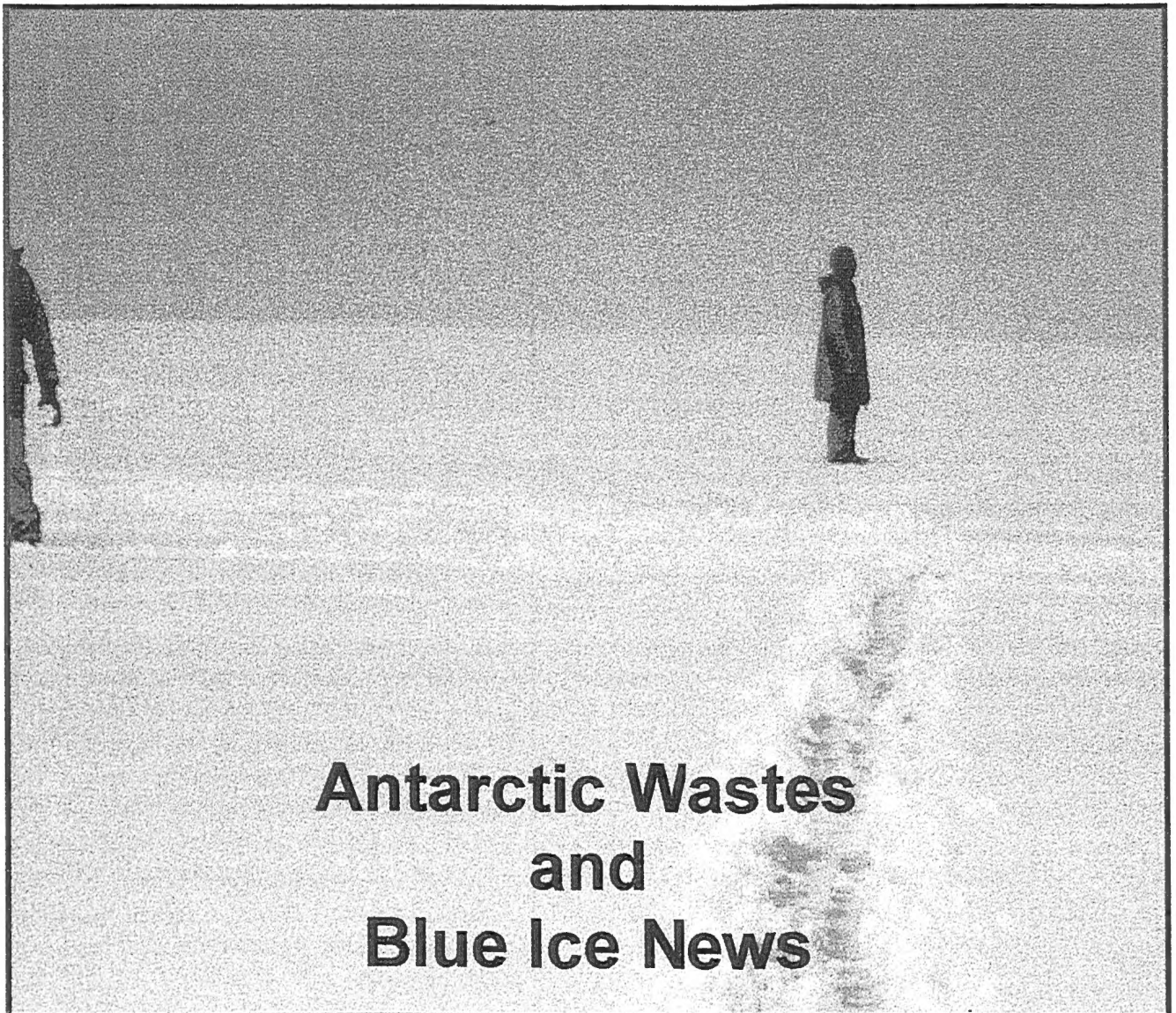


# ICE BREAKER

No.15

June 2001



**Antarctic Wastes  
and  
Blue Ice News**

ICE BREAKER is published independently by Malcolm Wallhead and Associates as a quarterly magazine covering Tasmanian Polar and Southern Ocean related topics.

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## EDITORIAL

One of the reasons Malcolm and I began ICE BREAKER was to fill the gap which appeared when all other Tasmanian-based Antarctic magazines and newsletters ceased production. While the advent of the Australian Antarctic Division's new magazine AUSTRALIAN ANTARCTIC means that ICE BREAKER has lost its position as 'Tasmania's only dedicated polar magazine', both magazines play an important role in drawing people's attention to the wide range of Antarctic science projects and business activities in which Tasmanians feature significantly.

This issue includes a major Antarctic air link article by Dr Jo Jacka (AAD), whose willingness to keep providing ICE BREAKER with progress reports is much appreciated. The successful air link operator should be announced before September edition. Also in this issue, Collex's waste management report provides an excellent example of how a Tasmanian business can work co-operatively with the AAD to set an internationally recognisable standard for assessing and implementing waste recovery practices in Antarctica which comply with the Madrid Protocol environmental guidelines. With more Tasmanian businesses joining the Tasmanian Polar Network each year, the opportunities to set examples such as these are unlimited.

As you can see, ICE BREAKER is undergoing change, and is now well advanced from Issue No. 1 of December 1997. This development is due to the support and encouragement from the Tasmanian Polar Network Chairman and TPN Committee members, as well as to a lot of complex technical work by my son Robert. I am very thankful for all this help, and look forward to receiving comments on these changes.

*Anthea Wallhead*



## FROM THE PREMIER'S DESK

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In writing for this edition of the *Ice Breaker* magazine, I would like to focus my attention on some key areas of the State's relationship with Antarctica.

Firstly I would like to express my congratulations and gratitude to all of those companies and individuals who contributed to a most successful 2000-2001 Antarctic season. In excess of 25 Antarctic vessels visited the Port of Hobart, providing a significant impact to the economy of the State. In addition to resupplying Antarctic vessels the hospitality and warmth showed to our Antarctic visitors by the Tasmanian community continues to promote our State in a positive light to these expeditioners. Early indications are that the upcoming season will be a particularly busy one. At this stage at least eight Antarctic cruise vessels are being scheduled to depart or visit Hobart.

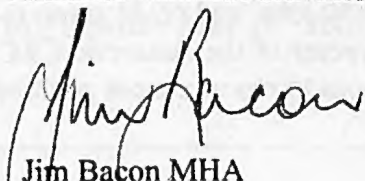
The second key area of the State's involvement is the implementation of a range of Antarctic initiatives from my Government. I will shortly be launching the Tasmanian State Government's long awaited policy on the Antarctic, Sub-Antarctic and the Southern Ocean. This comprehensive document has been finalised following widespread consultations with major stakeholders. The document focuses on nine main areas that Tasmania can have an impact on Antarctic issues and provides implementation strategies to achieve outcomes. I have approved for additional resources to be provided to the Office of Antarctic Affairs to assist in the speedy implementation of this policy document. My Government firmly acknowledges the lead-role of the Australian Antarctic Division in the formulation and management of Australia's Antarctic program. I would like to express my thanks for their valuable input in the formulation of this document and hope that the State can continue to work in close partnership with the Division in the advancement of our State as an important international Antarctic gateway.

The provision of an airlink between the Australian mainland and Antarctica is another important issue for the State. I commend the efforts of the Tasmanian Polar Network and the Office of Antarctic Affairs in their endeavours to ensure that the departure point from Australia is Tasmania. I have recently received a personal briefing from the Australian Antarctic Division on the proposed airlink which has served to reinforce my resolve that Tasmania is the only logical point of departure. Indeed my recent comments in the media have reinforced this position. Tasmania has a long and proud Antarctic heritage and in terms of Antarctic research, science and logistical support, it is a key centre in a world context. To contemplate any other part of Australia in this project would be totally inappropriate.

My Government has also provided funding to the University of Tasmania to support a scholarship in engineering science through the Institute of Antarctic and Southern Ocean Studies. This is the first year of the project and will enable a graduate student to undertake study in the field of alternate energy. This may possibly lead to a commercial application for the State.

Whilst many perceive the winter season as a quieter time for business activity, Antarctic organisations have been particularly busy in attracting national and international conferences to the State. These conferences include the 40<sup>th</sup> Anniversary of the bringing into force the Antarctic Treaty, Astro Physics at Dome C both in June, a most important celebration, the 20<sup>th</sup> Anniversary of CCAMLR Conference in the State in October and later in November the Australian Academy of Technological Sciences and Engineering (ATSE) will be holding their national conference in Hobart.

I would like to take this opportunity to reaffirm that my Government will continue to initiate and support Tasmanian Antarctic activities and to promote Tasmanian Antarctic expertise in a global context.

  
Jim Bacon MHA  
*Premier*  
*Minister for State Development*



## A MESSAGE FOR ICE BREAKER READERS

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It is now a matter of public record that I will be contesting the Federal seat of Franklin at the next Federal election, which I anticipate will be held at the end of this year. I am fully committed to winning this seat but win, lose or draw I would like to maintain a continuing role with the Polar Network.

Over the years I have made many good friends and a network of senior Antarctic decision-makers. Those contacts are in both the Government and corporate sector and I certainly would not want to walk away from that association. To the contrary, I believe I can continue to offer the Polar Network valuable support and I give you my commitment to do precisely that.

Predicting my political future is an exciting situation, having stood successfully for eight elections I am committed to winning the ninth.

I have certainly advised the Prime Minister of my passion for the Antarctic Affairs area and I would hope that I may be able to further that passion in the Federal Parliament.

The importance of the Antarctic to Hobart, Tasmania should never be underestimated and we all need to keep selling the message of its importance.

Peter Hodgman

**Shadow Minister for Antarctic Affairs**

### **ANTARCTIC CRC FUTURE IN DOUBT**

Uncertainty still surrounds the future of the Antarctic CRC at the University of Tasmania. This is despite the CRC being one of the largest institutes in the world researching global warming and critical factors in climate change. Its vital international role as an Antarctic and Southern Ocean reference centre is being threatened by the Australian Government's silence regarding the availability of third round funding, and finance from the previous round runs out in 2003. Apparently, guidelines for this third round will be announced soon by Senator Nick Minchin, the Federal Minister for Science, but staff at the Antarctic CRC are now preparing to close down the facilities. Already, the chief bio-geochemist has left to take up a new position in Bermuda and no post-graduates were accepted this year.

Every seven years, the Government provides \$3.5 million of the \$10 million required to run the Antarctic CRC, but until the guidelines for funding are available, the CRC does not know whether it will be eligible for further funds. Plans for developing research projects over their usual 3 or 4 year timespan have been scrapped because of this uncertainty. Continuity of research projects such as climate change is of vital importance, e.g. the gradual examination of an ice core from its earliest samples through to the present ones. Any break in funding means an irreplaceable break in research. The imminent closure of the Antarctic CRC will mean a loss of at least 50 jobs, and could mean re-starting the research in new premises at a later date, something the Director of the Antarctic CRC, Professor Garth Paltridge, does not want to happen. ICE BREAKER hopes to report a more positive outlook next issue.



## TPN CHAIRMAN'S MESSAGE

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We are now entering into the winter quarter and the shortest day is rapidly approaching when our thoughts turn to the sun 'coming back' to our end of the globe.

This year's shortest day will be noted not only by the traditional ANARE celebrations but also by the "Antarctic Past, Present, Future" Conference to be held at the University of Tasmania on 22/6/01 followed by a celebratory dinner that evening.

It is anticipated that overseas representatives from several Antarctic Treaty countries will be present. Federal Minister for Foreign Affairs, Alexander Downer and the Minister for Environment Senator Robert Hill have also been invited to deliver keynote addresses. The Premier will be speaking at the celebratory dinner on Tasmania's Antarctic connections. This conference and dinner are a 'must' for TPN Members as they are in many ways a symbol of our principal objective in putting Tasmania more and more on the Antarctic map. We should be delighted at the signal this all represents by the Federal Government, the Premier and AAD and be prepared to endorse it by our support and attendance.

Last summer's media coverage of Antarctic activities by the TPN through the engagement of a media consultant was, in my view, a tremendous success with many more Tasmanians noting Antarctic associations centred in our state. Perhaps not a lot more happened last summer but a lot more was certainly noticed. This is a very important part of us raising Tasmania's Antarctic profile as we must take Tasmanians along with us.

The TPN is about to receive the final Consultant's Report focussing on trade opportunities in goods and services in all countries with an interest in Antarctica, particularly those for whom Hobart is geographically attractive as the point of embarkation and disembarkation for their activities in Antarctica. The Report has identified where to look to understand how the various countries are working in Antarctica to then 'make opportunities for Tasmania happen'. It will assist the TPN to look wider than the AAD which, it has to be said, could not do a lot more to help Tasmanians get a piece of the Aussie action in Antarctica, within the bounds of probity and free trade. I encourage TPN Members to read the Kitt Report with their longsighted spectacles to seek ways in which we all may get a bit more of the international action for our state and citizens.

Finally, a further development of interest coming out of the Governor's Forums is the developing focus on Tourism activities associated with Antarctica. The State Government's tourism people are working hard to find the opportunities and synergies and I am optimistic of some positive outcomes ahead.

Bill Lawson, May 18<sup>th</sup> 2001.

# **OFFICE OF ANTARCTIC AFFAIRS: NEWS UPDATE**

## **Director of the Office of Antarctic Affairs**

This position was advertised in early May and attracted candidates from interstate and overseas. Interviews are to be conducted in late May and an appointment made prior to the end of June.

## **Antarctic Marketing Strategy**

The Antarctic Tourism Group, which is coordinated through the OAA and comprises members from Tourism Tasmania, Hobart City Council, University of Tasmania and the Australian Antarctic Division, has called for expressions of interest for the development of the consolidated marketing plan. This plan will promote Tasmania's historical and contemporary Antarctic connections to both Tasmanians and visitors to our island. Applications are currently being assessed. The successful company will commence the project in early June. TPN members will be consulted as part of the process.

## **Antarctic and Southern Ocean Policy Document**

The office has been working closely with other State Government agencies to finalise this policy document. The policy provides a comprehensive framework on which Antarctic issues that affect the State can be managed. The document is a result of widespread consultation with key stakeholders during last year. The policy will be launched in late June by the Premier. More detailed information will appear in the next edition of Ice Breaker.

## **Proposed Antarctic Airlink**

The office continues to brief individuals and organisations on the implications for the State of this proposed new service. A pleasing aspect of the process to-date has been the unanimous support from all sides and levels of the political arena.

## **Mid Winter Events**

Recently a small working group was established to explore the possibility of conducting a range of mid winter events to celebrate the longest Antarctic night - 21 June. It was felt that this event had the potential to develop into something major during winter in forthcoming years and that 2001 should serve as a teaser to heighten public awareness. Further information on this year's proposed events will be forwarded to all TPN members closer to the proposed date. If anyone has other suggestions, please call this office.

## **Tasmanian Government Antarctic Scholarship**

OAA has finalised arrangements with the University of Tasmania for the provision of the first year's funding for a scholarship into Antarctic research. The scholarship is under the supervision and direction of IASOS and the Australian Antarctic Division and will initially focus investigating alternate energy issues.

## **Conferences and Seminars**

The office is currently assisting with the following Antarctic related conferences:

- |                   |  |
|-------------------|--|
| 22.06.01          | 40 <sup>th</sup> Anniversary - Entry into Force of Antarctic Treaty  |
| 28.06.01-29.06.01 | 3 <sup>rd</sup> International Workshop on Astrophysics on Dome C   |
| 22.10.01-02.11.01 | 20 <sup>th</sup> Anniversary of CCAMLR in Hobart   |
| 19.11.01-21.11.01 | Australian Academy of Technological Sciences and Engineering (ATSE)<br>Looking South - Managing Technology, Opportunities and Global Environment |
| 14.04.02-18.04.02 | Australian Antarctic Division - 3 <sup>rd</sup> International Conference on Contaminants in Freezing Ground.                                     |

*Bill Bleathman, OAA.*

# POLAR NEWS

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## THE ROYAL BOTANICAL GARDENS SUB-ANTARCTIC PLANT HOUSE

The Sub-Antarctic Plant House has been well received by visitors to the Royal Botanical Gardens. Statistics generated from surveys within the Gardens illustrate that approximately one in every two people will visit the Sub-Antarctic Plant House - or half of all our visitors.

This makes it one of the more popular attractions at the Gardens. Comments from these visitors are very positive. People love the cold mist and the sub-Antarctic-like conditions they experience. Visitors to the house comment on the panoramic mural by John Lendis and also enjoy the variety of plant life on display.

Schools and tour groups have gained a valuable understanding of the Sub-Antarctic environment and flora through guided sessions with commentary by Gardens staff. The house has also received widespread publicity, featuring on the ABC's Gardening Australia and in a number of newspapers and magazines.

(Thanks to Mark Fountain, RTBG for this report.)

According to Elaine Reeves, 'Taste' journalist in The Mercury newspaper, the Sub-Antarctic Plant House contains one of the 'flavours of Tasmania'. The *stilbocarpa polaris* or Macquarie Island Cabbage growing in the plant house was one of several plants chosen by Elaine to show to visiting Israeli chef, Moshe Basson, whose restaurant in Jerusalem is named 'Eucalyptus'.

## PENGUIN PROTECTION

A request from the Tasmanian Conservation Trust for a store of knitted jackets to clothe penguins after they have been cleaned of oil spilled from sunken ships has met with an overwhelming response. The project has attracted international attention and anyone wishing to contribute can find the pattern on:

[www.tct.org.au](http://www.tct.org.au)

## PORT CHANGE

The General Manager of Hobart Ports Corporation, Chris Drinkwater, resigned in April to take up a consultancy position. However, he will continue to work 1½ days a week for HPC for the next 3 years to assist with the development of existing port activities and new business. Under Chris' vigorous management, the Port of Hobart doubled cruise ship visits per season and tripled the number of passengers. Nineteen cruise ships are already booked to visit Hobart next summer. The new General Manager, Dick Knoop, has had extensive maritime experience which will be beneficial to the continuation of HPC's new business directions.

## TOGETHER ALONE CANCELLED

Ocean Frontiers' plans to hold an around-the-world yacht race starting in Hobart this summer have had to be scrapped due to lack of participants, despite earlier strong interest and bookings for yachts. The race director, Don McIntyre, was disappointed the event could not take place, and does not intend to postpone it. However, Ocean Frontiers' voyages out of Hobart to Antarctica on the SIR HUBERT WILKINS last year were very successful, and plans are already underway for next season.

## NEW MODEL TEST BASIN

The Australian Maritime College in Launceston, Tasmania recently opened a \$1 million, 1 metre deep pool with advanced features such as a wave maker. The pool measures 35m x 12m and will enable a variety of model ships to be tested, for instance, for their stability in rough seas. Models of other water-related facilities such as fish cages and oil and gas structures can also be assessed before full-scale construction is carried out. The test basin is the latest addition to the AMC's hi-tech facilities, which make the college a world leader in maritime education and research.

## COLLEX ASSESSES WASTE MANAGEMENT IN ANTARCTICA

Collex Tasmania has recently signed a contract with the Australian Antarctic Division (AAD) to manage waste and recyclables that return from Antarctic bases. Australia is a signatory to an international treaty, the Antarctic Treaty, which requires waste and recyclables to be returned from Antarctica for re-use, treatment and disposal. The treaty also also requires that contaminated sites, including old landfills, be rehabilitated and waste removed from Antarctica – provided environmental detriment is not caused or exacerbated by its removal.

Australia has been pro-active in meeting the requirements of the treaty so that Australia leads the way for the management of waste in the Antarctic region.

For further improvements to be realised, AAD acknowledged the need to foster stronger links with the waste management industry. So, during negotiations with the Division, it was agreed that if further waste management efficiencies were to be implemented, Collex would need to appreciate the current systems and constraints at an Antarctic base. Also, visiting a base would allow for preliminary assessment of contaminated sites.

So, on January 24, 2000, Tasmania's John Brennan (Manager – Environment and Safety), headed south on the P&O polar ship AURORA AUSTRALIS for a three week round trip to visit Casey Base and Macquarie Island. The voyage normally takes seven days to Casey but John reported by e-mail that progress was hampered by 15-20 metre waves and a 55-60 knot storm (reported to be a class 4 cyclone).

“Sleeping was made very difficult and I was tossed out of my bunk on several occasions,” reported John. Fortunately John did not suffer from sea sickness though some of the other expeditioners did. The AURORA AUSTRALIS reached the continent on February 3 and the first supplies and expeditioners went ashore the following day.

Re-supply at a base is an extremely busy time and John had to fit his tasks in and around the schedule of personnel caught up in these activities. The areas examined by John included packaging into the base and the main store; sewage treatment (sludge removal); incinerator facility; and collection, sorting, packing, transport and disposal of recyclables, rubbish and burnables.

“Considering the limited resources, expeditioners put a huge effort to segregate waste and recyclables and return waste to Australia. It is commendable indeed,” said John. The visit also involved interviews with relevant expeditioners including: the chef; plumbers; carpenters; station leader; senior scientist; engineers and scientists. John is confident that a number of improvements can be made to complement the current system.

There are two major contaminated sites at/near Casey. The first is the old Casey tip which is located in Thala Valley close by and the second is an abandoned American/Australian base (Wilkes) located approximately 3 kms north of Casey on Clark Peninsula. AAD has been investigating options for the removal of waste from these sites for a number of years.

John was able to visit the Wilkes site, which was established in the 1950s by the United States then handed to Australia, who operated there until 1968.

AAD has undertaken studies to assess levels of contaminants entering Newcomb Bay and have identified more than a thousand 205 litre drums which contain traces and various volumes of contaminants such as fuels and hydrocarbons. Work is also being undertaken to determine the possibility of on-site remediation of hydrocarbon-contaminated soils. Because the summer melt was only average, John was unable to view the greatest extent of hard rubbish which has been burnt in piles around Wilkes. However, previous reports reveal that the contamination is extensive.

Continued next page >



AAD has made a firm commitment to investigate clean up of both sites and are keen to involve expertise of a company such as Collex. The opportunity to be involved in such an operation is rare and if Collex can work with the AAD to find a viable and environmentally sound solution for the clean up then this may lead to Collex becoming involved with other nations in Antarctica.

John describes his visit to Antarctica as 'the next best thing to going to another planet.'

"Antarctica is pristine and should be kept that way," he said. "Provided the extraction of rubbish and contaminants does not create a significant risk to the environment it should be removed and the respective sites should be rehabilitated to fit in with the surrounds.

"To become involved in a project with AAD is exciting and, best of all, Collex will certainly be contributing to sustainability on a global scale as the Antarctic continent is recognised as the powerhouse for the planet."

Unfortunately, on the trip back via Macquarie Island the ship was under pressure to meet a strict timetable and no one was able to land at the island. Macquarie has a fascinating history and has been impacted by man from the days of seal hunting. Macquarie Island is part of Tasmania and is approximately 30 kms long and 5 kms wide and juts out into the ocean. One project of interest on the island is the cat eradication program. Cats were introduced to the island in the early sealing days. The population has been responsible for the extinction of several species on the island. Numbers are estimated to be below 50 but a concerted effort is still required to track them down and control numbers. "Maybe I'll get there next time – if there is one!" said John.

Discussions between Collex and AAD will continue over coming months to establish methods to improve existing waste management and also address involvement in the clean up of contaminated sites.

"The staff of AAD and expeditioners were all friendly and very helpful. I am most grateful to have had the opportunity to undertake this work and I am grateful for the assistance offered by Elizabeth Kerry, Bruce Hull, Tom Maggs, John Brooks, Vlad Simic, Marilyn Boydell, Cal Young, John Webb, Rick Morris, Simon Cash, Tony Molineaux and of course the crew of the AURORA AUSTRALIS.

(Text & photo reprinted by kind permission from 'Collex Hippo News', John Brennan & Michael Reardon.)



# POLAR NEWS

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## IN THE PUBLIC EYE

- **Judy Hennessey** of 'Aurora Designs', a small business manufacturing polar clothing, was included in the Brand Tasmania Newsletter in February, 2001. Issue 5.
- **Bill Bleathman**, Acting Director of the Office of Antarctic Affairs, and **Pat Deprez**, from the Department of Primary Industry, Water and Environment, appeared on ABCTV's Stateline programme in March 2001 and discussed Antarctic Waste Management.
- The TPN advertised their involvement in Antarctic Science as part of the Science Week feature in The Mercury last month.
- **AAD** staff who prepared an online research application and assessment system have won a national technology productivity award.
- Last year, **Fahan School** students, Fflur Higgs and Susan Williams prepared a website describing shipwrecks around Macquarie Island for the Tasmanian Parks and Wildlife Service. This year, despite strong competition from websites entered by students in 63 other countries, Fflur and Susan won the gold prize at the Cyberfair 2001 Awards in San Diego, California. The website can be viewed at: [www.parks.tas.gov.au/fahan-mi-shipwrecks/index.htm](http://www.parks.tas.gov.au/fahan-mi-shipwrecks/index.htm)

## ANTARCTIC MAPS ONLINE

For a selection of Antarctic maps:

[www-aadc.aad.gov.au/gis/maps](http://www-aadc.aad.gov.au/gis/maps)

Digital and interactive maps:

[www-aadc.aad.gov.au/gis/areamap/](http://www-aadc.aad.gov.au/gis/areamap/)

Sketch maps & details of hard copy maps:

[www-aadc.aad.gov.au/mapping/aadmaps.asp](http://www-aadc.aad.gov.au/mapping/aadmaps.asp)

For a list of AUSLIG Map Sales Centres through which hard copy maps can be purchased:

[www.auslig.gov.au/products/maps/mpretail.htm](http://www.auslig.gov.au/products/maps/mpretail.htm)

## ANTARCTIC TREATY CONFERENCE

On June 22, 2001, 'The Antarctic Past Present and Future' Conference will be held at the University of Tasmania. The conference will be hosted by the Institute of Antarctic and Southern Ocean Studies at the University, with the co-operation from the Antarctic CRC, Australian Antarctic Division, Department of Foreign Affairs and the Office of Antarctic Affairs.

The conference aims to examine the significance of the Antarctic Treaty in 'the management of present challenges and future issues confronting Antarctica and the Southern Ocean'.

Representatives from all 44 Antarctic Treaty Parties have been invited to attend, and the Governor of Tasmania, Sir Guy Green, will formally open the one day conference and host an evening reception and dinner. The after-dinner speaker will be the Tasmanian Premier and Minister for Antarctic Affairs, Mr Jim Bacon.

The 44 nations who currently agree to the Antarctic Treaty include 27 Consultative Parties, namely: -

Argentina, Australia, Belgium, Brazil, Bulgaria, Chile, China, Ecuador, Finland, France, Germany, India, Italy, Japan, Republic of Korea, Netherlands, New Zealand, Norway, Peru, Poland, Russia, South Africa, Spain, Sweden, UK, Uruguay and USA.

The 17 Non-consultative Parties are: -

Austria, Canada, Colombia, Cuba, the Czech Republic, Denmark, Greece, Guatemala, Hungary, Democratic Republic of Korea, Papua New Guinea, Romania, Slovak Republic, Switzerland, Turkey, Ukraine and Venezuela.

# Antarctic Division Air Transport Implementation Project

During the past six months, a Familiarization Trip to Antarctica was conducted as part of the selection of the company or companies to provide an Australia – Antarctica air transport system. Each of the short listed companies was invited to participate in the Familiarization Visit by including up to two representatives.

The aim of the trip was to familiarize potential air link providers with these locations, and the operations and infrastructure of the present Australian Antarctic program. The intent was that this would assist them to make informed submissions later this year in response to the Request for Proposals. Five representatives from three of the six short listed companies took part in the trip. In addition a representative of Environment Australia's (EA) Environment Assessment Branch, Con Voutas, participated to assist determination of any environmental impact statement that may be required under the EPBC Act. The visit was led by Jo Jacka and Phillip Tracey (AAD Air Transport Implementation).

It was initially intended that the Familiarization Trip be carried out by air. However a market testing exercise and negotiations with a potential provider indicated insufficient benefit given the cost and logistic difficulties. ANARE Voyage 5 for the 2000/2001 season using *M.V. Polar Bird* was scheduled to visit Casey at an acceptable time, and for sufficient duration to allow visits to the proposed runways in the Casey region. To enable a visit to Bunger Hills, arrangements were made to divert *M.V. Polar Bird* on the return voyage, and to fly the group from the ship to the ice runway using two AS350BA Helicopters scheduled to be on board. It was recognized from the outset that extensive sea ice might render a visit to Bunger Hills impossible given large inter-seasonal variability apparent from available ice charts.

## Objectives of the visit

The objectives of the visit were to

- provide short listed providers the opportunity to examine the proposed operating environment
- provide short listed providers and the EA representative an insight into AAD's current ship, air and station operations
- facilitate an inspection of Casey Station infrastructure
- inspect proposed compressed snow runway sites near Casey station~ 12 km inland of Casey.
- inspect the proposed Apfel Glacier runway in the Bunger Hills area~ 400 km west of Casey.
- obtain survey data (GPS and aerial photography) of the proposed Apfel Glacier runway and surrounds
- carry out environmental sampling in the Bunger Hills area for determination of baseline conditions
- provide the EA representative with an opportunity to inspect locations likely to be affected by aircraft operations and familiarization with the general environment
- provide an opportunity to inspect sites to assist in management of environmental assessment preparation
- provide an opportunity to conduct a preliminary technical site inspection of the Upper Petersen Glacier(UPG) site ~33 km south-west of Casey, including inspection of the surface conditions, and coring for glaciological analysis.

## The voyage

Familiarization Trip participants were booked to arrive in Hobart two days prior to V5 departure. All five company representatives participating in the trip, plus one representative from a company not participating in the voyage attended the introductory sessions. Departure was delayed on

Continued next page >

several occasions and over a period of several weeks, because *M.V. Polar Bird* had been beset in sea ice on the previous voyage. Finally however, departure was set for 30 December, 2000. Issue of field clothing and equipment, and introductions from AAD Acting Director and Assistant Director Engineering and Operations were carried out on December 28 and 29. Jo Jacka and Phillip Tracey provided introductory briefings.

|          |  |
|----------|--|
| 30/12/00 | Depart Hobart  |
| 05/01/01 | Enter pack ice (pm)  |
| 07/01/01 | Unable to proceed  |
| 09/01/01 | Helicopter accident on ship, loss of 1 helicopter, cancellation of Bunger Hills exercise |
| 22/01/01 | Exit pack ice  |
| 23/01/01 | Enter pack ice   |
| 27/01/01 | Through pack ice   |
| 28/01/01 | Arrival at Casey (am), tour of station (pm)  |
| 29/01/01 | Visit to Compressed Snow Runway site in over-snow vehicle                                |
| 30/01/01 | Visit to UPG site in over-snow vehicle   |
| 31/01/01 | Helicopter flight over Casey region and approaches to both proposed runway sites         |
| 01/02/01 | Departed Casey   |
| 08/02/01 | Arrived Hobart   |

### Voyage timetable

Experience indicates ice conditions were heavier than usual for the time of year that the voyage occurred. Ice conditions in the region of Bunger Hills also appeared severe, based on limited satellite imagery available on board ship. Jacka and Tracey conducted briefings to participants on initially entering the pack ice, and in anticipation of arrival at Casey. Briefings included an introduction to the proposed runway locations, issues relating to operations, environment issues, general description of the areas involved, and an opportunity to view maps, publications and other resources. While at Casey participants were able to observe station re-supply, including cargo and fuel transfer. The tour of Casey station included buildings, facilities, and some items of plant. Participants viewed the meteorological facilities at Casey, and met with Bureau of Meteorology observers.

The loss of one helicopter during the voyage led to the visit to the Bunger Hills area being cancelled since a single helicopter flying from the ship to Bunger Hills would have no Search and Rescue (SAR) backup in case of emergency.

### Site visits

#### Casey Compressed Snow Runway

Participants inspected the proposed compressed snow runway site, 12 km east (inland) of Casey station on 29/01/01. This site is close to (slightly up hill from) the area of past compressed snow runway trials. A full survey of the runway was conducted during the 2000/01 season just prior to the visit. The group travelled from Casey to the site in a Hagglands tracked over-snow vehicle, a journey of about 90 minutes.

Weather conditions during the visit were calm but with near complete whiteout, and snowfall. These conditions prevented views of the area, but an inspection of the snow surface and general lie of the land was possible. The proposed landing strip had been marked during the survey with a series of bamboo canes that served as a visual guide to the orientation and slope of the surface.

#### Upper Petersen Glacier (UPG)

The Bureau of Meteorology has proposed the Upper Petersen Glacier site, about 33km south-west of Casey as being subject to more favourable weather conditions than the Casey Compressed Snow

site. The site had not previously been visited with air operations in mind. The inspection was therefore preliminary, and aimed at determining snow and ice conditions and surface slope.

The area considered the most likely as suitable for runway use was oriented along a broad ridge feature upstream of the glacier. At the first location examined, there was blue (glacial) ice under a shallow (< 10 cm) layer of snow. The glacial ice was generally flat with some very small-scale surface roughness (< 2cm). Hard ice continued to a depth of greater than 1m (the maximum drilled). Ice samples were collected from the drill hole for analysis in Australia. This analysis has subsequently indicated polycrystalline ice typical of glacial ice, rather than re-frozen melt water. The site is at an elevation of 550 m above sea level and therefore is expected to be colder than a site at sea level, and there was no sign at the site of melt water. On this basis, the surface appears to have potential for a groomed glacial ice landing strip. Examination further along the ridgeline showed some sections with deeper snow, including locations with snow to 1.5m (the maximum drilled), and also further sections of glacial ice. This may be indicative of undulations in the glacial ice surface, or of differential accumulation along the ridgeline. A short time was spent examining the surface in different directions, but a sufficient expanse of generally flat ice under a consistent snow layer was not found.

### Helicopter Flight

A helicopter flight over the Casey region and the approach paths to the Casey Compressed Snow and UPG runway sites was provided to each participant. This enabled them to see the locations of these sites in relation to Casey, the coastal region and the inland plateau. It also afforded the opportunity to see approach areas for both sites. Conditions for the flights included partial cloud cover causing loss of surface definition and horizon over the plateau. Close approach to the runway sites was not possible.

### Weather concerns

Weather issues were identified by all participants in the Familiarization Trip as being of considerable (greatest) concern. Concern was expressed about the availability of meteorological data (in particular cloud ceiling and visibility data) and accuracy of forecasting. A report prepared by the Bureau of Meteorology, '*Some Meteorological Considerations in Flying to and from the Antarctic*', was provided to all six short listed companies immediately V5 returned to Australia. The AAD is very aware of the importance of high quality meteorological data and forecasting, and meetings with the Bureau of Meteorology since returning to Australia are addressing these problems. New automatic weather stations (AWS) are now under construction for placement at locations recommended by the Bureau of Meteorology. Others are planned for 2002.

### The Current Situation

Most of our time since returning from the Familiarization Trip has been concerned with Risk and Cost-Benefit Analyses, and preparation of documentation for the Request for Proposals. This is taking a little longer than anticipated and it is now expected to be ready to be sent out around the end of May. This will place the project about a month behind schedule, however this is not expected to delay the total project. Examination of satellite imagery of the UPG blue ice area has not provided a definitive answer on whether we should proceed with construction of an airfield in this area - more on this in our next report.

*Dr. Jo Jacka, AAD*

The competition between Albany, Western Australia and Hobart, Tasmania to be Australia's Antarctic air link city is now attracting more political and media attention, as the announcement of the successful operator draws near. While both Albany and Hobart are similar air distances from Casey Station, Albany lacks other Antarctic facilities, so transferring scientists and equipment from Hobart to Albany before take-off would greatly add to AAD's costs for expeditions.

## Review of Commercial Antarctic Related Opportunities for Tasmania

At the June Meeting of the Tasmanian Polar Network, Mr John Kitt presented the report on Commercial Antarctic Related Opportunities for Tasmania. The report reviewed the Antarctic activities of Japan, Korea, China, Russia, Italy, France and Australia and made a number of proposals for further action by the Tasmanian Polar Network.

The report emphasises that all the elements are currently available to establish Tasmania as a major international Antarctic gateway and centre of expertise.

- The location of the Australian Antarctic Division in Tasmania and its position and reputation as the second largest national Antarctic Expedition cannot be under-estimated.
- The Cooperative Research Centre for Antarctica and the Southern Ocean and its member organisations, many located in Tasmania, adds substantial research and academic stature to Tasmania's position.
- The strongly supportive State Government in Tasmania, the bi-partisan relationship with the State opposition on Antarctic matters coupled with a passionate Vice-Regal interest in Antarctic affairs adds a dimension of support to Tasmania's Antarctic involvement rarely experienced in other fields.
- The interest and energy of the Tasmanian Polar Network and its members in promoting Tasmania and its Antarctic links is an essential element in the mix.

Added to these elements is the fact that major developments in Antarctic matters are imminent with the likelihood of air services being established to support the Australian Expeditions and the continuing interest and growth in Antarctic tourism and private expeditions.

In relation to the national programs reviewed, the report suggests that the Tasmanian Polar Network should initiate action to develop relationships with Japan, China and Russia. While the nature of the information available on many Antarctic Expeditions tends to be reports of activities undertaken rather than information on plans for developments in future years, these three seem to offer greatest potential at present for Tasmania.

The Report also draws our attention to the need to continue to develop strong relationships with the Australian Antarctic Division and with the French Expeditions.

In relation to the Australian Antarctic Division, the Report points out that it is almost self evident that if the Tasmanian Polar Network is to be successful in developing commercial relationships with national expeditions, those relationships will be built upon existing or developing relationships between those expeditions and the Australian Antarctic Division. It suggests that both the Tasmanian Polar Network and the Office of Antarctic Affairs should consider a strategic plan to focus activities and complement collaborative arrangements with the Australian Antarctic Division and other national expeditions.

In relation to the proposed air service for the Australian Antarctic Expedition, the Report questions whether the existence of a serviceable air strip and support service near to an Australian Antarctic base will generate a press for expanded Antarctic tourism from Australia? If so, does Tasmania have any particular advantage as a departure point for tourist activities or could Melbourne, Adelaide or Sydney be serious competitors for this "spin-off" business.

Continued next page >

The Tasmanian Polar Network might seek the assistance of the Tasmanian Government in developing a strategic approach to the proposed Antarctic air service to ensure that, in the event of the air service proceeding, any attendant benefits or services are maximised by Tasmania.

An issue that appeared in the information on many national programs was that of dealing with wastes on Antarctic bases. Some nations are beginning this work, other are yet to begin. The removal and processing of wastes may constitute a commercial opportunity.

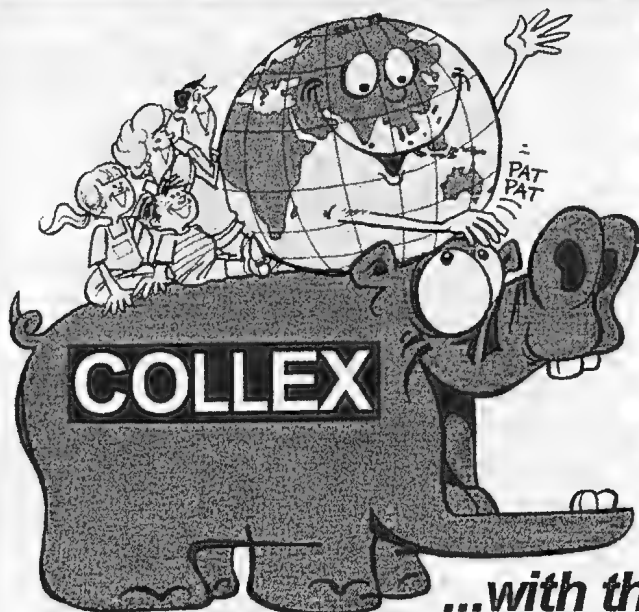
The Tasmanian Polar Network is encouraged to explore this issue with the Tasmanian Office of Antarctic Affairs with the objective of supporting a commercial operation in waste removal from Antarctic bases.

This report certainly provides the Tasmanian Polar Network with proposals for future direction and encouragement to develop strong relationships which should lead to commercial benefit for all members.

Members can obtain copies of the full report from the Officer of Antarctic Affairs or on the Tasmanian Polar Network website ([www.tpn.aq](http://www.tpn.aq))

*John Kitt*

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# POLAR NEWS

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## SASCO VOYAGES OFF

It was welcome news when the South Australia Shipping Company established a Hobart office in July 2000, and proposed to operate Ross Sea tourist cruises from December last year. However, their office closed early in 2001 after arrangements to purchase the OLGA SADOVSKAYA from Russia, or her sister ship LYUBOV ORLOVA, were unsuccessful. SASCO's Managing Director, John Webb, was unavailable for comment.

## TPN AT UNI SCIENCE SHOW

Included in Science Week activities and exhibitions at the University of Tasmania this year were Antarctic Science and Tasmanian Polar Network display boards. Visiting school students were able to don protective cold climate clothing worn in Antarctica, view a video and discuss Antarctic activities and careers with Institute of Antarctic and Southern Ocean Studies (IASOS) students and lecturers in attendance.



## SCOTT IN FOCUS

- Robert Falcon Scott's cabin chair on the TERRA NOVA was passed in at auction in

Launceston Tasmania last month at \$120,000. The chair, made of English oak with a cast-iron base, was used as an office chair in the early 1900s and given to a New Zealand friend in 1910. According to the auctioneer, 2 overseas bidders were interested in purchasing the chair.

- A 91-year-old can of cocoa 'souvenired' from Scott's hut by US Navy veteran Ken Meyer in the 1950s, will be returned to its original home in Antarctica. Mr Meyer returned the can, still in good condition, to the NZ based Antarctic Heritage Trust, after reading about efforts being made to preserve expeditioners' huts and their original contents.

## GREENPEACE FAREWELL

Co-founder of Greenpeace, David McTaggart, died in Italy on March 23, 2001, aged 68. Greenpeace was founded in 1971 to unify a growing number of protesters against organisations polluting the environment. After overseeing numerous campaigns the international environmental organisation staged against issues such as nuclear testing in the Pacific, whaling in the Southern Ocean and environmental damage in Antarctica, McTaggart retired as Chairman in 1991, but retained his involvement in Greenpeace's activities until his death.

## CULL CONTINUES

Despite continuing international protests against such activities, Japanese whalers spent another 5 months in Antarctic waters, catching 440 minke whales, before returning home.

## HEARD'S BIRDS

Researchers recently returned from Heard Island have reported a dramatic increase in the number of King Penguins, observed to be in excess of 25,000 pairs. Cormorant numbers have also increased to 1200 pairs, compared with only 3 breeding pairs in 1947.



## **BI-POLAR DRAMA**

Filming is underway of **Shackleton**, a major two-part drama about the famous British explorer and his Imperial Trans-Antarctic Expedition of 1914-16. Starring Kenneth Branagh, Matt Day, Lorcan Cranitch, Kevin McNally, Nicholas Rowe, Mark McGann, Phoebe Nichols and Embeth Davidtz, the story begins with Shackleton's attempts to raise funds for the South Pole expedition, gives insights into his complex personal life in London before departure, and ends on the frozen wastes of Antarctica where Shackleton and his men survived for two years before being rescued. The film was written and directed by award-winning director Charles Sturridge and is produced by Selwyn Roberts for Firstsight Films. Funding has been provided by Channel 4 Television, UK, and the Arts and Entertainment Network, USA.

While all filming will take place in the UK, or off Iceland and on the Greenland coast, what makes this film of interest to Tasmanian readers is twofold – Poles Apart and POLAR BIRD.

Environmental Consultants Poles Apart, whose Director, Lorne Kriwoken, is a Tasmanian Polar Network member, are providing a field team of eleven staff, including a doctor and paramedic, to support the shoot on POLAR BIRD and in the ice pack off Greenland. This team has been assembled by Lorne's business partner, David Rootes, who is based in Cambridge, UK.

POLAR BIRD, a frequent visitor to Tasmania as support vessel for the Australian Antarctic Division's shipping programme, is one of two ships involved in the production. Nearly one hundred crew will be accommodated on this ship for the crossing to the east coast of Greenland, where filming will take place in the mountains around Tasiilaq. POLAR BIRD will also provide an escort through the pack ice for the second ship, KASKELOT, a sailing ship previously used for supplying East Greenland's settlements. Three small replica boats will also be used in the filming of Shackleton and his men's journey over the frozen Weddell Sea to Elephant Island. Filming should be finished by September this year, in time for POLAR BIRD's return to Tasmania for the forthcoming Antarctic season.

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# POLAR NEWS

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## MARITIME MUSICIANS

Ryo Nonoyama, of Tokyo, Japan, has created the first 'Marine Animals Band'. Two female walruses, Moko and Piko, have been trained to play alpenhorns. while 3 belugas (whales) sing in chorus. The quintet rehearsed at the Hakkeijima Sea Paradise aquarium in Yokohama, and began their performance season in March 2001.

## MORE RESCUE FLIGHTS

- In April this year, two Twin Otter, eight seater propeller planes successfully flew to USA's Scott-Amundsen base at the South Pole to pick up Ronald Shemensky, a doctor ill with pancreatitis. Despite delays caused by high winds, and near-total darkness, a 9 ½ hour flight was made from Rothera Station on the coast to the US base and back to collect the doctor, who was then flown to Punta Arenas in Chile.

Kenn Borek Air, the Canadian airline company which carried out the rescue, is one of the companies applying to operate the future air link from Australia to Antarctica, the contractor for which is due to be announced soon.

- In a separate recovery flight in the same month, 11 staff at McMurdo Base were flown out, for a variety of reasons, by a New Zealand Air Force Hercules aircraft. Landing and take-off were completed within one hour and the plane's engines were kept running to prevent them freezing during refuelling. The staff were flown to Christchurch NZ – a 6000 km, 15 hour round trip.

## MACQUARIE ISLAND CONCERN

Data loggers on about 80 elephant seals on Macquarie Island will remain on the seals this year. The Australian Antarctic Division had earlier applied to retrieve the loggers, an

operation which normally involves capturing and anaesthetising the seals before removal.

However, the application was withdrawn when information was requested by the Tasmanian Government regarding the procedure, which must now ensure no long term disturbance or discomfort to the seals. This follows last year's publicity about the results of seal branding with hot irons, which left some seals permanently disfigured.

## PIRATES CAUGHT IN 'TEEBONE'

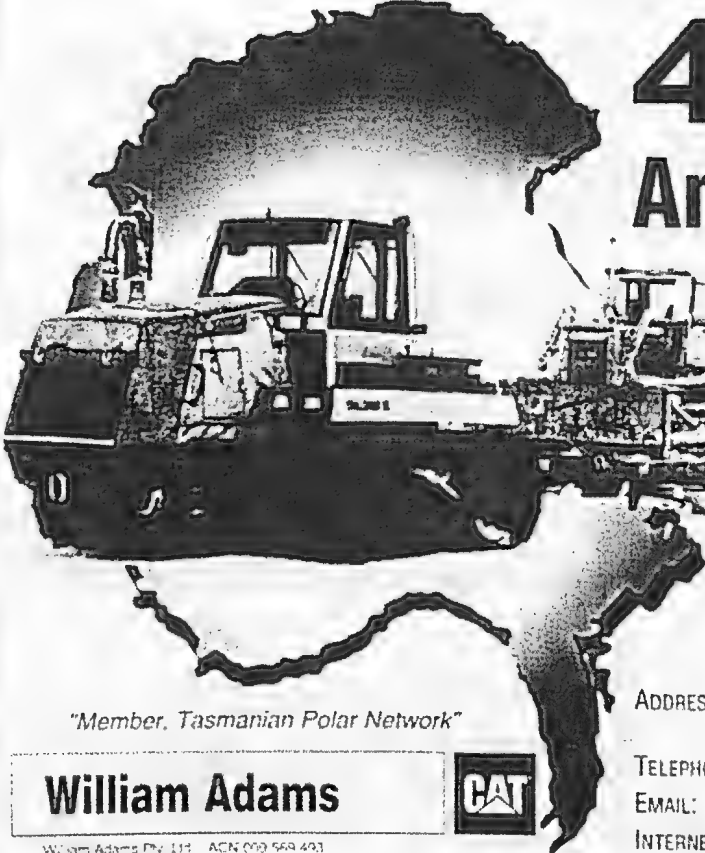
After a 4,100 km chase, Patagonian toothfish pirates were caught and their ship arrested on April 12 this year. An Australian fisheries patrol vessel, SOUTHERN SUPPORTER, followed the Togo-registered vessel SOUTH TOMI from the time it was spotted near Heard Island on March 29, until it neared Cape Town, South Africa.

Ignoring requests to set course to Fremantle, W.A., the trawler attempted to flee, but permission was granted by the South African President Thabo Mbeki for a specially chosen Australian SAS team to embark on the the South African Navy survey ship PROTEA to meet and board the SOUTH TOMI.

The trawler was then escorted by SOUTHERN SUPPORTER back to Fremantle, where the ship's master and Spanish owners face fines in excess of \$100,000 and penalties of over \$1 million to retrieve the vessel. Ninety tonnes of illegally caught Patagonian toothfish were found in the holds.

Operation Teebone was set up specifically to patrol and report on any illegal fishing operations within an 8000 km area of the Southern Ocean, and this was the first combined boarding operation involving Australian military personnel and a foreign defence force.

For other information on the monitoring of illegal fishing, see [www.isofish.org.au](http://www.isofish.org.au)




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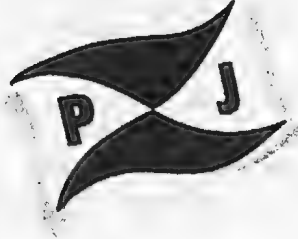
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# POLAR PUBLICATIONS

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## BOOKS:

**‘Tasmania’s Offshore Islands: Seabirds and other natural features’** by Nigel Brothers, David Pemberton, Helen Pryor and Vanessa Halley. Published by Tasmanian Museum & Art Gallery. Price: \$49.95.

Describes 280 of the 335 islands off Tasmania’s coast, with maps and details of the topography and wildlife of each.

**‘British Polar Exploration and Research – A Historial and Medallic Record with biographies 1818-1999’** by Lieut. Colonel Neville W. Poulson in collaboration with Rear Admiral J.A.L. Myres CB. Published by Savannah.

Lists the citations of every polar medal issued, including those to Australians, for both Arctic and Antarctic expeditioners. Biographical details of the recipients, and brief accounts of expeditions and voyages are also included.

**‘The Pole Seekers’** by Meredith Hooper. Published by Hodder (Silver Series).

This novel is based on the author’s experiences in Antarctica and her research of earlier explorers.

**‘Time on Ice’ – A Winter Voyage to Antarctica’** by Deborah Shapiro and Rolf Bjelke. Published by International Marine (McGraw Hill). Price: \$35.55 at Book City.

Based on the authors’ 3 year, 28,000 mile voyage by sailboat in Antarctic waters.

**‘Handbook of Australian, New Zealand and Antarctic Birds. Volume 5 Tyrant-flycatchers to Chats’** by P.J. Higgins, J.M. Peter and W.K. Steele. Published by Oxford University Press. Price: \$385.

Continues the series of books providing comprehensive details of birds in the area described, including means of identification, their habitat and distribution, as well as sonograms depicting their calls.

## MAGAZINES

**‘Australian Antarctic Magazine – Autumn 2001’** edited by Elizabeth Haywood. Published by the Australian Antarctic Division.

This new magazine will be published twice yearly by the AAD, and ‘seeks to inform the Australian and international Antarctic community about the activities of the Australian Antarctic programme. This first edition contains 64 pages describing a wide range of projects, also available online at [www.aad.gov.au/information/magazine](http://www.aad.gov.au/information/magazine)

## STAMPS

Issued on May 17, 2001 by Australia Post to mark the 100 years since Australians wintered in Antarctica, and 50 years of the ANARE Club, a sheet of 20 stamps depicting Antarctic Discovery, Exploration, Settlement & Science and Technology & Communication. The sheet is also printed with descriptive text on the back of each stamp.



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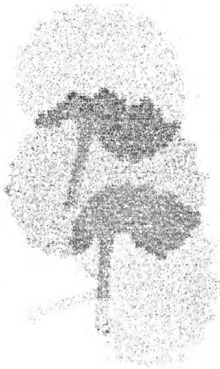
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# POLAR CALENDAR

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|       |           |       |   |
|-------|-----------|-------|---|
| 4-8   | June      | 2001  | Fourth International Symposium on Remote Sensing in Glaciology. Maryland, USA. Contact <a href="http://www.spri.cam.uk/igs/home.htm">www.spri.cam.uk/igs/home.htm</a> |
| ?     | June      | 2001  | Launch of 'Classroom Antarctica' on AAD website.  |
| 5     | June      | 2001  | World Environment Day.  |
| 6     | June      | 2001  | Tasmanian Polar Network Meeting. 11.00a.m. Hotel Grand Chancellor. <b>Hobart, Tasmania.</b>   |
| 21    | June      | 2001  | Midwinter's Day Celebrations, Antarctica. Antarctic Medal Awards.   |
| 22    | June      | 2001  | 'The Antarctic Past Present and Future' Conference. University of Tasmania. <b>Hobart, Tas.</b>   |
| 22    | June      | 2001  | 40 <sup>th</sup> Anniversary of the Antarctic Treaty coming into force, 1 <sup>st</sup> Antarctic Treaty Consultative Meeting in Canberra, ACT. <b>Hobart, Tas.</b>   |
| 27-30 | June      | 2001  | IAATO Annual Meeting, Washington, DC, USA. Contact <a href="mailto:iaato@iaato.org">iaato@iaato.org</a>   |
| 28-29 | June      | 2001  | 3 <sup>rd</sup> International Workshop on Astrophysics in Dome C. <b>Hobart, Tas.</b>   |
| 1     | July      | 2001  | Australian Antarctic Station Leaders for 2002 commence duty.  |
| 9-20  | July      | 2001  | Antarctic Treaty Consultative Meeting XXIV. St. Petersburg, Russia.   |
| 17-21 | July      | 2001  | Antarctic Geodesy Symposium 2001. St. Petersburg, Russia. Contact <a href="mailto:aerogeodezia@actor.ru">aerogeodezia@actor.ru</a>                                    |
| ?     | August    | 2001  | Contract begins for chosen Hobart/Antarctica airlink operator.  |
| 19-23 | August    | 2001  | International Symposium on Ice Cores & Climate. Kangerlussag, Greenland. Contact <a href="http://www.spri.cam.ac.uk/igs/home.htm">www.spri.cam.ac.uk/igs/home.htm</a> |
| 20-24 | August    | 2001  | COMNAP XIII (inc. Sub-committee on Tourism & Non-Government Operations). Amsterdam, The Netherlands.  |
| 27    | August-   | 2001  | SCAR VIII International Biology Symposium. Amsterdam, The   |
| 1     | September | 2001  | Netherlands. Contact <a href="mailto:vu_conference@dienst.vu.nl">vu_conference@dienst.vu.nl</a>   |
| ?     | September | 2001  | Issue 2 of Australian Antarctic magazine published.   |
| ?     | September | 2001  | 20 <sup>th</sup> Anniversary celebrations for the Australian Antarctic Division moving from Melbourne, Victoria to Kingston, Tasmania.                                |
| 7     | October   | 2001  | Marine Discovery Centre Open Day. <b>Woodbridge, Tasmania.</b>  |
| 22    | October   | 2001- |   |
| 2     | November  | 2001  | 20 <sup>th</sup> Anniversary of CCAMLR meetings. <b>Hobart, Tasmania.</b>   |
| 19-21 | November  | 2001  | Australian Academy of Technology, Science and Engineering Symposium – Looking South – Managing Technology, Opportunities and Global Environment. <b>Hobart, Tas.</b>  |
| 10    | December  | 2001  | 90 <sup>th</sup> Anniversary of departure from Hobart of Douglas Mawson's Australasian Antarctic expedition.  |



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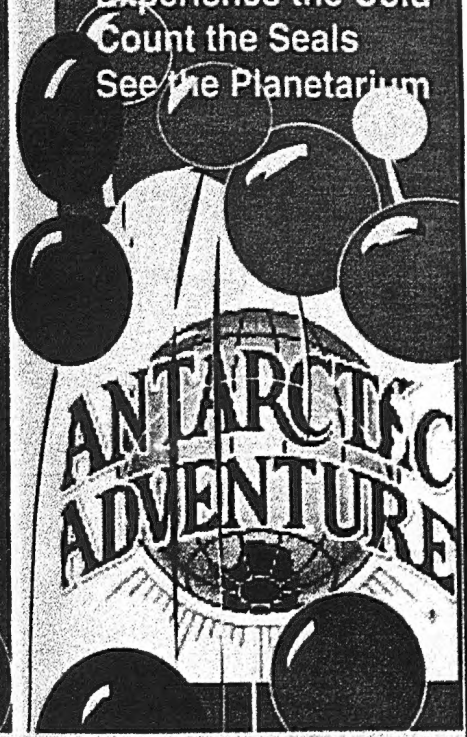
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# ANTARCTIC AND SOUTHERN OCEAN SHIPPING CALENDAR

|       |          |       |                        |                          |
|-------|----------|-------|------------------------|--------------------------|
| 30    | June     | 2001  | SOUTHERN SURVEYOR      | Arrives Hobart.          |
| 1     | October  | 2001  | AURORA AUSTRALIS V2    | Departs Hobart.          |
| 11-16 | October  | 2001  | AURORA AUSTRALIS V2    | Casey Base.              |
| 21    | October  | 2001  | L'ASTROLABE            | Departs Hobart.          |
| 26-29 | October  | 2001  | AURORA AUSTRALIS V2    | Arrives, departs Hobart. |
| 1     | November | 2001- | .                      |                          |
| 8     | December | 2001  | AURORA AUSTRALIS V3    | Marine Science.          |
| 9-10  | November | 2001  | L'ASTROLABE            | Arrives, departs Hobart. |
| 10-12 | November | 2001  | POLAR BIRD V4          | Arrives, departs Hobart. |
| 20-24 | November | 2001  | KAPITAN KHLEBNIKOV     | Arrives, departs Hobart  |
| 25-29 | November | 2001  | POLAR BIRD V4          | Davis Base.              |
| 30    | November | 2001- |                        |                          |
| 4     | December | 2001  | POLAR BIRD V4          | Sansom Island.           |
| 3     | December | 2001  | REGAL PRINCESS         | Arrives Hobart.          |
| 4-5   | December | 2001  | L'ASTROLABE            | Arrives, departs Hobart  |
| 9-13  | December | 2001  | POLAR BIRD V4          | Mawson Base.             |
| 10-12 | December | 2001  | GEO ARCTIC             | Arrives, departs Hobart  |
| 15-17 | December | 2001  | AURORA AUSTRALIS V3    | Arrives, departs Hobart. |
| 19-26 | December | 2001  | KAPITAN KHLEBNIKOV     | Arrives, departs Hobart  |
| 23    | December | 2001  | REGAL PRINCESS         | Arrives Hobart.          |
| 25    | December | 2001  | SILVER SHADOW          | Arrives Hobart.          |
| 26-27 | December | 2001  | ITALICA                | Arrives, departs Hobart  |
| 26    | December | 2001- |                        |                          |
| 1     | January  | 2002  | AURORA AUSTRALIS V5    | Casey Base               |
| 27-30 | December | 2001  | POLAR BIRD V4          | Arrives, departs Hobart. |
| 28-29 | December | 2001  | L'ASTROLABE            | Arrives, departs Hobart  |
| 31    | December | 2001  | REGAL PRINCESS         | Arrives Hobart.          |
| 7     | January  | 2002  | NORWEGIAN WIND         | Arrives Hobart.          |
| 10-12 | January  | 2002  | AURORA AUSTRALIS V5-V7 | Arrives, departs Hobart. |
| 11-14 | January  | 2002  | POLAR BIRD V6          | Davis Base               |
| 18-23 | January  | 2002  | POLAR BIRD V6          | Mawson Station.          |