, the Antarctic Treaty System, conservation and the endeavours of international organisations in this area.

**3.43** The Tasmanian Government advised that Commonwealth authorities have given general support to the development of the Centre and bodies such as the Antarctic Division and the CSIRO have assisted with information and, it is hoped, will lend material for display in the future. However, the Prime Minister has advised the Premier that 'the Commonwealth is unable to provide funds for the Centre' and has noted that the Government has deferred consideration of further development of the National Museum of Australia for five years. In this context, the Tasmanian Government has committed \$3 million in funds for the Centre, with an ongoing operating commitment, and a financing company will raise the required capital development funding.

3.44 The Committee agrees with the Tasmanian Government that the development of the Centre is an initiative of Australian-wide significance. Accordingly the Committee recommends that:

the Australian Government review its decision relating to the provision of financial assistance to the International Antarctic Centre.

### **Policy Options**

3.45 DASETT provided the Committee with various options for the Commonwealth relating to tourism. These options were developed recognising that tourism is already occurring and there are new proposals at various stages of planning.

#### *Prohibition of all Activities*

3.46 Given the facts that tourism is agreed by Treaty Parties to be a legitimate use of the Antarctic, that it already occurs in other parts of Antarctica and there is growing interest within Australia in Antarctic travel and in developing Antarctic tourism ventures, the Committee agrees with DASETT that total exclusion of tourist interests is not an acceptable alternative, and would be very difficult to enforce.

#### *Active Discouragement*

3.47 DASETT advised that discouragement could include the refusal of advice, information and assistance of any kind from official sources. The Government could point out to potential investors the time needed to develop an adequate management regime, the real costs of operating in an extreme environment and the additional government resources that would be needed to actively supervise such activity. It could also warn that financial outlays by the Government would be cost-recovered.

#### *Provision of Advice and Limited Assistance on Request*

3.48 DASETT considered that the provision of advice and limited assistance on request would be an inadequate option, particularly considering the firm proposals for the development of major tourist operations in the AAT which are imminent. Such assistance could involve recurring costs which, depending on the level of activity, could become too high to be met from within the Antarctic Division's existing resources.

### *Introduction of User Pays Principle*

3.49 The adoption of user charges to cover the costs of providing advice and assistance to small groups could alleviate the difficulties. The user pays principle has been adopted in many areas of Government activity. While it may be difficult in all instances the Committee believes that the principle should be applied to Australian and foreign operators.

3.50 A situation could also be created where Australian operators are put at a commercial disadvantage if they have to meet costs that were not levied on their non-Australian competitors.

### *Development of an International Tourism Regime*

3.51 The negotiation of an international agreement on tourism under the Antarctic Treaty System could be a complicated process and involve a lengthy delay for private operators interested in developing projects now or in the near future plus the considerable dedication of government resources. The Convention for the Conservation of Antarctic Marine Living Resources took three years to develop and the Minerals Convention after six years of negotiations has not been ratified. Whilst clarification of the international regime with regard to tourism activities in Antarctica need not necessarily involve the development of a separate convention, it would be very desirable to minimise difficulties associated with applying Australian law to foreign operators in the AAT. The Committee has recommended later in the report that Australia actively sponsor the development of a tourism convention.

### *Development of Domestic Legal Regimes*

3.52 The development of an Australian legal and administrative regime could also involve lengthy delays for private operators if the additional staffing resources needed to develop these requirements were not made available. Once formulated, the regime could be used in Antarctic Treaty forums as a model for the development of an international regime for Antarctic tourism. The costs of development would also need to be taken into account. Given the lengthy delays likely for either an international agreement or domestic legislation, private operators should be made fully aware of the situation.

3.53 The Committee accepts that a tourism convention will take time to develop and in the next chapter discusses the need for Australian legislation to be actively applied as far as possible to the AAT for Australian citizens and activities which are not covered by the Antarctic Treaty.

### *Support for Private Sector Development*

3.54 Active support would involve provision of various levels of facilitation or assistance to private operators. It could commence with a low level of government involvement, such as an open dialogue with tourism proponents and provision of specialised information and advice, while the industry develops at its own pace and under the influence of market forces. Extensive support services and facilities would eventually be required of the Government, but no accurate predictions of financial costs can be made at present. Depending on their nature, direct costs to the Government could be high, particularly for facilities such as airstrips and search and rescue services. The legal and administrative regime would have to be formulated and established as developments proceed.

3.55 The Committee believes that the Government should not be actively involved in any tourist proposal until such time as proper management regimes are in place. This however would not preclude the Government allowing developers to have access to data and the provision of other assistance provided this was directed towards the development of management regimes or guidelines. Such assistance should be on a user pays basis.

### *Government Owned and Operated Facilities*

3.56 DASETT stated that while the Government would not normally engage in an entrepreneurial role, it has a level of expertise and facilities that could be used to develop an Antarctic tourism industry, although without a substantial increase in resources, this would be at the expense of other activities such as research. According to DASETT such a development could be transferred to the private sector at a later date. A further legal and administrative regime would still be required to cover the presence of numbers of tourists in the AAT.

### *Integration with Government Programs*

3.57 Since there is currently no regular spare capacity on Australian chartered vessels or stations, Australian scientific programs would be likely to suffer disruption, with consequent criticism from the scientific and international community in the event that tourist activities were to be integrated with them. In addition, the scientific program's logistics and accommodations are not generally of a standard or geared to satisfy the needs of commercial tourists, apart from the 'adventure travel' sector of the market. The Committee accepts the DASETT position of not supporting these proposals.

### **Conclusions**

3.58 In the absence of relevant environmental data and proper management plans the Committee believes that the Government policy of neither actively encouraging or discouraging Antarctic tourism may have been appropriate in the past. The

Committee does not believe that this inactivity should continue particularly as it relates to the development of proper management regimes and the collection and assessment of data which would enable proper assessments to be made.

**3.59** Given the proposals for tourism which the Committee has considered, the Antarctic Division must be, and be seen to be, prepared to actively manage tourism in the AAT because it cannot prevent it happening. To fail to respond could result in environmental damage and an undermining of Australia's claim to sovereignty. If a more active response by the Antarctic Division is beyond its current resources then the Australian Government should ensure that adequate resources are provided. The Committee recommends that:

- the Australian Antarctic Division immediately commence work on the development of management regimes including environment protection and assessment procedures for the planning, assessment, administration, supervision and monitoring of tourist ventures and non-government activities in the Australian Antarctic Territory, and
- the Australian Antarctic Division be provided with the resources to bring this activity up to a level that is appropriate given the tourist ventures which are presently proposed.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that this is crucial for ensuring transparency and accountability in the organization's operations.

2. The second part of the document outlines the various methods and tools used to collect and analyze data. It highlights the need for consistent data collection procedures and the use of advanced analytical techniques to derive meaningful insights from the data.

3. The third part of the document focuses on the implementation of data-driven decision-making processes. It discusses how the collected data is used to identify trends, assess risks, and make strategic decisions that align with the organization's goals.

4. The final part of the document concludes by summarizing the key findings and recommendations. It stresses the importance of ongoing monitoring and evaluation to ensure that the data-driven approach remains effective and relevant in a rapidly changing environment.

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## 4. LEGAL AND ADMINISTRATIVE ARRANGEMENTS

### The Antarctic Treaty System

4.1 Australia sees the Antarctic Treaty System as the most effective means by which its interests in the Antarctic can be protected. The Antarctic Treaty, which came into effect in 1961, had twelve original signatories, including Australia. By mid-1988, 38 states had acceded. Of these, twenty are Antarctic Treaty Consultative Parties (ATCPs) - either original signatories to the Treaty or states which have earned this status by undertaking major scientific research programs in the Antarctic. It is the ATCPs which hold the decision-making power in the Treaty System.

4.2 The principles of the Antarctic Treaty, which accord closely with Australia's national interests in the Antarctic, can be summarised as follows:

- that Antarctica 'should forever be used exclusively for peaceful purposes and not become the scene or object of international discord';
- the prohibition of nuclear explosions and the disposal of nuclear waste, the testing of any type of weapon and measures 'of a military nature';
- freedom of scientific research and the free exchange of information on scientific programs and results; and
- a system of on-site inspections to ensure observance of the provisions of the Treaty.

4.3 The Treaty removes the potential for sovereignty disputes between the Treaty Parties in that it suspends or freezes the claims situation by declaring that 'no acts or activities taking place while the Treaty is in force shall constitute a basis for asserting, supporting or denying a claim to territorial sovereignty in Antarctica or create any rights of sovereignty in Antarctica.'

4.4 Over the years the provisions of the Treaty have been complemented by a series of agreements and conventions, principally directed at filling in gaps with respect to environmental protection and the orderly, regulated exploitation of resources. These include:

- the Agreed Measures for the Conservation of Antarctic Fauna and Flora (1964);
- the Convention for the Conservation of Antarctic Seals (1972);
- the Convention for the Conservation of Antarctic Marine Living Resources (CCAMLR) (1980); and
- the Convention on the Regulation of Antarctic Mineral Resource Activities (1988) (not yet ratified by all Consultative Party Nations).

4.5 In addition, measures have been adopted at Antarctic Treaty Consultative Meetings (ATCMs), which are held roughly every two years, to build up a more detailed code for Antarctic activities.

#### **Measures relating to Tourism and Non-Government Expeditions**

4.6 The text of the Antarctic Treaty makes no specific reference to tourism. However, measures relating to tourism and non-government expeditions (which ATCPs have always regarded as legitimate peaceful uses of Antarctica) have been adopted at virtually every ATCM since 1966. In summary, they reflect Treaty Parties' concern to ensure that:

- information about tourist and non-governmental expeditions is provided to ATCPs in advance;
- conditions for visits to Antarctic stations are known to tour operators in advance;
- scientific research activities are not disrupted;
- visitors to the Antarctic not sponsored by a Consultative Party are fully aware of the provisions of the Treaty and of any measures and accepted practices applying to Antarctic visitors;
- the environmental effects of tourism are monitored;
- the impact of tourism be concentrated by directing tours to a limited number of areas, if this is considered environmentally necessary;
- tour operators are encouraged to carry experienced guides; and
- non-government expeditions are encouraged to be self-sufficient and to carry adequate insurance.

4.7 The Department of Foreign Affairs and Trade advised that the volume of tourist activity on the Antarctic Peninsula has already revealed inadequacies in these measures. National scientific programs have been disrupted on several occasions by unannounced visits of tour groups or by the need to offer emergency assistance to non-government expeditions in difficulties. Major legal problems concerning jurisdiction and liability have not yet been addressed, nor has the complex question of claimants' interests.

4.8 The requirement that ATCPs be provided in advance with details of planned tourist activities is not very well observed. In many cases details are provided only retrospectively, in some cases not at all. The responsibility for meeting this requirement rests with the Treaty Party whose nationals are involved in the activity or from whose territory the tour/expedition sets out. The Department of Foreign Affairs and Trade considered that for reasons of safety, protection of national scientific programs and ATCPs' need for a comprehensive overview of activity in the Antarctic, it is becoming increasingly important to enforce this requirement more effectively.



## **Australia's Antarctic Legislation**

4.9 The onshore area of the AAT is just under six million square kilometres – about 42 per cent of the Antarctic continental landmass and 78 per cent of the area of Australia. Its coastline of 7500 km is approximately one-quarter of the whole continent. Australia's claim to sovereignty over the Territory is based on acts of discovery, exploration and proclamations of title by British and Australian navigators and explorers, and later continuous occupation, administration and control.

4.10 The United Kingdom transferred the area now known as the AAT to Australia by an Imperial Order-in-Council of 7 February 1933. The Order came into effect by a proclamation of the Governor-General on 24 August 1936, after passage by the Commonwealth Parliament of the *Australian Antarctic Territory Acceptance Act 1933*.

4.11 The current legal regime for the AAT exists through the provisions in the *Australian Antarctic Territory Act 1954* (AAT Act). The AAT Act provides for the application of Commonwealth laws to the AAT and also provides for the application of Australian Capital Territory (ACT) laws, insofar as they are capable of being applied there. The AAT Act provides that the only Commonwealth statutes which apply are those which are expressed to extend to the AAT. The Committee did not examine the application of ACT laws following the establishment of self government in the ACT although it may be necessary for consequential amendments to be made to the AAT Act.

4.12 The *Antarctic Treaty Act 1960* gives effect to the Antarctic Treaty in Australian law. Subsection 4(1) provides that the laws in force in the AAT do not apply to the nationals of any other Contracting Party to the Antarctic Treaty who are personnel on scientific exchanges or who have status of observers under the Treaty. This provision implements Article VIII of the Treaty, which was intended to facilitate the exercising of rights of inspection and freedom of scientific investigation by ensuring that such persons are only subject to the jurisdiction of the Contracting Party of which they are nationals.

4.13 The *Antarctic Treaty (Environment Protection) Act 1980* (ATEP Act) embodies in Australian legislation the Antarctic Treaty's Agreed Measures for the Conservation of Antarctic Flora and Fauna. The *Antarctic Seals Conservation Regulations 1986*, which were made under the ATEP Act, implement the Agreed Measures insofar as they relate to seals and the Convention for the Conservation of Antarctic Seals. The Act applies to Australian nationals in all areas of the Antarctic (south of 60° south latitude) and to foreign nationals in certain circumstances. There is a very narrow exemption from the application of Australian legislation to foreign nationals exempted under the Antarctic Treaty Act.

4.14 The ATEP Act prohibits the carrying out of a range of environmentally harmful activities unless a permit is granted, and provides penalties for non-compliance. It also provides for the designation of areas which are set aside for

special protection because of their unique ecosystems or their value to science. The Antarctic Seals Convention Regulations prohibit activities which would kill, harm or disturb seals, unless a permit is obtained and provides penalties for non-compliance.

4.15 The *Antarctic Marine Living Resources Act 1981* prohibits, without a permit, harvesting of, or any research into marine organisms in the area south of the Antarctic Convergence. This legislation also applies to Australian nationals involved in tourism projects. The Act applies to all Australian nationals and vessels, but only applies to foreign persons and vessels in the Australian fishing zone surrounding Heard Island and the McDonald Islands.

4.16 The regulatory mechanisms provided for in the *Sea Installations Act 1987* are available to control any tourist development which may be proposed for the seas in the adjacent area of the AAT. The *Environment Protection (Impact of Proposals) Act 1974* (EPIP Act), which aims to ensure that environmental matters are fully examined and taken into account in actions or decisions of the Commonwealth Government, whether alone or in association with another body or person, also has application to the AAT. The EPIP Act already has some application to proposed Australian developments in Antarctica. The Act applies only to environmentally significant proposals, the extent of the significance in each case determining the appropriate level of detail of environmental impact assessment.

4.17 Under the provisions of the *Australian Heritage Commission Act 1975*, Commonwealth Ministers and authorities are required to refer to the Australian Heritage Commission (AHC) for comment any action which will affect a place in the Register of the National Estate to a significant extent. The Act also requires these Ministers and authorities to ascertain that there are no feasible and prudent alternatives to any action which might have an adverse effect on a registered place, and if no such alternative exists, then to take all possible steps to reduce the impact of such actions. Apart from the areas in the Antarctic and sub-Antarctic already listed in the Register, which are the Mawson's Huts site at Cape Denison, the Territory of Heard Island and McDonald Islands and Macquarie Island, the AHC considers that there are other places in Antarctica which warrant investigation for the Register.

4.18 The *Environment Protection (Sea Dumping) Act 1981* applies both within and outside Australia and extends to every external territory. It applies to all Australia Flag vessels anywhere and to all vessels in Australian waters and regulates deliberate disposal of waste and loading for this purpose. It follows that the Act should be taken into account in considerations of Antarctic tourism developments.

4.19 The *Protection of the Sea (Prevention of Pollution from Ships) Act 1983* implements the International Convention for the Prevention of Pollution from Ships 1973 (MARPOL Convention) and regulates normal operational discharges from ships.

4.20 Other relevant legislation which applies to the AAT as well as Australia includes:

- the *National Parks and Wildlife Conservation Act 1975*;
- the *Wildlife Protection (Regulation of Exports and Imports) Act 1982*; and
- the *Whale Protection Act 1980*.

### **Application of Australian Legislation**

4.21 Australia is one of seven states which claim territorial sovereignty over parts of the Antarctic continent. Other states have refused to recognise those claims. The Committee was advised by DASETT that in Australian law the position is quite clear – the AAT is an Australian territory in every way and is of the same status, for instance, as Norfolk Island or Christmas Island. Therefore Australian law applies subject to relatively few qualifications. These qualifications are set out in legislation which implements international treaties particularly the Antarctic Treaty. The Antarctic Treaty provides that Australian law should not bind Antarctic observers and scientific exchange personnel in limited categories.

4.22 The Department of Foreign Affairs and Trade advised that from our claimant perspective substantial tourist activity in the AAT could serve either to strengthen or to derogate from Australian sovereignty for practical purposes depending amongst other things on the nationality of tourist operators in the AAT, the degree of effective supervision Australia exercised and the extent to which operators complied with Australian legislative/regulatory requirements. The Department sees that it is possible to envisage a fairly comprehensive system of national Australian laws (an extension of domestic laws) covering virtually all aspects of tourism activities in Antarctica. The Department concluded however that it might be unrealistic to expect that long term Australian control over all tourist activity in the AAT could gain general international acceptance or that non-Australian tourism operators in the AAT would accept Australian jurisdiction in the Territory.

4.23 The regulation of tourism under Australian law and governmental policy would be an exercise of our sovereignty over the AAT. The Department of Foreign Affairs and Trade advised that it is well accepted in international law that the enactment of legislation and regulation of activities in claimed territory amounts to assertions of sovereignty. The Department cautions that if applied with too heavy a hand particularly with regard to non-Australian tourism operators in the AAT such exercise of sovereignty could provoke a challenge from the government's of ATCPs and others which do not recognise Australia's claim.

4.24 Witnesses from the Political Science Department of the University of Tasmania advised that although the Antarctic Treaty consultative parties generally have been effective in regard to the international government of Antarctica, it seems clear that

the existing measures relating to Antarctic tourism are inadequate. They argued that Australia should press at future ATCPMs and appropriate forums for a treaty wide regulatory regime. This mechanism may be a convention as has been proposed.

4.25 The Department of Foreign Affairs believed a case can be made that a tourism convention is needed and that this is an issue which Australia might possibly explore at the next ATCPM. The Department advised however, that it should be recognised that the advocacy and eventual negotiation of such a convention would almost inevitably signal and later entail some derogation for practical purposes from Australian sovereignty rights over the AAT. The Department sees no reason for Australia not to discuss the possibility of a tourism convention if it is raised but sees no national advantages to Australia raising it unilaterally.

4.26 One expert witness on Treaty matters believed that it is only at the level of international conferences and forums that Australia insists on its claim to sovereignty.<sup>b</sup> She believed that Australia has acted in a way which has used the claim to Antarctic sovereignty as an 'ace card' to give Australia a preferred negotiating position. However in practical day to day terms there is almost no evidence 'that we do raise the flag'. She considered no single state, including Australia, through the enactment of domestic legislation within its claimed territory can ever effectively control foreign nationals. Controls over other matters such as marine living resources have been implemented through conventions. With every convention claims to sovereignty decrease and she saw no reason why a further convention relating to tourism should not be agreed. The issue was not a question of sovereignty but rather sensible regulation of the Antarctic environment.

4.27 The witness believed that some form of environmental regime in the Antarctic was imperative for the tourist industry. She believed that the Department of Foreign Affairs and Trade should be provided with extra resources to deal with this issue through the Antarctic Treaty System. She also believed that it may be wise to establish some sort of interim regime of domestic legislation to apply in the AAT.

4.28 The witnesses from the Political Science Department, University of Tasmania noted that given the pace of negotiations it may not be desirable for Australia to await a convention on Antarctic tourism. The possibility of serious damage to the Antarctic environment from tourism has now been demonstrated and it is unlikely that ATCP's would agree to impose a moratorium on further tourist activity. They believed therefore that Australia ought to proceed at the national level in regard to tourism in the AAT in a way which is consistent with a rigorous convention. By initiating the regulation of tourism in the AAT in this way, the witnesses believed that Australia would have the opportunity to reinforce its leadership role in Antarctic matters by setting an appropriate example for others to adopt as a model. The witnesses did not expect that such leadership would confer any special material benefits for Australia. Rather it would enable Australia to help shape the agenda for

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<sup>b</sup>Triggs, Dr G.D. see Transcript pp 224-260.

consultative party negotiations on this matter, therefore ensuring that the resulting regime is robust and congenial to Australia's interests. The witnesses also believed that the regulations should apply to non-treaty foreigners.

4.29 The witnesses concluded that the primary concern must remain the preservation of the continent and its surrounding waters. The destruction of global-bench mark sites would be an incalculable loss thus rigorous environmental impact statements must be required for any proposed tourist activity in the AAT. This requirement must extend to private expeditions and at least as an advisory requirement to official activity as well. Such conditions also demand that the national government vote sufficient resources both financial and staffing to monitor and enforce the regulations.

4.30 The Committee considers that it is outside its terms of reference to advise whether or not Australia's claim to sovereignty should be maintained. The Committee notes however, that it is Government policy that the claim shall be maintained. The Committee also notes that it is Government policy that Australia should work within the Antarctic Treaty System. It cannot accept however, the attitude of the Department of Foreign Affairs and Trade that 'a do nothing' approach best serves Australia's interests or the interests of protection of the Antarctic environment.

4.31 The Committee believes that the Australian Government should take the initiative within the ATPC meetings to commence negotiation for an Antarctic tourist convention. Further the Committee believes that it is essential that the Territory to which Australia lays claim also be properly protected. While recognising there may be difficulties in enforcing Australia's laws particularly as they relate to non-Australian nationals and companies it believes regulations which are sympathetic to environment protection will generally be observed by foreign nationals. The introduction of legislation would recognise and enforce the conservation strategy which the Committee has recommended for the AAT. The Committee also believes that the application of Australia's laws in a manner clearly designed for conservation purposes and in accordance with the conservation principles of the Treaty System may be considered by Treaty Parties as not asserting the claim.

4.32 Accordingly the Committee recommends that:

- the Australian Government at the next Antarctic Treaty Consultative Parties Meeting initiate discussions for the development of a tourism convention for Antarctica; and
- the Australian Government apply domestic legislation relating to environment and conservation aspects of tourism to the Australian Antarctic Territory.

## Antarctic Conservation Convention

4.33 Many witnesses noted the fragmented manner in which human activity and management of the environment is applied to Antarctica. In addition to the Treaty itself and there are a number of conventions and agreed measures covering specific areas of concern. Greenpeace and a number of other conservation organisations argue for the development of an overall conservation strategy which would include all those matters now covered in separate conventions and would include many that are not covered at all. The Government announced on 22 May that it would encourage international support for a comprehensive environmental regime for Antarctica. It recognised that the achievement of sufficient international agreement, including the necessary consensus among ATCP's to such a significant change of approach in the management of Antarctica, is unlikely to be easy. The Committee has sympathy for and would support the development of an overall Antarctic conservation strategy although it agrees that this may be difficult to achieve in the medium term.

4.34 In the short to medium term the Committee supports a tourism convention. Many of the aspects covered in this convention would, of course, form the basis of an overall conservation strategy. As noted previously the Committee has recommended the establishment of a conservation strategy for the AAT. With a commitment to the development of that strategy it would be possible for the Australian negotiators to use this as the basis for consultative meeting discussions on a conservation strategy for Antarctica as a whole.

## Antarctic Shipping Control

4.35 As noted previously there have been a number of incidents involving shipping in Antarctic and sub-Antarctic waters. While the cause of these mishaps vary, some were the result of the use of vessels which were not designed or suitable for the conditions which exist in the region. The Committee was advised that although there are international conventions which relate to ship design and operation none deal specifically with the problems of Antarctic conditions.<sup>7</sup>

4.36 Witnesses from the University of Tasmania believed that at the forthcoming ATCPM Australia should propose that a 'ships register' be developed to ensure that Antarctic tourist vessels meet the necessary safety standards. They believe that the ship's register should list all tourist ships which had applied for and received approval to operate in Antarctic waters. Ships in violation of the register would be subject to sanctions including non co-operation from official bases, adverse media publicity and prosecution by the country of registry where appropriate.

4.37 The Committee agrees that the establishment of a ship's register and agreed measures for shipping in Antarctic waters would ensure that vessels meet minimum necessary safety and operational standards.

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<sup>7</sup>Transcript p 244.

4.38 The Committee notes that existing cruise vessels do not carry, nor are they equipped to handle, helicopters. While it is unreasonable to expect existing ships to be re-designed for these facilities this is a matter which could be considered in terms of registration of new large cruise vessels.

4.39 Other matters which could be considered in addition to design and construction standards include the ability of shipping to respond to emergencies, compatibility of communication facilities with those at national scientific bases and an agreement on the obligations of cruise operators concerning environmental safeguards.

4.40 Accordingly the Committee recommends that:

**the Australian Government propose at the Antarctic Treaty Consultative Party Meeting, the establishment of a ship's register and shipping convention relating to shipping activities in Antarctic and sub-Antarctic waters.**

### **Interim Protection Measures**

4.41 Tourism is occurring and will continue to occur. Development of an AAT conservation strategy, negotiation of a tourism convention and the development of extensive domestic legislation will take time. There is a need to introduce measures that will at least provide some protection and regulate tourism until proper mechanisms are in place.

4.42 In addition, while the Committee does not accept that foreign tourist activity cannot be controlled within the AAT it would be unfortunate if Australian proposals went 'off shore' because approvals were not given by the Australian Government or because restrictions placed on Australian operators made the operation uncompetitive. Interim measures required are discussed in the following paragraphs.

### *Areas of Special Scientific Interest*

4.43 The Australian Government should progressively identify and have proclaimed areas of special scientific interest. Obviously in the absence of detailed data some areas will be so designated on the basis of subjective judgment and may be modified when more detailed information becomes available.

### *Designated Tourist Areas*

4.44 The Government should identify a small number of areas which it considers are less likely to be adversely affected by tourist activities. In the absence of firm baseline data the judgment about the ability of the area to absorb tourism pressures must necessarily be subjective. Guidelines relating to visits to these areas should be developed. The Antarctic Division indicated to the Committee that it is already possible, in a preliminary way, to identify some areas where tourist visits might be

acceptable and others where they might need to be excluded. There has also been a mechanism set up under the Antarctic Treaty whereby sites of tourist interest can be identified in the same way as sites of special scientific interest or specially protected areas. However the Committee understands that this mechanism has not been used and that no tourist sites have yet been formally identified. The Committee recommends that:

- the Australian Antarctic Division identify sites that are specifically suitable or unsuitable for tourist visits in the Australian Antarctic Territory; and
- the Australian Government seek to have these areas identified as Areas of Special Tourist Interest and Specially Protected Areas respectively under the Antarctic Treaty.

#### *Assessment of Tourist Activities*

4.45 The Committee is aware that individual proposals should not be examined in isolation as environmental deterioration is the result of cumulative impacts of numerous activities over time. This problem is compounded in Antarctica where recovery rates from any impacts is extraordinarily slow. However in the absence of detailed base line data and an overall management strategy, decisions relating to some proposals must be based on inadequate information. The Committee considers that every proposal for which Australian Government approval or assistance is required should be subject to appropriate environmental and technical assessment using the best data available. Because of the lack of data the Committee would expect that any proposal for extensive land based facilities would be rejected and approvals would only relate to ship based activities and overflights. In assessing possible impacts it would be necessary to take account of the nature of the vessels, qualifications of tour leaders, education programs for passengers and sites to be visited. In addition the impacts on those areas visited must be given priority in the development of the necessary monitoring procedures.

4.46 Accordingly the Committee recommends that:

any tourism activity proposed for the Australian Antarctic Territory which requires Australian Government approval or assistance be subject to appropriate environmental and technical assessment.

#### *National Parks Act*

4.47 Section 4 of the *National Parks and Wildlife Conservation Act 1975* clearly provides that the Act extends to the AAT. None of the submissions presented to the Committee, including those from DASETT and the Department of Foreign Affairs and Trade, discuss the possibility of using this legislation to protect the environment of the AAT. The Act provides for the protection and management of terrestrial and marine parks and reserves proclaimed under the Act and for the provision of advice and assistance concerning wildlife conservation. The Committee does not understand why the authorities concerned with the management of and policy development for



the AAT did not draw this legislation to the attention of the Committee. It is clear that if an area was considered to be at risk the area could be proclaimed as a national park or reserve under the Act and conditions of access specified. The Act provides for a plan of management to be prepared for the area as soon as possible. However in the absence of such a plan the Director of the Australian National Parks and Wildlife Service could establish conditions relating to the management of that area as is seen fit in order to ensure its proper protection.

4.48 In 1982 this Committee's predecessor recommended the examination of the feasibility of standardising legislation relating to nature conservation in the external territories by way of regulations under the Act. The Committee recommends that:

- the Australian Government examine the feasibility of declaring as national parks or reserves in accordance with the provisions of the *National Parks and Wildlife Conservation Act 1975* the areas of the Australian Antarctic Territory considered to require immediate protection; and
- the Australian Government examine the feasibility of using the legislation as a major management mechanism for conservation in the Australian Antarctic Territory.

### *Enforcement*

4.49 While the Committee received considerable evidence concerning the application of Australian legislation in the AAT it is clear that from an Australian Government point of view, Australian legislation applies to Australian nationals and all foreigners who are not specifically exempt by way of Treaty provisions. The question therefore is not whether the legislation applies, but rather its enforcement.

4.50 The Committee believes that in general Australian citizens, foreign nationals and companies will abide by regulations which are devised in order to protect the environment. However to guarantee compliance resources are needed to enable personnel to be located at the more sensitive or popular areas or alternatively to accompany various tourist cruises. Where tourism is to focus on areas near Australia's bases the duties of the base environment officer could be extended to include supervision and monitoring of tourist activities as the need arises. However where tourism activity is in areas remote from the bases such as in the Eastern Sector of the AAT, the maintenance of an official presence during tourist activities would be difficult and costly. The Committee notes that Australia's policy objectives in the AAT are presence and influence. There is currently no presence in the Eastern Sector. The Committee has no information which would enable it to assess the need for scientific programs in the Eastern Sector. It is however, in a position to assess the historic and cultural significance of the Mawson's Huts site. The Committee considers that at least in the short term a presence is justified to protect the site and maintain Australian influence in the area during the summer period when tourists are expected. The summer base could be occupied by personnel

responsible for conservation work, historic research or other appropriate activities. Additional duties would be supervising and monitoring tourism. Accordingly the Committee recommends that:

- the Australian Antarctic Division actively monitor and directly supervise tourism activity close to Australia's Antarctic bases;
- consideration be given to establishing a summer base at Commonwealth Bay, initially to undertake conservation and other activities relating to the Mawson's Huts site; and
- Australian Government officials accompany larger sea based tourist activities to monitor activities remote from Australian bases.

4.51 By far the greatest potential impacts are those which relate to the construction of airstrips and tourist accommodation on the few ice free areas. The Committee has discussed these proposals in detail in an earlier section of the report. It is clear that witnesses agree that before these proposals proceed a proper resources inventory and plan of management be developed for the AAT. Accordingly the Committee recommends that:

**until such time as a detailed conservation strategy is developed for the Australian Antarctic Territory the Australian Government not approve tourist proposals which consist of the construction of airstrips and on-shore tourist accommodation.**

## 5. CONCLUSIONS

5.1 All human activity in the AAT whether it be scientific or recreational has some environmental impact. As one witness advised there is no real difference between a scientist who is in Antarctica because of the challenge and adventure and a non-scientist on a tourist operation who is there because of the same challenge and adventure. The witness advised that scientists would have us believe that they are there purely for the reason of gaining scientific knowledge. This is one of the reasons but it was claimed they are also there because it is a exciting challenge and a wonderful adventure.

5.2 A famous Arctic explorer remarked:

The great majority of men who visit the Arctic do so because they want to, a large number do so for publicity, while it is possible that one or two have gone there for purely scientific purposes.

5.3 The first Director of the Australian National Antarctic Research Expedition remarked:

My desire to go to Antarctica was the romance of the adventure, not the desire to unravel the scientific mysteries in Antarctica.

5.4 The Committee does not accept that the Antarctic experience should be reserved for the privileged few who are involved in Antarctic research and the establishment and maintenance of support facilities or others because of their distinguished visitor status or their positions in administration. The Committee supports tourism to the Antarctic provided it is conducted within a regime which ensures proper protection of the wilderness values of the continent.

5.5 The Committee notes the views of one witness that tourism can enhance environmental management in Antarctica and provide a positive social incentive for conservation based Antarctic scientific research by making people aware of the need for that research.

5.6 Conversely Antarctic tourism does not create the economic benefits for local populations which may justify minor degradation of the local environment. However regardless of whether tourism has positive or adverse affects it is already occurring and will continue. Australia as a nation which claims sovereignty over 42 per cent of the continent should be seen as a competent and aware manager and must actively protect the Antarctic environment and Antarctic science.

5.7 The Committee cannot support the current attitude of the Antarctic Division or the Department of Foreign Affairs and Trade concerning application of Australian laws, the negotiation of a tourism convention or the priority given to

Antarctic environmental research. It is clear that Australian legislation can be applied in all but a few circumstances even to foreign nationals. The problem is not one of application but rather of enforcement.

5.8 The management regimes in place and the approach of the Australian Government may have been appropriate in the past but the Antarctic Division recognises it is now barely adequate. The Committee concludes that a new approach will need to be developed for the future. Accordingly the Committee concludes that urgent interim measures are required to ensure that current and proposed tourist activities are regulated as far as possible. These interim measures will provide some, if inadequate, protection of the environment.

5.9 The Committee also concludes that the Government should take the initiative in discussions at ATCPM's in the development of a tourism convention while at the same time applying Australian legislation in the AAT. The Committee has also identified the need for the provision of resources and a commitment to the development of a conservation strategy for the AAT which the Committee believes will strengthen Australia's negotiating position in terms of the development of a *tourism convention for Antarctica as a whole*.

**(PETER MILTON, MP)**  
**Chairman**

**May 1989**

## APPENDIX I

### List of Witnesses

ADAMSON, Prof. D.A.	Private Citizen
ARCHIBALD, Mr J.R.	Design Engineer, Antarctic Design Group, Australian Construction Services, Department of Administrative Services
BERRIER, Mr J.L.	Executive Vice President, Society Expeditions
BOURKE, Mr W.L.J.	Manager, Aeronautical Engineering, Qantas Airways Ltd
BRENT, Mr R.I.	Acting Assistant Secretary, Marine and Co-ordination Branch, Conservation Division, Department of the Arts, Sport, the Environment, Tourism and Territories
BROWN, Mr A.	First Assistant Secretary, Legal and Consular Division, Department of Foreign Affairs and Trade
BURGESS, Mr J.	Assistant Secretary, Antarctic, Refugees, Immigration and Asylum Branch, Legal and Consular Division, Department of Foreign Affairs and Trade
COLEBATCH, Dr P.R.	Deputy Secretary, Department of the Premier & Cabinet
CROSSLEY, Dr L.	Director, International Antarctic Centre, Department of the Premier and Cabinet
DYER, Dr K.F.	Senior Lecturer, Centre for Environmental Studies, Adelaide University
FARLEY, Mr M.J.	Executive Director, Hobart Metropolitan Councils Association
GOLDSWORTHY, Ms L.D.	Consultant, Greenpeace Australia

GOSBELL, Mr K. B. Deputy State Manager, Asset Services,  
Australian Construction Services, Department of  
Administrative Services

GRAHAM, Miss B. Senior Environmental Officer, Environment  
Assessment Branch, Department of Arts, Sport,  
the Environment, Tourism & Territories

GRAHAM, Ms R.A. Acting Senior Policy Officer, Antarctic Division,  
Department of Arts, Sport, Environment,  
Tourism and Territories

GRAHAM, Mr A. Director, The Wilderness Society

GRANT, Mr C.F. Assistant Chief Civil Engineer, Aerodromes and  
Roads, Australian Construction Services,  
Department of Administrative Services

HALL, Mr H.R. Lecturer, Department of Political Science and  
Institute of Antarctic and Southern Ocean  
Studies, University of Tasmania

HAY, Dr P.R. Acting Co-ordinator, Centre for Environmental  
Studies, University of Tasmania

HERR, Dr R.A. Senior Lecturer in Political Science, University  
of Tasmania

JACKA, Dr F.J. Director, Mawson Institute for Antarctic  
Research, University of Adelaide

KRIWOKEN, Mr L.K. PhD Student, Centre for Environmental Studies,  
University of Tasmania

LOVERING, Prof. J.F. Chairman, Antarctic Science Advisory  
Committee, C/- Antarctic Division

MANNING, Mr J. Manager, Special Services Unit, Australian  
Surveying and Land Information Group,  
Department of Administrative Services

McALISTER, Mr C.A. Deputy Secretary, Department of Administrative  
Services

MILLER, Mr G.K. Director, Antarctic Section, Legal and Consular  
Division, Department of Foreign Affairs and  
Trade

MONCUR, Mr R.L. Acting Director, Antarctic Division, Department of the Arts, Sport, the Environment, Tourism and Territories

MORGAN, Mr B. Senior Civil Engineer, Australian Construction Services, Victorian Region, Department of Administrative Services

MORGAN, Mr W.L. Special Projects Officer, Department of the Premier and Cabinet

ODGERS, Mr B. Director, Procedures and Agreements, Environment Assessment Branch, Department of Arts, Sport, the Environment, Tourism and Territories

PEARSE, Mr R.J. Assistant Director, Resources and Wildlife, Department of Lands, Parks and Wildlife

POWELL, Dr D.L. Executive Secretary, Commission for the Conservation of Antarctic Marine Living Resources

RALFS, Mr K. Managing Director, Australian Antarctic Adventures Pty Ltd

ROHDE, Mr H.F. Managing Partner, Helmut Rohde and Partners

SCOTT, Mr R.A. Representative, Australian Conservation Foundation

SMITH, Ms M. Director, Sales and Marketing Australia and New Zealand, Society Expeditions

SMITH, Mr R.H. Chairman, Australian Geographic Society

STRETEN, Dr N.A. Deputy Director, Services, Bureau of Meteorology

TOOMER, Mr G.P. Assistant Director, Economic Policy and Infrastructure Section, Tourism Policy Branch, Department of the Arts, Sport, the Environment, Tourism and Territories

TRIGGS, Dr G.D. Private Citizen

WALTER, Mr R. Director, Policy and Regulation Section,  
Domestic Aviation Division, Department of  
Transport and Communications

WESTLAKE, Mr D.W. Antarctic Campaign Officer, Australian  
Conservation Foundation

WHALLAM, Prof. N.D. Acting Professor of Botany, Department of  
Botany and Zoology, Monash University

WILLIAMS, Mr W.H. Private Citizen

WRIGHT, Mr J. Assistant General Manager, Operations, Civil  
Aviation Authority, Department of Transport  
and Communications



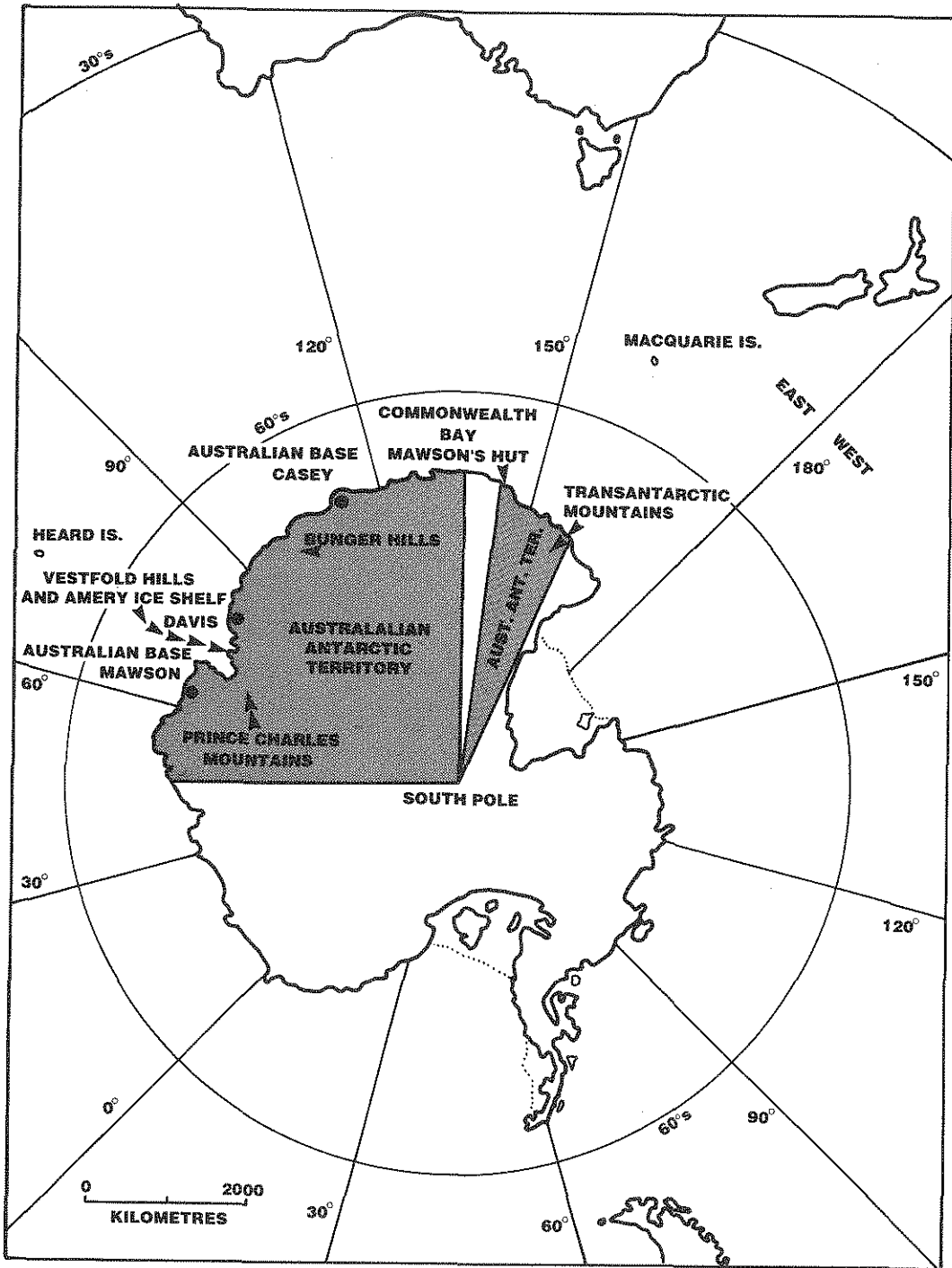
## APPENDIX 2

### List of Submissions

A.N.A.R.E. Club Inc  
Antarctic Science Advisory Committee, TAS  
Australian Antarctic Adventures Pty Ltd  
Australian Conservation Foundation  
Australian Entomological Society  
Australian Heritage Commission  
Australian Littoral Society Inc  
Australian Tourism Industry Association Ltd  
Bounty Voyages Pty Ltd  
Commission for the Conservation of Antarctic Marine Living Resources  
Conservation Council of Western Australia Inc  
CSIRO  
Cumberland Bird Observers Club  
Department of Administrative Services  
Department of the Arts, Sport, the Environment, Tourism & Territories  
Department of Foreign Affairs and Trade  
Department of Transport and Communications  
Greenpeace Australia Ltd  
Heatwole, Harold, University of New England  
Helmut Rohde and Partners  
Herr, R.A. and Hall, H.R., University of Tasmania  
Hobart Metropolitan Councils Association  
Kirkwood, J.M., Monash University  
Langford, NSW  
M A J Williams, Monash University  
Mawson Institute for Antarctic Research  
Peak Environmental Enterprises  
Polar Schiffahrts - Consulting GmbH  
Punginier, Oliver  
Society Expeditions  
Tasmanian Government  
Tasmanian Visitor Corporation  
The Antarctic Society of Australia  
The Wilderness Society  
University of Adelaide  
University of Tasmania  
Wace, Dr N., Australian National University  
Whitehead, M.D., NSW  
Williams, M.A.J., Monash University  
Williams, Warwick  
Woehler, E.J., TAS



APPENDIX 3



POTENTIAL TOURIST LOCATIONS IN THE AUSTRALIAN ANTARCTIC TERRITORY.



**ANTARCTIC SCIENCE ADVISORY COMMITTEE RECOMMENDATIONS**

**Environment**

**RECOMMENDATION 11:**

A conservation strategy is urgently required to develop a sound program of environmental management by Australia in Antarctica.

**RECOMMENDATION 12:**

A dedicated environmental research program, directed at environmental management and global environmental problems, should be established. Opportunities provided by other research programs for this purpose should be identified and used.

**RECOMMENDATION 13:**

Research should be encouraged to investigate questions relating to the application of Australian legislation and environmental management.

**RECOMMENDATION 14:**

Research into environmental practices should be encouraged with a view to providing information on codes of environmental conduct in Antarctica.

**RECOMMENDATION 15:**

An Antarctic environmental studies program, which strikes a balance between long-term and immediate response research, should be developed.

Source: Antarctic Science Advisory Committee, Report on Australia's Antarctic Science Program.

