Antarctica New Zealand

Annual Report 2004/2005

Fractured ice on Lake Vanda © C. Rudge / antpic1ff 37

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Cover Image: Lichen encrusted moss, Cape Geology © Paul Broady / anzpc K053 93/94 11

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Chairman's Report

The 2004/2005 Antarctic season was of unusual significance for New Zealand, marked as it was by some unique events and visitors. This in turn created a particularly demanding time for our staff and organisation.

The 25th anniversary of the civilian airline crash on Mt Erebus on 28 November 1979 in which 257 people lost their lives is an event that lives on in the memories of most New Zealanders. This was the single largest peacetime human tragedy in our country's history and indeed in the history of Antarctica.

Above: Mt Erebus
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The tragedy was commemorated on 28 November 2004 in a short service led by the Very Reverend Peter Beck, Dean of ChristChurch Cathedral, at the memorial cross close to the crash site. Chief Executive Lou Sanson and I were amongst the small group who flew in by helicopter to the remote location and laid wreaths. Deeply moving to us that morning was sighting wreckage of the Air New Zealand DC10. Later that morning a service was held at Scott Base in which Sir Edmund Hillary participated.

Sir Edmund Hillary's return to the ice in November marked the run up to the 50th anniversary of the establishment of Scott Base in January 1957 and the Trans Antarctic Expedition of the following year. Sir Ed, as he is popularly known, formally unveiled a plaque to mark the new $4.7m Hillary Field Centre, which will have been completed over the 2005 winter.

He was a very visible presence during his time at Scott Base and as Patron of the Antarctic Heritage Trust was able to visit the historic huts on Ross Island, as well as the McMurdo Dry Valleys for the first time. Particular highlights were his account of polar exploration during the 1957/58 Trans Antarctic Expedition to 600 young Americans at McMurdo Station which concluded with a standing ovation. Another highlight was a celebratory dinner held in his honour in his original expedition hut, still sited at Scott Base.

Right: Sir Ed Hillary utilising the specially made "Hillary Step"
© The Dominion Post / anzpc
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During this very busy period we were also delighted to be able to host the Board of the Italian Antarctic Programme, en route to Mario Zucchelli Base at Terra Nova Bay to our north. They were accompanied by the Italian Ambassador to New Zealand, Liana Marolla.

Our 2004 Invited Visitor Programme included the Chair of the Foundation for Research Science and Technology (FRST), Dame Margaret Bazley and the Chief Executive, Murray Bain, together with the Chief Executive of Land Information New Zealand (LINZ), Brendan Boyle.

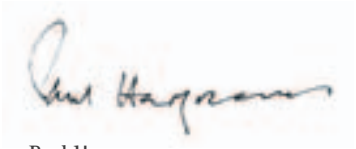
Their visit was of particular importance to us as Antarctica New Zealand's major focus is on supporting an effective New Zealand science programme on the ice. FRST apart from the universities, are the major funders of New Zealand science. The Board is strongly committed to raising the quality and relevance of the science that is undertaken in Antarctica. To that end an external review of all science projects carried out over the past five years is about to be undertaken. Support of science in Antarctica is highly demanding of resources and we must have a clear view of its outcomes.

The visit by the LINZ Chief Executive was significant, given not only the long history of terrestrial mapping undertaken by New Zealand in Antarctica, but also the more recent move to hydrographic survey work being commissioned by LINZ in Antarctic waters. This aligns with the shifts in international scientific interest into the marine dimension as evidenced by support for the major Census of Antarctic Marine Life (CAML) as the lead international science project for the International Polar Year in 2007/08.

We continue to have an excellent working relationship and co-operation with the United States Antarctic Program and the Italian Programme who also work out of Christchurch. This past season has been particularly difficult and demanding. Re-supply of the United States and New Zealand bases on Ross Island was placed at risk by the ice conditions in McMurdo Sound throwing great operational difficulties and additional costs onto the US Program. Ironically while the iceberg B15A that had earlier carved from the Ross Ice Shelf was preventing the sea ice breakout in McMurdo Sound and impeding ship passage, the early melt of the sea ice runway brought our RNZAF flight programme to a premature conclusion.

We are working closely with our United States partners to find a way through these logistical difficulties that are now being exacerbated by rising fuel costs. The forthcoming season promises to be no easier. We have been forcibly reminded that we are operating in one of the most hostile environments on earth.

Finally I would like to personally thank Antarctica New Zealand's management and staff for all of their support and hard work over the last season. Their dedication and commitment continues to shine through and is greatly appreciated by all members of the Board.



Paul Hargreaves
Chairman

Above: Antarctica New Zealand Board and Hon Phil Goff in Antarctica
Photo courtesy of The Dominion Post

Left: Hon Phil Goff paying tribute to Sir Edmund Hillary at dinner
Photo courtesy of Emma Reid


Pressure ridges
Antarctica New Zealand Pictorial Collection / antpc | 8 C

CEO's Report

As I look back over all of Antarctica New Zealand's achievements during the last 12 months, it has been a year characterised by a high number of challenges and some equally significant celebrations.

The challenges are a salutary reminder that this is the very essence of working in Antarctica. The continent is both barren and beautiful but people can only survive there with good external support and the ability to adapt to changing circumstances is critical.

The programme faced a variety of logistics challenges during the 2004/2005 season - warm weather that affected sea ice conditions, the loss of a satellite link and the presence of the B15A iceberg. Despite this I am delighted to report it was another excellent season. Approximately 373 people were transported to Antarctica and 69 events were supported in and around Scott Base and further afield. This includes 34 New Zealand science events, three Malaysian events and one Australian event.

The support provided to us by the United States and Italian Antarctic Programmes and New Zealand Defence Force was again excellent and remains integral to the success of the New Zealand Antarctic programme. These long and enduring relationships are fundamental to everything that we do on the Ice.

New Zealand continues to play a major part in the scientific and environmental research carried out in the Ross Sea region. In August 2004, Antarctica New Zealand released our science strategy *New Zealand Science in Antarctica and the Southern Ocean (2004-2009)*, which guides New Zealand's Antarctic and Southern Ocean research for the next five years.

Science highlights from the season include extraction of over 300 metres of ice core which helps us better understand the local past climate of the McMurdo Sound area, and a second season at Cape Hallett for the Latitudinal Gradient Project looking at the effect of climate on high latitude ecosystems.

The organisation again led the clean up of Cape Hallett with strong co-operation from the United States and Italians. Another five tonnes of material were collected bringing the total amount collected there to 27 tonnes. The use of alternative energy (wind and solar) for a large field camp was also established at Cape Hallett.

Above: CEO Lou Sanson welcoming Sir Edmund Hillary back to Antarctica
Photo courtesy of Emma Reid

In April 2005 the first meeting of the Dry Valleys ASMA Management Group was held. Antarctica New Zealand joined the United States and Italy to share information and agree on a range of actions to improve management practices in the Dry Valleys. Back home, a major environmental focus for the programme remains waste management and improved waste data collection and handling procedures. I was proud that Antarctica New Zealand was awarded Gold Level accreditation under the EnviroMark accreditation scheme that resulted from an audit of Scott Base undertaken by Landcare Research.

Antarctica New Zealand continues to play a significant international role under the leadership of Trevor Hughes, Head of the Antarctic Policy Unit at the Ministry of Foreign Affairs and Trade. Particular highlights at this year's meeting of the Antarctic Treaty's Committee for Environmental Protection in Stockholm was the chairing by Don Mackay (MFAT) of the Environmental Protocol on liability for environmental damage, New Zealand's input on state of the environment reporting and monitoring, along with the development of an environmental domains approach to classifying Antarctic protected areas.

Above: Order of Service for on ice Erebus anniversary commemorations

We also commemorated a number of milestones including the return to Scott Base of Sir Edmund Hillary to officially name the new heated field centre and participate in a TVNZ documentary. It was a pleasure to welcome him back to the base he helped establish almost 50 years ago. The Hillary Field Centre consolidates field support and stores in a single area and improves our ability to support large-scale science events. Nineteen staff wintered-over at Scott Base, fitting out the new field centre and keeping the base operational. This is the largest number to winter-over since Sir Edmund Hillary established Scott Base in 1957.

A more sombre occasion for us was the 25th anniversary of the Erebus crash. Moving commemorative services were conducted at Scott Base and on Mt Erebus by the Very Reverand Peter Beck paying tribute to the 257 lives lost and reminding us just how unforgiving Antarctica can be. Antarctica New Zealand and Archives New Zealand also remounted a joint exhibition in Wellington to mark the 25th anniversary of the Erebus disaster that included maps, photos and other official documents.

We delivered another impressive public awareness programme hosting four Project K students through the Youth on Ice programme and five artists through the arts programme. We also generated unprecedented media coverage as a result of the media visits by TVNZ, TV3 and the Dominion Post during the Hillary visit and Erebus anniversary.

Since then the ANDRILL project Record of Understanding has been signed between Italy, Germany and the United States. This confirms funding for the operational and logistics aspects of the project. New Zealand is currently trialling the drill rig prior to shipping it to Antarctica to begin this important multi-disciplinary programme of climate change research.

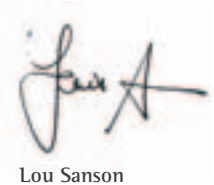
Of course none of these achievements would be possible without the dedication of Antarctica New Zealand's staff and Board especially Paul Hargreaves. As always, it is the people, the partnerships and the passion of everyone associated with the New Zealand Antarctic programme that underpins everything we do.

This past year we farewelled Keith Springer (Programme Support Manager for the last two seasons) who left to take up a position with the Australian Antarctic Division on Macquarie Island. Meanwhile we welcomed into the organisation his replacement Erik Barnes, along with a new receptionist Rachel Ervine.

I would also like to acknowledge the significant number of stakeholders that are key to our work in Antarctica but the support of two in particular - MFAT and New Zealand Defence Force - are critical to our ongoing success.

As always we are committed to supporting the Antarctic Heritage Trust and were delighted to see the Government provide AHT new baseline funding through the Ministry of Culture and Heritage. I would also like to acknowledge the significant contribution that Rob Fenwick has made to the leadership of AHT as he steps down as Chair later this year.

Antarctica remains one of the most relevant areas in the world to focus science and environmental attention on as we become more aware of its effects on global processes and on climate change in particular. It is immensely satisfying sharing the challenge of scientific discovery with so many other national programmes.



Lou Sanson
Chief Executive


Ice surface
© David Trubridge / anzpc K320 04/05

A Year of Highlights

July 2004

- CEO Lou Sanson, Board Chair Paul Hargreaves, Operations Manager Julian Tangaere and Science Strategy Manager Dr Dean Peterson represented New Zealand at the Scientific Committee on Antarctic Research (SCAR) / Council of National Managers of Antarctic Programs (CONMAP) meetings in Bremen, Germany.

August 2004

- Antarctica New Zealand released its science strategy *New Zealand Science in Antarctica and the Southern Ocean (2004-2009)*, which was developed by the Antarctic science community and guides New Zealand's Antarctic and Southern Ocean research for the next five years.
- The Prime Minister announced Antarctica New Zealand's partnership with Project K, under the Youth on Ice programme.
- The first WINFY (Winter fly in) flights occurred.

September 2004

- *Something About This Place*, a children's book written and illustrated by St Bede's students was launched and received good coverage on TVNZ news.
- Pre-Antarctic Training commenced for all those new 2004/2005 season staff deploying to Scott Base.

October 2004

- Antarctica New Zealand and the Christchurch City Council co-hosted the Season Opening function at the Christchurch Art Gallery.
- Environmental Manager, Neil Gilbert, joined the New Zealand delegation to the 23rd meeting of the Convention on the Conservation of Marine Living Resources (CCAMLR).
- The first Mainbody flights occurred.

November 2004

- Antarctica New Zealand and Archives New Zealand remounted a joint remembrance exhibition in Wellington to mark the 25th anniversary of the Erebus disaster.
- A Belgian Ministerial delegation visited Scott Base to look at opportunities for scientific collaboration, particularly in the areas of marine research and biodiversity.
- The Latitudinal Gradient Project (LGP) campsite was established at Cape Hallett and supported six New Zealand events and one United States event.
- The Italian Ambassador (Dr Liana Marolla) and the Board of the Italian Antarctic Programme were hosted at Scott Base on their way Mario Zucchelli Station.
- Sir Edmund Hillary returned to Antarctica and spent 10 days at Scott Base accompanied by his son-in-law David Hayman. Highlights included a visit to the Dry Valleys and an evening lecture at McMurdo Station to a standing room only crowd.
- The Erebus tragedy was commemorated on 28 November 2004 in a short service led by the Very Reverend Peter Beck, Dean of ChristChurch Cathedral, at the memorial cross close to the crash site. This was followed by a moving service at Scott Base that included the reading by Sir Edmund Hillary of *Erebus Voices* a Bill Manhire poem and an original musical composition by former Antarctic Arts Fellow Chris Cree Brown.
- The Hillary Field Centre was dedicated with a naming ceremony on 29 November 2004. Sir Edmund Hillary was present for the ceremony and unveiled a plaque positioned on a large boulder in front of the building.
- TVNZ, TV3 and The Dominion Post visited Antarctica under the media initiatives programme to give coverage of all the above events.

December 2004

- Poet Bernadette Hall, artist Kathryn Madill, jeweller Kirsten Haydon, and contemporary furniture designer/maker, David Trubridge visited Antarctica together under the Artists to Antarctica programme.

- A film crew from Screentime Productions spent a week at Scott Base gathering material for a 10-part documentary series on the RNZAF (including their operations in Antarctica).
- The McMurdo-ANDRILL Science Implementation Committee (MASIC) met at Stanford University, San Francisco.

January 2005

- The building shell for the 1,800m^2 Hillary Field Centre was completed nine days ahead of schedule and handed over to Antarctica New Zealand to complete the interior fit-out over the winter.
- Invitational artist, Dick Frizzell, spent two weeks in Antarctica where his particular area of interest was signage at McMurdo Station and the interior of Shackleton's Hut.
- Intelsat satellite number 804 suddenly failed causing disruptions to communications in the South Pacific and to Scott Base. Alternative communications with Scott Base were immediately established using existing back-up procedures via the US Antarctic Program.
- The Italian icebreaker *MV Italica* removed five tonnes of material collected at Cape Hallett.

February 2005

- Project K traveled to Antarctica under the Youth on Ice programme and focused on a project associated with International Geophysical Year.
- An Australian Treaty Inspection team visited Scott Base, the first time that Scott Base had been formally inspected since 1989. Their report praised the operation of the base for its management of environmental impacts.
- The National Science Foundation hosted a visit by Dr Qu Tanzhou (Director-General) and six senior managers from the Chinese Arctic and Antarctic Administration to McMurdo. On 3 February 2005 we hosted their escort Erick Chiang and the delegation at Scott Base.

March 2005

- Antarctica New Zealand was awarded Gold Level accreditation under the EnviroMark accreditation scheme. This endorsement of Antarctica New Zealand's environmental performance resulted from an audit of Scott Base undertaken by Landcare Research.
- Environmental advisor Rebecca Roper-Gee, Environmental Manager Neil Gilbert and Chief Executive Lou Sanson met with the National Science Foundation in Washington, to discuss the next steps for the Cape Hallett clean-up programme.

April 2005

- Following the designation of 15,000 km^2 of the Dry Valleys as an Antarctic Specially Managed Area (ASMA), the first meeting of the Dry Valleys ASMA Management Group was held in the United States.
- Antarctica New Zealand postgraduate scholarship recipients for the 2005/2006 season were decided by the Antarctic Research Committee.

May 2005

- Antarctica New Zealand supported the Kids Congress which had an Antarctic theme and involved 325 primary school children and more than 150 teachers, parents and other adults.
- Science Strategy Manager Dean Peterson represented New Zealand at the first science steering committee meeting for CAML in Brussels.

June 2005

- The 28th Antarctic Treaty Consultative Meeting (ATCM) was held in Stockholm, Sweden. Antarctica New Zealand CEO, Lou Sanson and Environmental Manager, Neil Gilbert, attended as part of the New Zealand delegation.
- All parties signed the ANDRILL Record of Understanding (ROU) in Siena, Italy. The ROU sets out the agreed framework for the project.


Moss at Edmonson Point, North Victoria Land
© Paul Broady / arupc K053 84/85 2

Science

Antarctica New Zealand supports the Government's role in the Antarctic Treaty System by ensuring that an internationally respected Antarctic scientific programme is developed and carried out each year. This is accomplished through a robust annual science review process; the co-ordination of large-scale science projects with funding agencies and researchers; and active participation in international conferences and meetings. We also encourage international scientific collaboration particularly in those disciplines where New Zealand has shown or is able to provide international leadership.

Highlights

Science Strategy Launched

In August 2004 Antarctica New Zealand released its science strategy *New Zealand Science in Antarctica and the Southern Ocean (2004-2009)*, which was developed by the Antarctic science community and guides New Zealand's Antarctic and Southern Ocean research for the next five years. The strategy was launched in Wellington by the Hon Marian Hobbs, Minister for the Environment and divides Antarctic and Southern Ocean research into three inter-disciplinary themes: Antarctic physical environments, Antarctic ecosystems and Southern Ocean research. The strategy builds on the Government's Statement of Strategic Interest in Antarctica (2002), the *Ross Sea Region: 2001; A State of the Environment Report for the Ross Sea Region of Antarctica* as well as other key documents related to Antarctic research. The strategy encourages scientific collaboration across different Antarctic disciplines and sets the compass for the course ahead.

Science Review

Antarctica New Zealand has initiated a science review to assess the Government's investment and progress made in Antarctic and Southern Ocean science over the last five years. Existing information has been collected and interviews conducted with science providers both in New Zealand and overseas. These interviews provide a close look at our national and international Antarctic science reputation. An independent panel will then conduct the review and report its findings to the Board of Antarctica New Zealand and the Ministry of Research, Science and Technology.

Left: Board member Kerry McDonald and Operations Manager Julian Tangaere at the Science Strategy launch
Photo courtesy of Jo Clark

Below: Miles Lamare bringing science in from the cold.
© The Dominion Post / anzpc K310 04/05

The independent panel will seek to identify trends in scientific quality, outputs and outcomes. The Ministry of Research, Science and Technology and the Foundation for Research, Science and Technology are particularly interested in the uptake and application (both domestic and international) of New Zealand's Antarctic and Southern Ocean research.

By analysing the review, an assessment will be made on ways we can improve our support for science and increase the output and quality for the Government's investment. The review information will also be used by the Research Theme Committee to identify the strengths and weaknesses within the existing programme.

Below: Science Technician Tristan Chan and Science Strategy Manager Dean Peterson atop the Arrival Heights Lab
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Bottom: Event K064 examining glaciological processes on the Lower Wright Glacier
© Sean Fitzsimons / anzpc K064 02/03

Science Supported in Antarctica

In October 2003, a two-year science bidding round assessed 37 proposals for their feasibility and the contribution the research will make to Antarctic science according to the principles and priorities outlined in the science strategy, *New Zealand Science in Antarctica and the Southern Ocean (2004-2009)*. A total of 34 proposals were accepted for support over the 2004/2005 and 2005/2006 seasons. Another seven proposals were considered in an interim review round in October 2004 and four of them were given the go-ahead for the 2005/2006 season.

During the 2004/2005 season Antarctica New Zealand successfully supported 34 New Zealand science events, three Malaysian events and one Australian event. The research topics ranged from ice core studies looking at the past climates of the coastal areas of the Ross Sea, to moss and lichen diversity and growth at Cape Hallett, the northern most site for the Latitudinal Gradient Project.

John Cockrem of Massey University sampled Emperor penguins at Cape Washington to assess stress and disease, and visited the Adélie penguin colony at Mandible Cirque, which has no recorded visits. Results will be compared with results from penguins habituated to visitors.

Nancy Bertler from Victoria University of Wellington successfully retrieved three ice cores from the Windless Bight, Evans Piedmont Glacier and Mt Erebus Saddle. Analysis of these cores will contribute to the US-led International Trans Antarctic Scientific Expedition (ITASE) programme by giving us information about the recent climate changes in the coastal marine environment of the McMurdo Sound area.

Wendy Lawson's team from the University of Canterbury have completed a two-year project measuring the velocity and ablation of the McMurdo ice shelf.

Christine Elliott of the University of Canterbury has finished the final season of her PhD working on the influences of moisture on rock weathering along a latitudinal gradient. Her work exemplifies the successful completion of a project that was initially supported through the New Zealand Post Antarctic postgraduate scholarship.

Sean Fitzsimons from University of Otago has been working in close contact with glaciologists from the University of Alberta in Canada, which gives him access to the Canadian High Arctic glaciers in exchange. This year, Professor Martin Sharp, one of the proponents of the Canadian Antarctic Research program, joined Sean in the Dry Valleys to study the behaviour of some cold-based glaciers.

Postgraduate Scholars

Four postgraduate scholars worked on the ice in the 2004/2005 season. Esme Robinson worked on her Masters research with Associate Professor Bill Davison from

the University of Canterbury studying the swimming performance and oxygen uptake of fish subjected to warmer waters than they currently experience.

Andrew Clifford from the University of Otago led his own event on the McMurdo Ice Shelf to further study a volcano that was discovered during ANDRILL radar work in the 2003/2004 season.

Andrew Martin of Victoria University of Wellington and Erica Hofstee of the University of Waikato were both at the Cape Hallett camp this year. Andrew studied the bacteria found in sea ice and made some exciting observations of bacteria that had not been identified before. As the Latitudinal Gradient (LGP) scholar, Erica spent six weeks at Cape Hallett studying the soils and hydrology of Seabee Hook.

Antarctica New Zealand received 11 postgraduate scholarship applications for the 2005/2006 season. The Antarctic Research Committee unanimously agreed on three PhD scholars to receive the awards. Shelley MacDonell from Sean Fitzsimons' group at Otago University received the Sir Robin Irvine Postgraduate Scholarship of $20,000 per year for a two-year PhD for her proposal entitled: *The hydrological regime of a cold-based glacier, Wright Lower Glacier, Antarctica.* Adam Martin from Alan Cooper's group at Otago University received the New Zealand Post Scholarship for $10,000 for his proposal entitled: *Physical environment research of Mt Morning, Erebus Province.* Mélianie Raymond from Craig Marshall's group at Otago University received the Kelly Tarlton's Antarctic Encounter and Underwater World Antarctic Scholarship for $10,000 for her proposal entitled: *Diversity and survival strategies in nematodes from the Ross Sea region.*

Census of Antarctic Marine Life

The largest New Zealand commitment to the upcoming International Polar Year (IPY) will be involvement in the Census of Antarctic Marine Life (CAML) project. Science Strategy Manager Dean Peterson represented New Zealand at the first science steering committee meeting for CAML in Brussels at the end of May 2005. The meeting produced a first draft science plan for the CAML project which has now been finalised and made available. CAML currently has 14 counties interested in participating and a commitment of eight research vessels to the project.

Ocean Survey 20/20

Science Strategy Manager Dean Peterson is an active member of the Ocean Survey (OS) 20/20 Advisory and Co-ordinating Group. He is part of the Ross Sea 2006 survey planning group and the overall programming group. OS 20/20 is a Government-wide approach to New Zealand's ocean research and survey plans over the next 20 years. The group is facilitated by Land Information New Zealand and is tasked with advising a Chief Executives' Committee on New Zealand's future directions in ocean research.

A Ross Sea voyage is proposed for 2006 focused on continental shelf survey research in the Ross Sea region including hydrographic survey work around Northern Victoria Land, Scott Island and the Cape Royds area, with plans for biological survey work that could be used as a precursor to the CAML voyage in early 2008.

Above: Weddell seal with Antarctic toothfish
© Kim Westerskov / anzpc
ANSW42 82/83

Left: Bill Davison and Esme Robinson fishing for notothenoid fish
© The Dominion Post / anzpc
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Far Left: Christine Elliott preparing rock for moisture sensors
© Christine Elliott / anzpc
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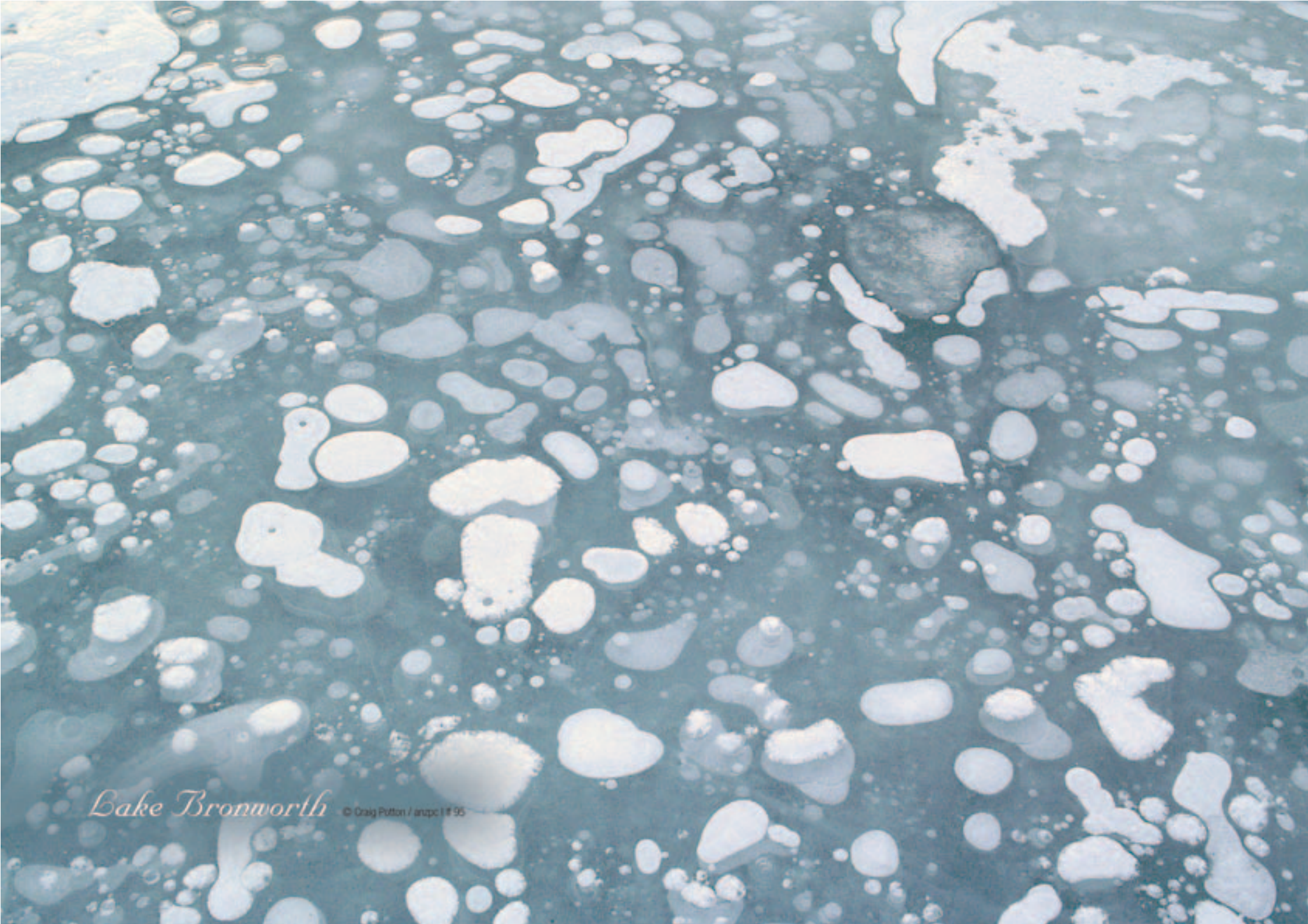
Lake Bronworth
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Environment

Antarctica New Zealand is committed to conserving the intrinsic and wilderness values of Antarctica and the Southern Ocean through proactive and responsible stewardship. Environmental leadership is an area of New Zealand strength within the Antarctic Treaty System.

Antarctica New Zealand's goals are to develop and maintain high environmental standards and procedures that:

- Minimise New Zealand's environmental footprint in Antarctica, while safeguarding the Antarctic and Southern Ocean environments;
- Are understood, respected and adhered to by all participants in the New Zealand Antarctic programme;
- Support New Zealand's obligations in Antarctica;
- Enable New Zealand to maintain a lead role internationally in Antarctic environmental stewardship.

Our environmental management programme ensures that New Zealand meets its national and international legal obligations, particularly in relation to New Zealand's Antarctica (Environmental Protection) Act 1994 as well as the Protocol on Environmental Protection to the Antarctic Treaty. To this end we work closely with environmental experts across the government sector, particularly with the Ministry for the Environment, the Department of Conservation and the Ministry of Foreign Affairs and Trade. We also work closely with other national Antarctic programmes and in the past year have collaborated with colleagues in Australia, the United States, Italy and the United Kingdom.

Highlights

Gold Level EnviroMark Accreditation

Antarctica New Zealand has been awarded Gold Level accreditation under the EnviroMark accreditation scheme. This endorsement of Antarctica New Zealand's environmental performance resulted from an audit of Scott Base undertaken by Landcare Research. The audit recommended seven corrective actions, which were all taken. Antarctica New Zealand aims to complete the final two accreditation levels (platinum and diamond) over the next two years.

Dry Valleys ASMA Management Group

In June 2004, the Antarctic Treaty Parties agreed to designate 15,000 km^2 of the Dry Valleys as an Antarctic Specially Managed Area (ASMA). The Parties also adopted a management plan to regulate activities in the region. One of the requirements of the management plan is for the national programmes operating in the ASMA to establish a Management Group to oversee implementation of the management plan.

The first meeting of the Dry Valleys ASMA Management Group was held in the United States in April 2005. Antarctica New Zealand joined representatives from the United States and Italy to share information and agree to specific actions to improve management practices in the Dry Valleys on a range of issues.

As this was the first such meeting of its type, a joint United States, Italy, New Zealand report was tabled at the eighth meeting of the Antarctic Treaty's Committee for Environmental Protection.

Above: Enviromark Gold Logo

Left: Environmental Code of Conduct leaflet

Below: Tangible evidence of our environmental footprint in Antarctica
Photo courtesy of Rebecca Roper-Gee

Right: Shackleton's Hut at Cape Royds
© The Dominion Post / anzpc K310 04/05

Below: Miranda Huston doing waste stream analysis
Photo courtesy of Rebecca Roper-Gee

Bottom: Harry Keys and Neil Gilbert attending the CEP in Sweden
Photo courtesy of Lou Sanson

Waste Management

A major focus of Antarctica New Zealand's environmental programme remains waste management. To minimise waste to landfill and maximise recycling we have undertaken an audit of waste practices at Scott Base; introduced new waste streams (e.g. plastics) and new recycling stations at Scott Base, and engaged with the Recovered Materials Foundation in Christchurch for advice on and assistance with recycling opportunities.

This effort will continue throughout the coming year with a major focus on improved waste data collection and handling procedures.

Committee for Environmental Protection appointment

Environmental Manager, Neil Gilbert was appointed by the Minister of Foreign Affairs and Trade as New Zealand's representative to the Antarctic Treaty's Committee for Environmental Protection. In this capacity Neil led the New Zealand delegation to the eighth meeting of the CEP, held in Sweden in June alongside the 28th ATCM.

Environmental Impact Assessments

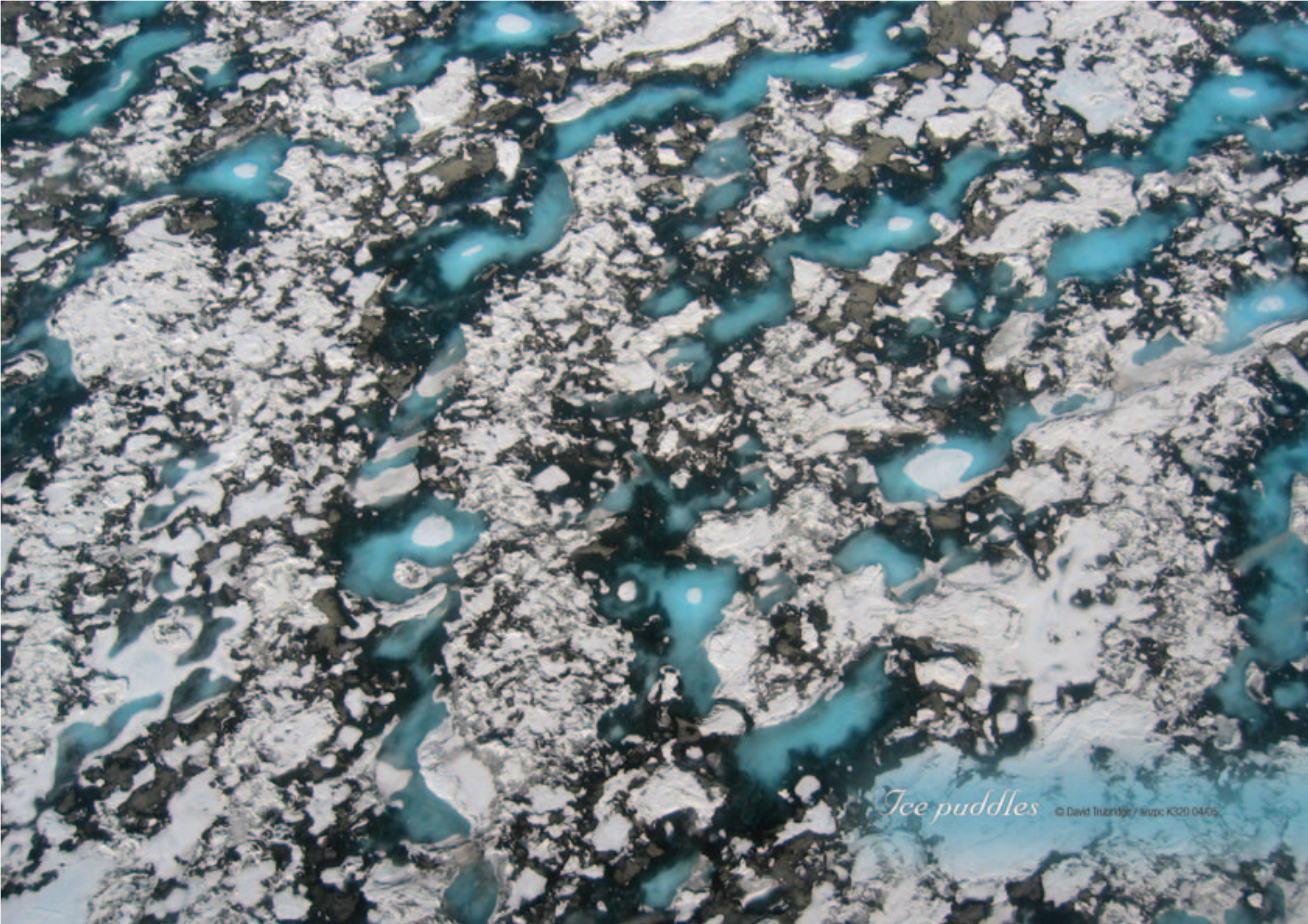
One of the fundamental provisions of the Environmental Protocol to the Antarctic Treaty is that an environmental impact assessment must be carried out before any activity in Antarctica can proceed. This requirement is enforced in New Zealand law through the Antarctica (Environmental Protection) Act 1994. A review of the procedures pursuant to the Act undertaken by the Ministry of Foreign Affairs and Trade has seen Antarctica New Zealand become the primary adviser to the Minister on environmental impact assessments submitted under the Act.

The new scheme, which will come into effect in July 2005, will see Antarctica New Zealand advising the Ministry on all Preliminary Environmental Evaluations (which cover the majority of the activities Antarctica New Zealand supports, including science events), and all non-Antarctica New Zealand Initial Environmental Evaluations, such as those prepared by the fishing industry and the tourism industry. The Ministry for the Environment will assess evaluations prepared by Antarctica New Zealand and will undertake regular audits of Antarctica New Zealand's assessment process.

Heritage work

The Antarctic Heritage Trust's Ross Sea Heritage Restoration project commenced during the 2004/2005. Work was carried out at all three historic sites on Ross Island with particular emphasis on removing environmental hazards from the exterior of Shackleton's Hut and protecting Scott's Hut from further ice damage and flooding.

International heritage visitors included Sir Neil Cossons, Chair of English Heritage and President of the Royal Geographic Society, and Richard Gilder and Virginia Gilder, World Monuments Fund supporters. The visitors were co-hosted by AHT Trustee Chris Mace and AHT Executive Director Nigel Watson.


Ice puddles
© David Trubridge / image: K320 0405


Cape Hallett lichen
© Paul Broady / anupc K053 93/34 6

International Representation

Antarctica New Zealand contributes to New Zealand's position as an influential Antarctic nation by developing, managing and executing a high quality Antarctic research programme.

We also make a significant contribution to the international Antarctic community through active involvement in the Antarctic Treaty System in support of New Zealand's status as a Consultative Party to the Antarctic Treaty.

Antarctica New Zealand encourages collaborative efforts with scientists worldwide to ensure that New Zealand's Antarctic science contributes substantially to the world store of knowledge on Antarctica and the Southern Ocean.

New Zealand puts high priority on maintaining high standards of environmental stewardship and encouraging and facilitating international commitment to the conservation of Antarctica's intrinsic values.

Logistically, Antarctica New Zealand is respected for our ability to project manage complex international collaborations such as the ANDRILL and Latitudinal Gradient projects.

Highlights

United States

Antarctica New Zealand values strongly the relationship with the National Science Foundation (NSF) in operating the joint logistics pool that supports the New Zealand Antarctic programme. In March 2005 the National Science Foundation and Antarctica New Zealand began work on a Memorandum of Understanding regarding co-ordinating logistics support by both parties to their national Antarctic programmes. New Zealand also strongly acknowledges the efforts of the NSF in accessing McMurdo Sound during the abnormal sea ice conditions of the 2004/2005 season.

Belgian Visit

A Belgian Ministerial delegation visited Scott Base in November 2004 to look at opportunities for scientific collaboration, particularly in the areas of marine research and biodiversity. Belgium is currently designing an Antarctic station in Dronning Maud Land, which it plans to open in 2007 to coincide with International Polar Year. The delegation, which included the Minister of Science Policy Marc Verwilghen and Ambassador Luk Darras, studied Scott Base's infrastructure, staffing levels, policies and procedures to understand how a small country runs an Antarctic Programme, in particular how Antarctica New Zealand's relationship works with the New Zealand Defence Force in supporting Antarctic logistics.

Top: The Hon Marc Verwilghen and explorer Alain Hubert visit Cape Evans during their Ministerial visit to Antarctica
Photo courtesy of Hans De Bauw / Dimitri Antonissen

Chinese Visit

The National Science Foundation hosted a visit by Dr Qu Tanzhou (Director-General) and six senior managers from the Chinese Arctic and Antarctic Administration to McMurdo from 1-4 February 2005. On 3 February 2005 we hosted their escort Erick Chiang and the delegation at Scott Base.

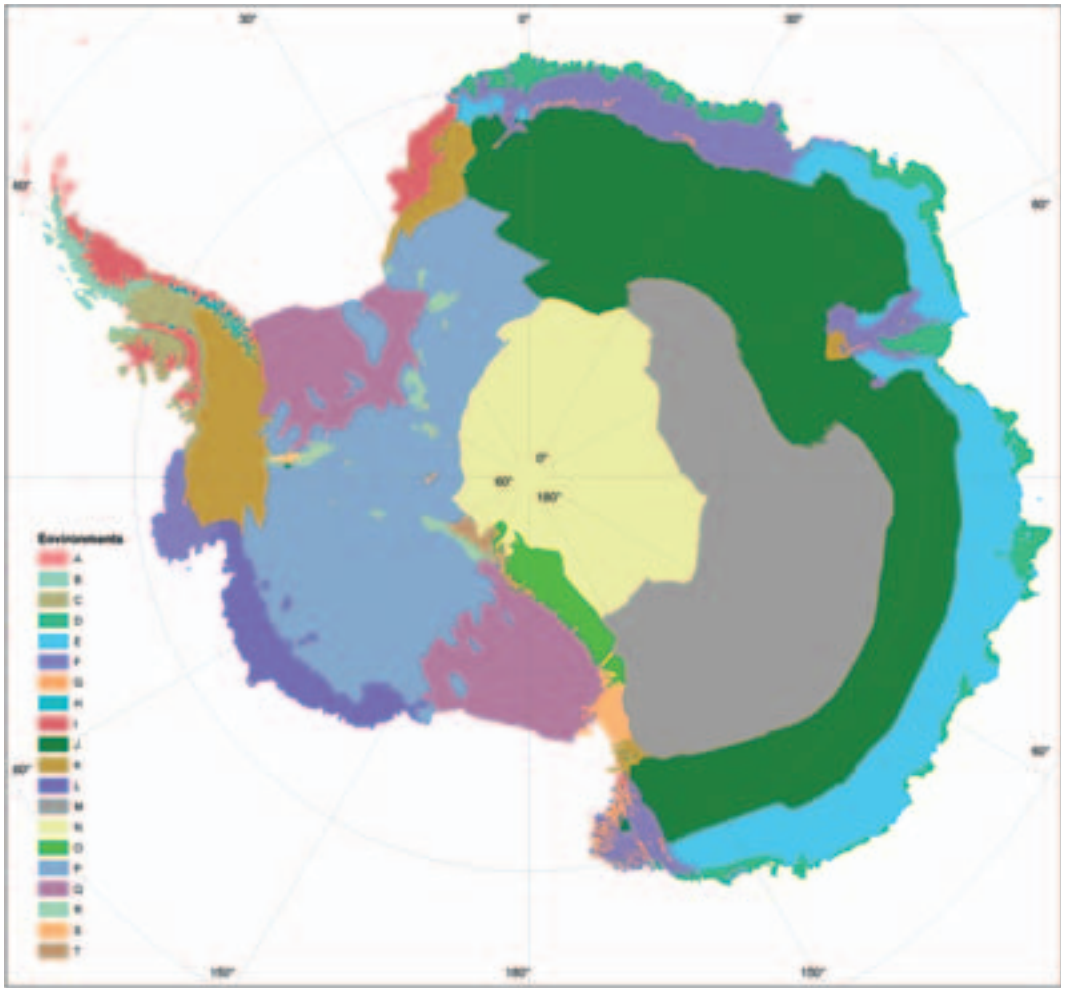
Antarctic Treaty Meeting in Sweden

The 28th Antarctic Treaty Consultative Meeting (ATCM) was held in Stockholm, Sweden in June 2005. Antarctica New Zealand CEO, Lou Sanson and Environmental Manager, Neil Gilbert, attended as part of the New Zealand

Above: Neil Gilbert, Alice Revell, Trevor Hughes, Don McKay, Lou Sanson attending the ATCM in Sweden
Photo courtesy of Lou Sanson

delegation, which was led by MFAT. Neil Gilbert also fulfilled the role of New Zealand representative to the Antarctic Treaty's Committee for Environmental Protection (CEP).

Environmental Domain Analysis



Five main types of environments can be seen within the classification, though this will need further "reality checking":

- Antarctic Peninsula and off-shore islands (Environments A, B and C)
- Central Antarctic ice sheet (Environments J, M, N and P)
- Coastal-continental margin (Environments E, K and L)
- Ice shelf (Environments D, I and Q)
- Mountain-ice free rock (i.e. "Geologic") (Environments F, G, H, O, R, S and T)

Within the CEP New Zealand tabled initiatives on: developing a web-based approach to reporting on the state of the Antarctic environment (a joint initiative with the Australian Antarctic Division); a comprehensive review of the Antarctic protected areas system with recommendations for improvement, and an environmental domains analysis for the whole of the Antarctic continent. The latter initiative is a novel approach to classifying a range of Antarctic environments, or habitats, using a series of data layers describing the physical environment of Antarctica (e.g. mean annual air temperature, day length, geology / ice cover etc). The trial analysis has yielded 20 environments across the continent. Landcare Research undertook the work with support from the Department of Conservation, the Ministry of Foreign Affairs and Trade, the Ministry for the Environment and Antarctica New Zealand. While further development is needed, one of the principal applications of this technique will be to provide a systematic basis for the Antarctic protected areas system.

All of these initiatives were strongly endorsed by the CEP.

Within the ATCM itself, New Zealand's primary aim was the completion of the negotiations over the sixth annex to the Environmental Protocol on liability for environmental damage. Under the able New Zealand chairmanship of Don Mackay (MFAT) the annex was agreed and signed.

Treaty Inspection – Scott Base

Scott Base was inspected by an Australian Treaty Inspection team in February 2005, the first time that Scott Base had been formally inspected since 1989. In tabling their Inspection Report at the 28th Antarctic Treaty Consultative Meeting, the Australian team praised the operation of Scott Base as a very tight, well-run operation with the management of environmental impacts well thought through and proper priority accorded to waste management streams, water conservation, hazardous waste management and fuel handling.

Italian Visit

The Italian Ambassador (Dr Liana Marolla) and the Board of the Italian Antarctic Programme visited Scott Base in November on their way to the Italian Mario Zucchelli Base. The Italian visitors comprised: Antonino Cucinotta (Director Italian Antarctic Programme, PNRA; Ivo Allegrini (PNRA Board); Pierangelo Guermani (PNRA Board); Dr Liana Marolla (Italian Ambassador); Tullio Pepe (PNRA Board). Antarctica New Zealand was able to recognise the close relationship that New Zealand has with the Italian Antarctic Programme, in particular recognising their support of our Latitudinal Gradient Project and ANDRILL.

Convention for the Conservation of Marine Living Resources (CCAMLR)

Environmental Manager, Neil Gilbert, joined the New Zealand delegation to the 23rd meeting of the Convention on the Conservation of Marine Living Resources (CCAMLR). Neil's principal focus was to provide New Zealand input to CCAMLR's evolving discussions on marine protected areas in the Southern Ocean. Neil, together with a colleague from the Ministry of Fisheries, was co-opted onto the Steering Committee that will organise CCAMLR's first workshop on marine protected areas, which will be held in the United States in August 2005.

Above: CCAMLR Meeting in progress
© Eric Appleyard

Left: Pictured left to right - Conor O'Connell (Department of the Environment and Heritage), Julian Tangaere (Scott Base Manager), Chris Moraitis (Department of Foreign Affairs and Trade), Andrew Jackson (AAD)
Photo courtesy of Julian Tangaere

Scientific Committee on Antarctic Research (SCAR)

New Zealand was represented at the joint Scientific Committee on Antarctic Research (SCAR) / Council of Managers of National Antarctic Programs (COMNAP) meeting in July 2004 in Bremen, Germany by Lou Sanson, Julian Tangaere, Dean Peterson and Board Chair Paul Hargreaves. A total of 1100 people attended the three-day SCAR Open Science Forum, which was the most successful SCAR science conference yet held.

Council of Managers of national Antarctic Programmes (COMNAP)

COMNAP organised a one-day symposium focused on Antarctic technology. New Zealand provided a guest speaker with Professor Pat Bodger profiling the work New Zealand was doing in establishing a co-operative agreement with the University of Canterbury on energy conservation and technology.


Cracking ice in Lake Vanda
© C. Rudge / antpic.l # 39

Public Awareness and Education

Antarctica New Zealand runs a public awareness programme to increase knowledge of Antarctica and the Southern Ocean, and ensure New Zealand's obligations under the Antarctic Treaty System are understood.

Our work builds on the scientific and historic interest in New Zealand's activities in the Ross Sea region through publications, on-line information, educational material, lectures, exhibitions, displays and public events. We also provide opportunities for media, artists, education and invited visitor groups to visit Antarctica in order to raise awareness of Antarctic issues.

Highlights

Media Initiatives Programme

Antarctica New Zealand completed another successful media programme resulting in an unprecedented amount of television coverage. TVNZ, TV3 and the Dominion Post spent two weeks at Scott Base giving extensive coverage of Antarctica New Zealand and key Antarctic events during that period including the return of Sir Edmund Hillary to Scott Base, the commemoration of the 25th anniversary of the Erebus crash, the visit by Foreign Affairs Minister the Hon Phil Goff and the official opening of the Hillary Field Centre.

Detailed planning ensured that everything ran smoothly with all media outcomes achieved. The media fitted in well to Scott Base and the investment in extra Telecom bandwidth enabled live feeds back to New Zealand on a nightly basis. Over the summer, TV3 also ran a series of six Antarctic science stories generated during their time on the Ice.

Above: Dominion Post Editor Tim Pankhurst and Antarctica New Zealand Communications Manager Emma Reid
© Dominion Post

Left: Mixed media - crews from TV3 and TVNZ taking time out from filming
© Miles Lamare / anzpc K068 04/05

In addition, excellent coverage was given to Antarctic science with the Dominion Post and The Press running a number of front-page stories and photo essays that appeared well into 2005.

In December 2004, a film crew from Screentime Productions spent a week at Scott Base gathering material for a 10-part documentary series on the RNZAF, which included one episode on the RNZAF operations in Antarctica.

Antarctic Heroes: The Race to the South Pole

Antarctica New Zealand provided images, advice, information and educational materials in support of the Te Papa exhibition *Antarctic Heroes: The Race to the South Pole*. 64,000 people visited the Antarctic Heroes exhibition. It was an outstanding success for Te Papa with Sir Ernest Shackleton's vessel, the James Caird a considerable draw card.

National Antarctic Data Centre

Improvements were made to the way Antarctica New Zealand collects information to populate the Global Change Master Directory (GCMD). A review of the system identified improvements to the type of information gathered from scientists, and the process and timing of collecting the information.

Consequently a new electronic form was designed for collecting the metadata and is now distributed with the science and logistic reports. The qualitative standard of the metadata records is now much higher. However the actual number of records in the GCMD may change as the system is rationalised to eliminate multiple reporting of one dataset, and to represent accurately those events that executed multiple discrete experiments and therefore created multiple discrete data sets.

Right: St Bede's book *Something About This Place*

Below: Project K team sled-hauling
Photo Courtesy of Project K

Youth on Ice

In August 2004, the Prime Minister announced our partnership with Project K, under Antarctica New Zealand's Youth on Ice programme. Project K was chosen as a pilot project in order to reach a different demographic and because they have a proven track record in youth development initiatives.

Four students and Project K co-founder Jo-anne Wilkinson spent a week in Antarctica in February 2005 focused on a research topic associated with International Geophysical Year. Their visit coincided with the Antarctic Heritage Trust delegation, which proved to be a very useful interaction. Project K's visit generated good television coverage with two stories on TV3. A review was subsequently conducted of the pilot and as a result of all outcomes being achieved, the Youth on Ice opportunity was extended to Project K for the 2005/2006 season.

St Bede's Book Launch

In September 2004, Antarctica New Zealand assisted with the launch of *Something About This Place*, a children's book written and illustrated by St Bede's students. These students travelled to Antarctica in November 2002 under our Secondary Schools in Antarctica programme. Approximately 150 people attended the launch in September which was given good coverage on TVNZ news. The book is based on Scott's Cape Evans Hut.

Antarctic Opening Function

Antarctica New Zealand and the Christchurch City Council co-hosted the Season Opening function on 2 October 2004 at the Christchurch Art Gallery. The function welcomed the United States and Italian programmes to Christchurch. Both the Italian Ambassador and US Charge d'Affaires attended the function along with MPs Hon Lianne Dalziel and Tim Barnett, local mayors and city councillors.

During the evening, Mayor Garry Moore announced a new City Council initiative to host an Antarctic Festival to coincide with the 2005 Season Opening. The annual Antarctic church service was held the next morning at ChristChurch Cathedral where the Erebus Chalice was handed over to the New Zealand priest and US Chaplain to take down to the Chapel of the Snows at McMurdo Station.

Vanda Reunion

Support was given to the Lake Vanda Reunion over ANZAC weekend in Twizel, through the supply of photos and artefacts from the Trans-Antarctic Expedition (TAE) Hut and assistance with other organisational details. Over 100 former Antarcticans attended.

Sinfonia Antartica

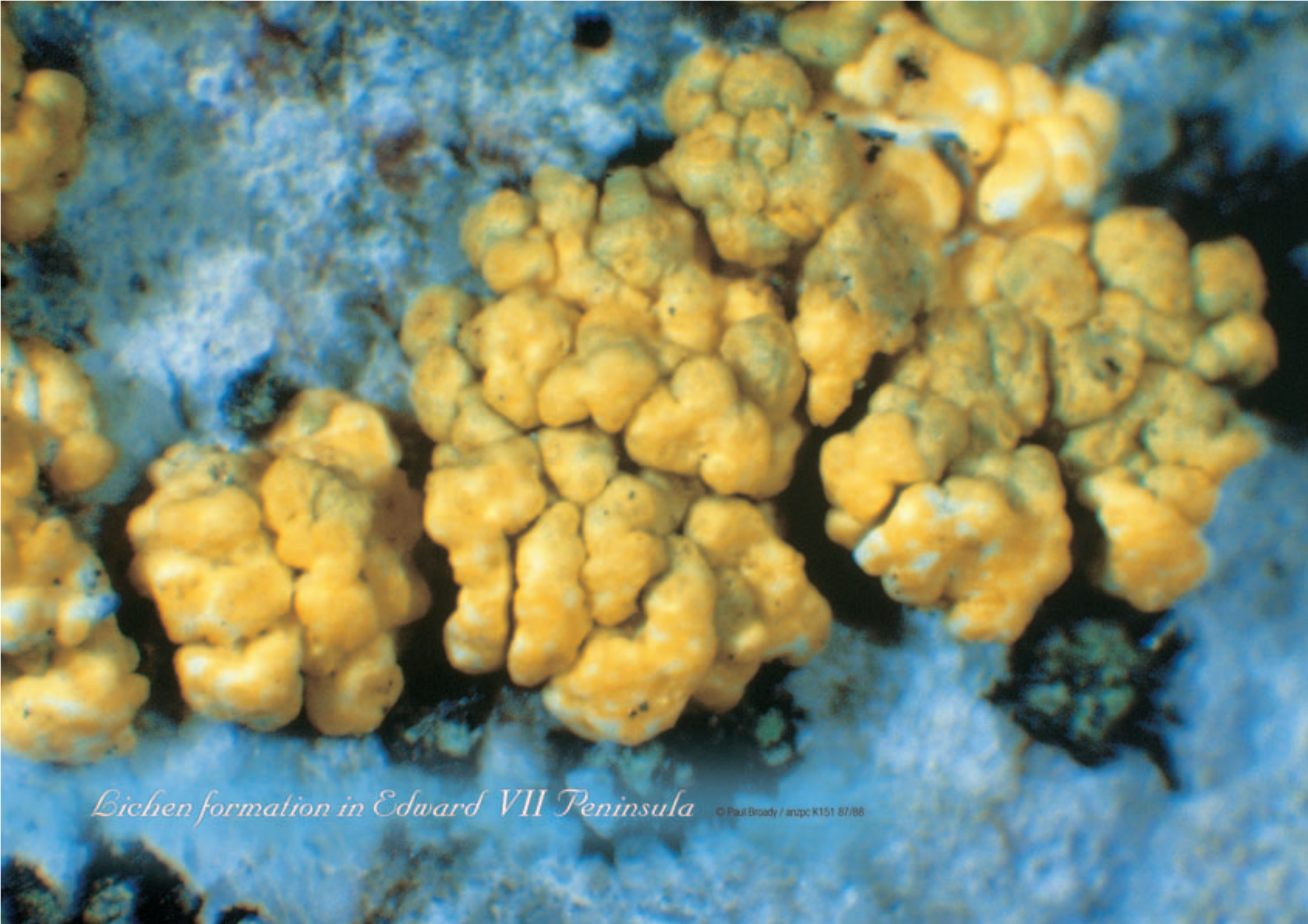
Antarctica New Zealand supported *Sinfonia Antartica*, the opening event for the Christchurch Symphony's 2005 musical season which was attended by the Prime Minister and 2000 people. All three works had an Antarctic link and a highlight of the concert was the relaying of the first ever symphony live to Scott Base and McMurdo Station. Imagery received back from Antarctica was built into the live performance.

Kids Congress

In May 2005 Antarctica New Zealand supported the Kids Congress which had an Antarctic theme and involved 325 primary school children and more than 150 teachers, parents and other adults. The Congress was held at the International Antarctic Campus and was also supported by the Antarctic Attraction and United States Antarctic Program/Raytheon Polar Services. It is hoped that this will become a bi-annual event.

Above: Concentrating on making plasticine figures for Antarctic animations at Kid's Congress
Photo courtesy of Kate Roberts

Left: Attendees at the Vanda Station reunion
Photo courtesy of Mike Mahon


Lichen formation in Edward VII Peninsula
© Paul Broady / arupc K151 87/88

Operations

Antarctica New Zealand operates in a high-risk and high-cost environment. The success of the New Zealand Antarctic programme relies upon a logistics system that delivers support when and where it is needed.

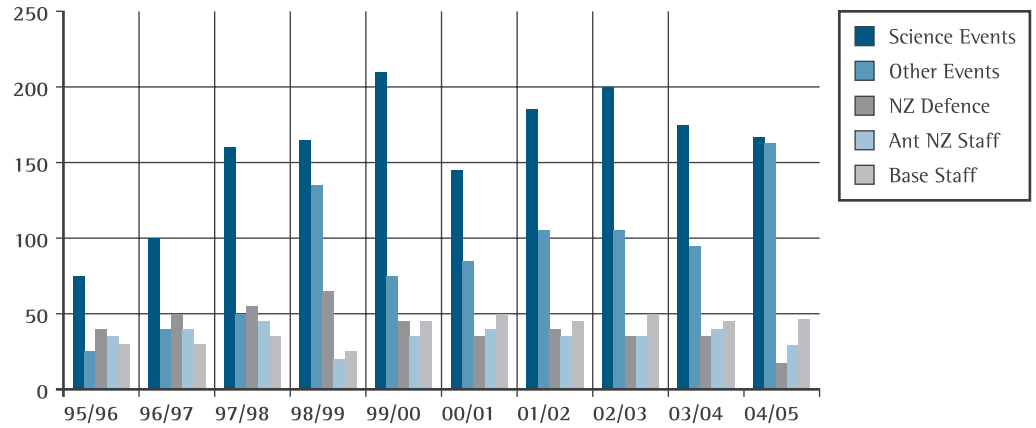
Operations in Antarctica are characterised by small inventory holdings, unreliable and intermittent transport links, high-cost specialised equipment and short time frames to carry out high-value work. Supply chain costs are relatively high, and the implications of disruption to transport are significant.

Our goals are to promote continuous service improvement, with appropriate risk management processes, to minimise our environmental impact, and to be as efficient with resources as possible.

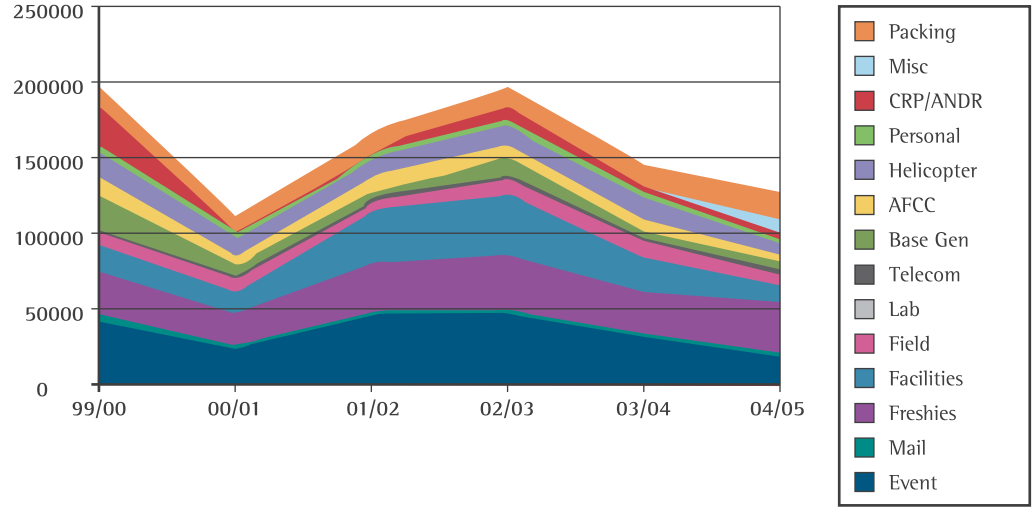
The four principal roles are:

- Logistics: incorporating procurement, passenger and cargo movement by all modes of transport, warehousing and inventory management.
- Field support: including clothing, equipment, specialised vehicles and training for living and working in the Antarctic environment.
- Engineering: encompassing the provision of appropriate buildings, vehicles and other infrastructure to support Antarctic work.
- Project management: comprising the detailed planning, risk management and resourcing of both large and small-scale activities, from four-person tented field parties to multi-year multinational research projects.

Personnel to Antarctica



Air Cargo (lbs)



Highlights

Logistics

Major logistical achievements of the 2004/2005 Antarctic season include the deployment of 373 personnel to the ice for science, education, environmental, public awareness and support activities. Major logistics capabilities employed included 228.5 helicopter flight hours and 30 Twin Otter flight hours. There were 11 RNZAF C-130 flights between Christchurch and McMurdo, which provided 300,893lbs of airlift capacity. Fieldwork took place in the local environs of McMurdo Sound out to 720 km from Scott Base. From a health and safety perspective with no serious injuries or significant loss or damage to equipment, yet another excellent season was achieved.

Below: Hillary Field Centre
Photo courtesy of
Julian Tangaere

Bottom: MV Italica
© Rod Budd / anzpc
K083 03/04

Field Support

The Latitudinal Gradient Project (LGP) completed its second successful season based at Cape Hallett, the earlier break out of the local sea ice this year did present some challenges but all events still achieved their objectives.

Engineering and Facilities Development

The second phase of the Hillary Field Centre, constructing the external structure dominated the engineering focus and Scott Base landscape for the 2004/2005 season. A great effort from the staff of Leighs Construction saw this project finish on time and the building was handed over to Antarctica New Zealand in January 2005 to complete the interior fit-out over the 2005 winter.

Project Management

The Cape Hallett clean-up project continued this season with a further five tonnes of material being collected and a total of 27 tonnes being returned to New Zealand on board the *MV Italica*.

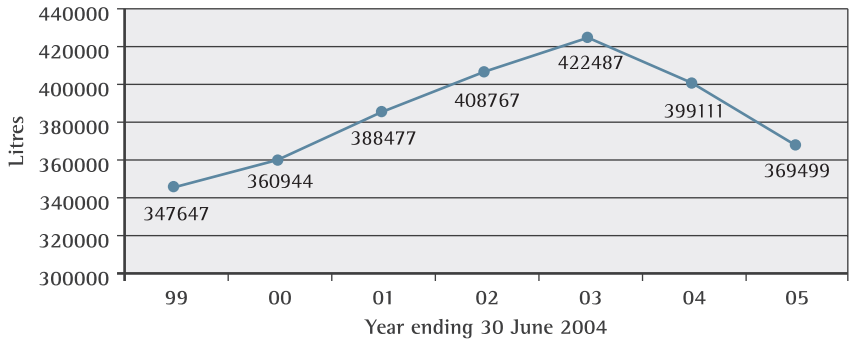
Energy Management

Antarctica New Zealand has concluded a tripartite agreement with the College of Engineering at University of Canterbury and Gateway Antarctica on the issue of energy management and the use of alternative technologies in Antarctica. The three year agreement provides a framework to assist Antarctica New Zealand's objective of increasing our reliance on renewable energy sources throughout the programme.

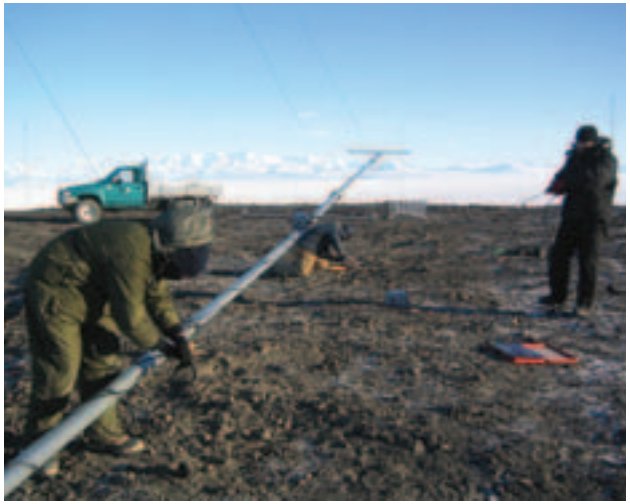
Energy Audit

Dave Hume from the University of Canterbury completed an energy audit of Scott Base and Cape Bird field camp. Based on recommendations from the report, investment in energy management systems and other efficiency measures will be worked on jointly with the University. A Memorandum of Understanding with the College of Engineering has recently been signed.

Fuel for Energy Production



The previous graph combines the total amount of fuel used for producing heat and electricity. 2005 consumption figures are nearly 53,000 litres less than the record high of 2003. The chart shows savings being achieved despite Scott Base increasing in size.



Alternative Energy

Wind and solar energy were introduced at the Cape Hallett LGP camp. An initial wind prospecting survey was carried out by Meridian Energy on Hut Point Peninsula. Based on that survey, a 20-metre tower with data logger and met instrumentation provided by Meridian was erected near Crater Hill to collect additional data. This was followed up by a site visit by Meridian engineer Paul Botha and Antarctica New Zealand's Facilities Engineer Peter Brookman. Data will be collected until WINFLY, at which time correlation with Scott Base and Arrival Heights data sets will take place. This will then allow final site selection to occur.

Re-locatable Building Designs

The Victoria University of Wellington (VUW) School of Design presented three proposals for a re-locatable habitat for the Antarctic. A project brief was provided to the University last year and three groups of students worked on three different approaches to habitat design, and consulted extensively with the VUW Antarctic Research Centre and the University of Canterbury College of Engineering. The next steps are to assess the competing designs for suitability and work in partnership with VUW to fund and build a prototype.

New Vehicles

A number of new vehicles arrived on the supply ship, *American Tern*: a Landcruiser personnel carrier, telehandler, and four Hagglunds. The Landcruiser and telehandler have gone straight into service, and the Hagglunds will be introduced progressively over the winter once Antarctic modifications have been made.

Left: Wind tower being erected
Photo courtesy of Julian Tangaere

Above: "Cubed" one of the submissions from Victoria University of Wellington School of Design
Photo courtesy of VUW

Ice cliff formation Antarctica New Zealand Pictorial Collection / anzpc118

Corporate Activities

Corporate Governance

Antarctica New Zealand was established under the New Zealand Antarctic Institute Act 1996 and is the Crown Entity responsible for developing, managing and administering New Zealand's activities in Antarctica and the Southern Ocean, particularly the Ross Sea region.

Under the Crown Entities Act 2004, Antarctica New Zealand is classified as a Crown Agent. The Minister responsible for the Crown's interest in Antarctica New Zealand is the Minister of Foreign Affairs and Trade.

The responsible Minister participates in setting and monitoring Antarctica New Zealand's undertakings and strategic direction through a letter of expectations; an annual Statement of Intent; four-monthly Statements of Service Performance; and an Annual Report. We negotiate a separate Output Agreement with the Minister each year, which provides the basis for the Minister's agreement to provide funding.

The Board

The Board consists of not fewer than five nor more than seven members to be appointed by the Minister responsible for Antarctica New Zealand. The Board is accountable to the responsible Minister for ensuring that Antarctica New Zealand operates within the terms of its mandate. It discharges its duty and exercises its powers by providing leadership, setting strategic direction and monitoring performance.

The Board appoints the Chief Executive to whom day to day operations are delegated. The Chief Executive in turn formally delegates certain authorities to managers and other staff, as appropriate.

Committees of the Board

Committees of the Board are convened to deal with specific governance matters. A Compliance Committee has been established to oversee and monitor statutory compliance, risk management, financial reporting and internal control. Ad-hoc committees are formed from time-to-time to deal with specific issues.

Risk Management

Antarctica New Zealand operates in a high risk physical environment (Antarctica and the Southern Ocean). Remoteness and potentially extreme weather conditions are inherent in all the work we do within the Ross Dependency.

Left (Top): Preparing for Antarctic Field Training
© Dick Frizzell / anzpc
K321 04/05

Left (Bottom): Telecom Satelite Dome at Arrival Heights, Antarctica
Photo courtesy of Keith Roberts

Below: Field Training reduces risks
© The Dominion Post / anzpc
K310 04/05

Antarctica New Zealand regards the management of risk to be a core management function of all people working with Antarctica New Zealand. Risk management is integrated into all procedures, standards, work plans and business plans. It is not treated as a stand-alone process. The monthly operating review system; health and safety system; environmental management system; specific business reviews and six monthly compliance reviews are Antarctica New Zealand's primary mechanisms to identify, mitigate and manage risk.

In January our risk management procedures were put to the test when Intelsat satellite number 804 suddenly failed causing disruptions to communications in the South Pacific and to Scott Base. Up to 18 countries were affected by this outage.

Alternative communications with Scott Base were immediately established using existing back-up procedures via the US Antarctic Program. Further back-up was provided by Iridium phone. Within 48 hours of the incident, the US Antarctic Program was also relaying our email traffic to and from Scott Base through their computer network.

Below: Diver Matt McArthur at work in Antarctica

Five days later, partial communications (including internet access) were restored to Scott Base. By the beginning of February, Telecom New Zealand, was able to switch to an alternative satellite provider and full 24 hour connectivity was restored.

Financial Performance

Antarctica New Zealand's operating surplus for the year ending 30 June 2005 was $1.2 million, largely due to the inclusion of Antarctica New Zealand's share of the ANDRILL joint venture.

The net surplus due to ANDRILL of $0.7 million arises from dedicated Government funding of $0.7 million for the year, less Antarctica New Zealand's share of net operating expenditure of $30,000. Joint venture funding is mainly being applied to capital expenditure, which will start depreciating once drilling commences in 2006/2007.

The balance of the surplus is largely due to a one off event. Unusually warm summer temperatures caused the closure of the sea ice runway for wheeled aircraft before the RNZAF could complete their allocation of 15 missions. Only 11 were completed creating a favourable cost variance. However New Zealand was unable to contribute its full share of airlift to the joint logistics pool with the US Antarctic Program for the 2004/2005 season.

Revenue

Total income for the year of $9.9 million is in line with forecast.

Operating Costs

Total operating expenditure for the year of $8.7 million is $0.5 million lower than forecast due to the reduced number of RNZAF flights to Antarctica (because of weather conditions); fewer than anticipated flight hours in Antarctica (helicopter and fixed wing flying hours were lower than forecast); and lower depreciation (due to the deferral of a number of capital projects until the 2005/2006 financial year).

Capital Expenditure

Fixed asset additions of $2.2 million include $1 million to complete the new Hillary Field Centre at Scott Base, which is scheduled for opening in October 2005.

Reserves

The operating surplus for the year increased taxpayers' funds to $17 million. Included in closing reserves is net equity of $1.4 million in respect of the ANDRILL joint venture, which will be carried forward to meet Antarctica New Zealand's share of future ANDRILL expenditure.

Our People

People are the key to Antarctica New Zealand's success both to date and in the future. This includes permanent staff; fixed term and contract staff; seconded staff from the New Zealand Defence Force and our many strategic partners in Government, the science community and other national Antarctic programmes. We seek to create the best place in which the best people can do their best work.

Organisational Development

During the year we commenced a series of organisational development initiatives to improve our organisational effectiveness and capability.

Leadership: To provide strong leadership for New Zealand's presence in Antarctica requires the organisation to have effective leaders. Over the last year Antarctica New Zealand has continued to build its capability in this area. All managers and staff have been through a one-week programme designed to build capability in leadership.

Role clarity: During 2005 a project to clarify and describe accurately the roles of all staff, and the contribution they make to the wider organisation was completed. New role descriptions clarify accountabilities and ensure that the right level of work is being done in each role. This was a collaborative process, with staff contributing their insights to the work of their role. The end result is a system in which people fully understand their own role and its boundaries, and their relationship with the roles of those around them.

Above: Event K018 at work at Cape Hallett
© Mary Sewell / anzpc
K018 04/05

Investors in People: Antarctica New Zealand has chosen the Investors in People framework by which to benchmark its organisational development strategies. Investing in People means improving people's performance through a planned approach to setting and clearly communicating organisational goals and developing people to meet those goals. In August 2004 an initial independent assessment was undertaken to ascertain the effectiveness of the changes implemented so far and highlight the remaining areas for improvement. The assessment confirmed that Antarctica New Zealand is well along the way to accreditation and a second assessment is planned for October 2005.

EEO and Business Integration

Antarctica New Zealand's EEO programme and policy is an integral part of its strategic and business plans. Antarctica New Zealand strives to be a good employer by being committed to maintaining and enhancing practices, which eliminate all forms of discrimination in employment matters and barriers to recruitment, retention, development and promotion of its employees. Policies are in place, which are enacted on a practical level by staff throughout the organisation; for example, flexible arrangements to allow employees to care for sick children – all with the support of the management team.


Lichen in Horseshoe Bay, Cape Royds
© Paul Broady / aurpc KD51 8687

Key Achievements

Cape Hallett Clean-up

Cleaning up sites of past activity in Antarctica is a key requirement of the Protocol on Environmental Protection to the Antarctic Treaty. Consequently, Antarctica New Zealand has put considerable effort, in partnership with the United States Antarctic Program, into cleaning up the abandoned United States-New Zealand station at Cape Hallett; an area now designated as an Antarctic Specially Protected Area (ASPA106).

Clean-up activities at Cape Hallett during the 2004/2005 season saw five tonnes of material collected by the New Zealand clean-up team comprising Rebecca Roper-Gee, Miranda Huston and Ewan Paterson.

In total 27 tonnes of material have been collected from the site. This was removed by the Italian icebreaker *MV Italica* at the end of January 2005. At the same time the *MV Italica* off-loaded further equipment to assist with demolition of the 100,000 gallon fuel tank, which is scheduled for next season.

Gus McAllister and Rachel Brown (Camp Manager and mechanic for the Latitudinal Gradient Project at Hallett) oversaw the transfer of materials and used the newly arrived equipment to pump out remaining fuel from the tank. Having the tank emptied already will greatly assist its dismantling next season.

A meeting was held with the National Science Foundation in Washington, DC in March 2005 to review progress on the Cape Hallett clean-up programme. It was agreed that Antarctica New Zealand would continue to lead the final stages of the on-site effort with assistance from NSF. An Initial Environmental Evaluation covering the tank removal and associated activities and setting out future monitoring for the site has been completed.

Above: Seebee Hook from Hallett Peninsula
Photo courtesy of Rebecca Roper-Gee

Left (Top): Bulk fuel tank showing proximity of penguin colony to debris
Photo courtesy of Rebecca Roper-Gee

Left (Bottom): Debris collected from site in an historic wheelbarrow
Photo courtesy of Rebecca Roper-Gee

Latitudinal Gradient Project

Six New Zealand events and one United States event were supported at Cape Hallett in the 2004/2005 season at the Latitudinal Gradient Project (LGP) campsite. Research covered both marine and terrestrial biology.

Despite challenging sea ice conditions in the area, this season was another successful one for science. The early season marine groups of Ken Ryan and Mary Sewell enjoyed a long sampling period with collections of sea ice algae and meroplankton. Allan Green's group had a presence through the entire season as one student undertook regular experiments on the moss in the area. With the support of the Italian Antarctic Programme (PNRA) this group were able to sample some sites near the camp that were inaccessible by skidoo.

Above: *RV Italica* at Cape Hallett
© Rod Budd / anzpc
K083 03/04

Phil Lyver's Adélie penguin population dynamics event studied the Hallett penguins for the first time, and will return again next year. Our United States Long Term Ecological Research (LTER) collaborators were on site for a week continuing their work on the soil biodiversity at Hallett, conducting some snow sampling on the nearby Towles Glacier, and checking on their automatic weather station. All this data is freely available through the LGP's website (www.lgp.aq).

A third season is now planned for Cape Hallett with continued interest in marine and terrestrial research. The camp also supported the Cape Hallett clean-up team. As always, Antarctica New Zealand appreciated the co-operation and logistical support received from the Italian and United States Antarctic Programmes.

Right (Top): LGP Camp 2004/5
© Rachel Brown/Gus McAllister
/ anzpc K002 04/05

Right (Bottom): Event K043
drilling in sea ice
© Ken Ryan / anzpc K043 04/05

Preliminary work was undetaken for the next intended LGP site, near the Darwin Glacier 250km South of Scott Base. Ian Hogg and his team from Waikato University visited the Brown Hills region near the Darwin Glacier in part as a reconnaissance trip. In addition to their own work on the terrestrial biodiversity in the area, they collected information for various groups interested in future studies in the area. Of note, nematodes were found in the soils, much to the surprise of our LTER collaborators who hope to work in the area in conjunction with the LGP. Also, the most southerly example of a particular moss was found, though the area was impoverished in certain lichen. An Antarctic Weather Station made up of components supplied by NIWA and Waikato University was also installed to provide background meteorological information.

The LGP Science Steering Committee met in April 2005 to discuss outcomes of the 2004/2005 season and future directions. Planning is underway for the publication of an LGP special edition of the *Antarctic Science* journal in December 2006 which will contain 18 LGP-related papers including submissions from the LTER groups, Italian collaborators and the NZ-ITASE (International Trans Antarctic Scientific Expedition).

Two LGP-related projects based on existing data ideal for graduate work have also been identified to further the work of LGP. The LGP website continues to be updated with data, satellite imagery, photos and relevant site descriptions. These have been used extensively by the scientists involved in the LGP.

Above: LGP logo

Left: Chosen LGP sites along the Victoria Land Coast

Right: ANDRILL Drill system at Gough's Engineering, Christchurch
Photo courtesy of Jim Cowie

Below: Bremen MASIC attendees, L to R: Dr Richard Levey University of Nebraska; Dr Gerhard Kuhn Alfred Wegener Institute Germany; Dr David Harwood Uni of Nebraska; Dr Tom Wagner Office of Polar Programs-National Science Foundation USA; Ms Laura Lacy Uni Of Nebraska; an AWI technician; Dr Gary Wilson Uni of Otago and Chair MASIC; Professor Jane Francis Uni of Leeds UK; Dr Tim Naish VUW and IGNS NZ; Professor Ross Powell Uni of Northern Illinois USA; Prof Peter Barrett VUW NZ; Dr Frank Niessen AWI Germany; Alex Pyne VUW NZ.
Anon

ANDRILL

ANtarctic DRILLing (ANDRILL) is a multinational project between New Zealand, the United States, Germany and Italy. The project aims to improve understanding of Antarctica's role in Cenozoic (65 million years ago to present) global environmental change, through stratigraphic drilling of marginal (off-shore) sedimentary basins in the McMurdo Sound area. Through analysis of the sediment cores, scientists hope to better understand Antarctica's climatic, volcanic and tectonic history.

Antarctica New Zealand is the Project Operator for ANDRILL with overall responsibility for managing and facilitating the operational and logistics support required for the drilling process.

A geophysical survey programme begun in 2001, continued in the 2003/2004 season to identify and document the extent of sedimentary basins and to correlate the planned drilling targets to existing drill cores from previous drilling projects such as the Cape Roberts Project. Two drill sites in McMurdo Sound have been selected and drilling is due to commence in the 2006/2007 summer season. Once the cores are recovered, significant scientific work will begin to integrate existing and new geological information into climate, ocean, glaciological and tectonic models to help better understand the influence of Antarctica on global environmental change.

Highlights

Record of Understanding Signed

After two years of work the ANDRILL Record of Understanding (ROU) was signed by all parties in June 2005, prior to the Annual Meeting of ANDRILL Operations Management Group (AOMG). The ROU sets out the agreed framework for the project between the contributing parties. A few months earlier, a Memorandum of Understanding, which is specific to the ownership of drilling system, was also signed off.

McMurdo-ANDRILL Science Implementation Committee (MASIC)

MASIC met at Stanford University, San Francisco on 11 December 2004. On-Ice science numbers were finalised and scientific prospectuses for the two drill holes reviewed.

The New Zealand ANDRILL science community has been very successful with funding for the project from the Foundation for Research Science and Technology (FRST). The consortium consists of Victoria University of Wellington, the Institute of Geological and Nuclear Sciences (IGNS) and the University of Otago. IGNS will administer the funding with the two universities as sub-contractors.

Project Management

During the 2004/2005 reporting period Antarctica New Zealand's main focus as Project Operator has been designing and building the drill system. In addition there has been on-going operational and logistical planning and design work and purchase of essential non-drilling equipment such as vehicles, sledges, generators, clothing, fuel tanks and field gear.

Drill System Development

UDR Ltd in Brisbane built the UDR 1200 Drill Rig, which was delivered to Christchurch in May and June 2005 and is being integrated with the drill system at Gough Engineering, who also built the Drill Platform. A Catwalk and Rod Ramp, fabricated by Pegasus Engineering in Christchurch, is also being integrated into the drill system.

Webster Drilling in Porirua has completed the refurbishment of the CRP 'Mud' System and it was transported in three containers to Christchurch to be integrated into the Drill System. The design of a hot water drill (HWD), primarily the work of Alex Pyne from Victoria University of Wellington, is now largely complete and contracts to build parts of it have been let. The HWD is required to 'punch' a 1m diameter hole for the Sea Riser through the 150m thick McMurdo Ice Shelf and keep that hole open for up to two months. The HWD will be tested in Antarctica in February 2006.

ANDRILL Vehicle Fleet

In January 2005 two new snowmobiles and a second-hand Hagglund ATV were shipped to Scott Base as part of the ANDRILL vehicle fleet. In the coming summer season two more snowmobiles will be added, plus a new Caterpillar Multi Terrain Loader and a second-hand D6 Caterpillar bulldozer.

Above: Hagglund travelling in Antarctica
© Mark Dwyer / anzpc
K313 02/03

Drill Site Camp and Laboratory

The new 13-container Drill System camp and laboratory, including sledges, was shipped to Scott Base in January 2005. Some interior finishing is still to be completed before the camp can be utilised in the 2005/2006 season to support further ANDRILL site survey work.

ANDRILL Administration and Finance

To date the ANDRILL partners have contributed $US3.5 million to the project, of which over half has been committed to the Drill System. The ANDRILL budget is expressed in US dollars and contributions are made in US dollars but the majority of expenditure by the Project Operator, Antarctica New Zealand, is in New Zealand dollars. Living within the budget is, therefore, proving a real challenge when the New Zealand dollar has appreciated some 40% against the US dollar over the last two years. To compound the problem there have been significant increases in the price of steel, steel manufactures, shipping and fuel since the budget was first struck.

Left (Top): ANDRILL Project Manager Jim Cowie and Antarctica New Zealand CEO Lou Sanson inspect progress at Gough's Engineering, Christchurch
Photo courtesy of Jim Cowie

Left (Bottom): ANDRILL Drill system at Gough's Engineering, Christchurch
Photo courtesy of Jim Cowie

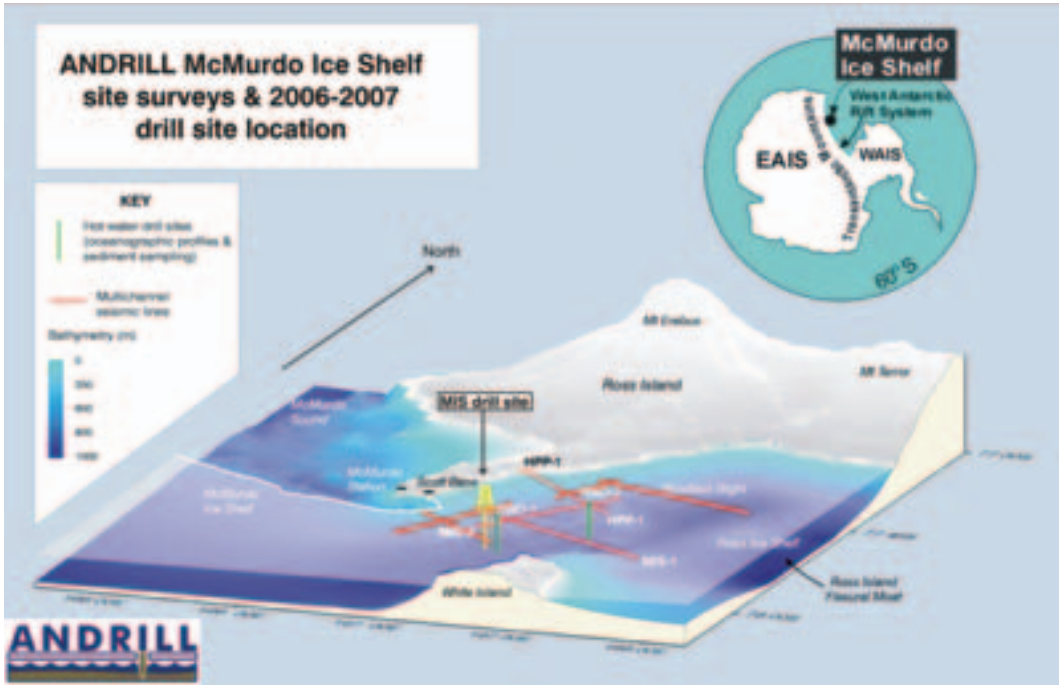
Contracts for the continued services of Alex Pyne the ANDRILL Drilling Science Co-ordinator and Jonathan Leitch, ANDRILL Engineer, through to August 2006 were finalised during the 2004/2005 financial year.

Looking Ahead

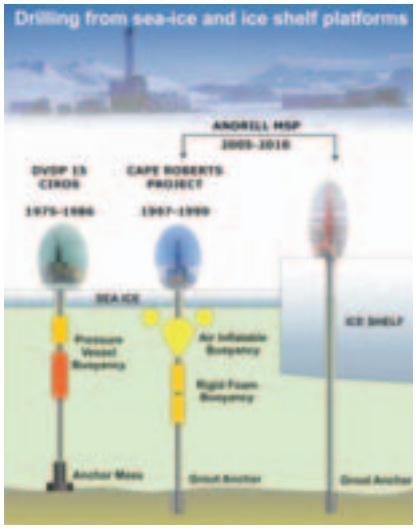
In the coming season ANDRILL will have three components on the Ice:

- Operations. The McMurdo Ice Shelf drill site preparation and compaction will be completed with USAP assistance; this will involve repeated rolling and layering of snow to compact the drill site area (about a football field size) and approach 'road' to take the weight of heavy vehicles, buildings and the Drill System. In November, the Drill Site Camp and laboratory will be deployed to drill site. In January, the Drill System will be delivered followed by assembly and staging near the site. If time allows, the hot water drill system will also be trialled there.

Below: Drill site location map



Right: Cross-section of sea ice drilling platforms



- Site Survey Data Gathering. Summer season 2005/2006 promises to be a busy one for ANDRILL site survey work, with three major proposals. Dr David Harwood from the University of Nebraska will collect data at the Southern McMurdo Sound drill site. Drs Tim Naish, IGNS and Prof Ross Powell from Northern Illinois University will look at the McMurdo Ice Shelf drill site; and Dr Gary Wilson of the University of Otago will further investigate the proposed Southern McMurdo Ice Shelf drill site. Site survey work primarily involves gathering seismic and earth magnetic data.

- Ice Shelf Oceanography. In February 2006, it is hoped science data will be collected in conjunction with hot water drill trial.

Arts Programme

Antarctica New Zealand supports two arts programmes, the Artists to Antarctica programme and the Invited Artists' programme.

The Artists to Antarctica programme is a joint initiative between Antarctica New Zealand and Creative New Zealand, which has been running for eight years. The programme is open to prominent New Zealand artists and writers, from all disciplines who are well established in their careers.

The programme fosters collaboration between artists and scientists, which has increased public understanding of the science that Antarctica New Zealand supports through Scott Base each season.

The Antarctic arts programme also adds a unique dimension to the New Zealand Antarctic programme and offers the public another window on a world few will ever get to experience.

One of the strengths of the artists' programme lies in its diversity. The programme aims to cater, over time, for a wide variety of artistic styles and audiences, reflecting the diversity of Antarctica and New Zealand society. The artists are awarded the title of Antarctic Arts Fellows.

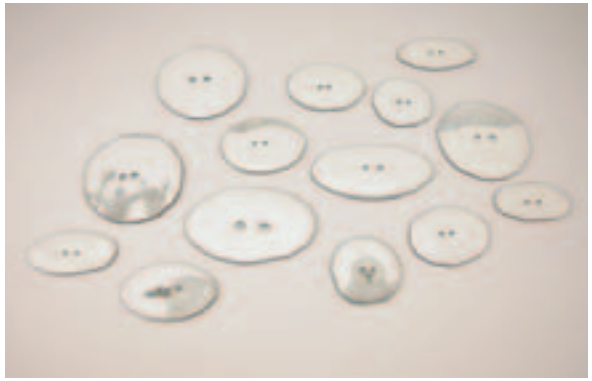
Antarctica New Zealand also occasionally invites artists and writers to travel to Antarctica for specific projects. These artists become honorary Antarctic Arts Fellows and travel to Antarctica under the Invitational Artists' programme.

Artists to Antarctica 2004/05

Four Antarctic Arts Fellows travelled to Antarctica during the 2004/2005 season - a poet, a painter, a jeweller and a furniture maker.

Bernadette Hall and Kathryn Madill, prominent award winning poet and artist, submitted a joint application to write and illustrate a book as well as produce a series of exhibitions based on their Antarctic experiences.

Kirsten Haydon, the first jeweller/fine metal artist to visit Antarctica through the Artists to Antarctica programme, intends to create a collection of commemorative jewellery and objects relating to landscape, flora and fauna. Her first pieces were completed in June 2005.



Left: Detail of an image inspired by mummified seals in the Dry Valleys, Antarctica
Photo courtesy of Kathryn Madill

Above: Oversize buttons depicting wildlife and images from life on the ice
© Kirsten Haydon / anzpc
K323 04/05

Contemporary furniture designer/maker, David Trubridge's interest is in the history of polar exploration and he is currently working on the development of a series of works based around the theme *Structures for Survival*.

Since their return to New Zealand all four artists have presented public talks and begun creating Antarctic-based works. Bernadette Hall has performed her first Antarctic works on TV1 and on Radio New Zealand, while David Trubridge has published a volume of his Antarctic photographs.

Invited Artists Programme

One of New Zealand's most well known artists, Dick Frizzell, spent two weeks in Antarctica as this season's Invitational Artist. With an exhibiting career that spans over 20 years, Dick said visiting Scott's Discovery Hut was a life-changing experience. "Once you're in it, the outside flies away and you're there with the smell of mutton fat and old socks and a men-jammed-up-together sort of smell."

Top: Invitational artist Dick Frizzell heading for the Ice.
Photo courtesy of Dr N Ritchie / Antarctic Heritage Trust.

Above: David Trubridge in front of Mt Erebus.
Photo courtesy of David Trubridge

Right: "A standing place" by Dee Copland
© Dee Copland / anzpc K394 01/02

For Frizzell, the stove in Shackleton's Hut was the piece de resistance and Frizzell is using that as a basis for a series of large-scale art works to be revealed from November 2005.

Artists to Antarctica 2005/2006

A high calibre of applications was received for the 2005/2006 Artists to Antarctica round, many from senior New Zealand artists.

Two artists were chosen. Composer Gareth Farr will explore the human stories associated with Antarctica, and photographer Megan Jenkinson will concentrate on the colours of Antarctica.

Changes have also been made to the timetable for the Artists to Antarctica programme. Applications will now close on September 30 each year, bringing the programme into line with the science bidding round to aid logistical planning.

Former Antarctic Arts Fellows

Former Antarctic Arts Fellows continue to explore the Antarctic theme throughout their work. In the past year Dee Copland (2001/02) has presented Antarctica New Zealand with two artworks based on Shackleton's Hut at Cape Royds. These works were exhibited at the Christchurch Art Gallery before coming to Antarctica New Zealand.

Phil Dadson (2002/03) exhibited his Polar Projects in Auckland before moving it to the Physics Room in Christchurch and then onto Wellington. This exhibition included a floor talk with former Antarctic Arts Fellow, composer Chris Cree Brown (1999/00). Dancer and choreographer Bronwyn Judge (2000/01), poet Bernadette Hall (2004/05) and composer Patrick Shepherd (2003/04) presented their responses to Antarctica in a forum at Christchurch Art Gallery.

Author Bill Manhire (1997/98) released an anthology of Antarctic writing *The Wide White Page* in a launch held at Victoria University of Wellington. Photographer Anne Noble (2001/02) displayed new works in her Antarctic project in Wellington. The exhibition was entitled *The Polar Sea and the Polar Sky*.

Raewyn Atkinson (2000/01) presented new ceramic works at the Christchurch Art Gallery. Raewyn Atkinson also won the premier award in the Portage Ceramic Awards earlier in the year.

Laurence Fearnley (2003/04) completed her novel, which is currently with the publisher, Penguin who plan to launch it in March 2006.

Art Collection

Expert curatorial advice was obtained from Christchurch Art Gallery regarding the most effective display and presentation options for all pieces of the existing Antarctic art collection. As a result a number of improvements were undertaken to give the collection a more cohesive and unified appearance and ensure it meets best practice in terms of display and protection.

Hillary Field Centre

The Hillary Field Centre was dedicated with a naming ceremony on 29 November 2004. Sir Edmund Hillary was present for the ceremony and unveiled a plaque positioned on a large boulder beside the building.

The $4.7 million all-purpose Field Centre is the single largest construction project ever undertaken at Scott Base. Once completed, it will provide a heated, bulk store facility and field operations support area. It will also improve Antarctica New Zealand's ability to support large science field events and will signify the completion of Scott Base as a world class Antarctic research facility.

The building shell was completed on 24 January 2005, nine days ahead of schedule. A Certificate of Practical Completion was issued by the Engineer on 25 January 2005.

The fit-out team for the interior of the building arrived at Scott Base on 4 February. The goal is to have the fit-out and commissioning fully completed in time for the start of the 2005/2006 season.

Once operating, a demolition programme will commence to remove a number of old storage facilities around the base making the base much more energy efficient.

Specifications

The 1,800 square metre, two-storey Field Centre with goods lift will provide for receipt, storage and issue of bulk stores. There will be provisions for cool stores and frozen stores including a low temperature freezer for scientific samples.

It will also be used for storage, maintenance, issue and receipt of field support equipment such as tents, sleeping bags, cooking equipment, climbing gear, etc and as a marshalling area to consolidate and temporarily store field events' equipment and materials prior to deployment to the field. When equipment is returned, the Field Centre will provide a wash down/drying area to service tents/field gear and diving equipment.

Left: The Hillary Field Centre Plaque
Photo courtesy of Emma Reid

Above: Sir Edmund Hillary with the Leighs construction crew responsible for building the Hillary Field Centre
Photo courtesy of Emma Reid

Science equipment and support gear will be set up and tested within the facility and science cargo will be assembled and packaged for transport into the field. The building will house a field training lecture room as well as administrative offices for field trainers and cargo handlers and a fitness centre.

Design and Construction

The Hillary Field Centre was designed by Opus International Consultants and was constructed by Christchurch-based Leighs Construction. Leighs had a team of nine at Scott Base during the 2004/2005 summer season erecting structural steel and cladding. The two-storey structure is perched 1200mm above ground on steel posts to allow snow to blow clear underneath the facility and prevent heat from the building affecting the underlying permafrost.

The external structure is made of lightweight steel framing clad with 250mm thick polystyrene cool-store panel manufactured by Bondor New Zealand Ltd in Christchurch. Electrical power is provided by the existing Scott Base energy centre and heating supplied by diesel-fired boilers located within the Field Centre. High efficiency fluorescent lighting has been used throughout the facility with motion detector controls to minimise electrical power consumption. There is provision to install heat recovery in the air extract system at a future date when actual operating characteristics have been confirmed.

Above: Food stores transferred to the Field Centre
Photo courtesy of Michael Nottage

Right (Top, Middle, Bottom): Warmstore under construction
Photo courtesy of Antarctica New Zealand Engineers

Schedule

Materials were delivered to Scott Base and the foundations completed in February 2004. The materials shipment represented the single largest shipping requirement ever undertaken for the programme and was done in conjunction with the United States Antarctic Program. Shell construction took place between October 2004 and mid-February 2005. The interior fit-out is being completed by Antarctica New Zealand staff between February and August 2005, with commissioning scheduled between August and October 2005.

Special Events

Sir Edmund Hillary Visit

Almost half a century after leading the New Zealand expedition that established Scott Base, Sir Edmund Hillary returned for an eventful eight days on the Ice accompanied by the Minister of Foreign Affairs and Trade, the Hon Phil Goff.

The return to the base that Sir Edmund established in 1957 was exciting for everyone in the New Zealand Antarctic programme.

During a packed itinerary, Hillary, patron of the Antarctic Heritage Trust, spent a day visiting the historic huts at Cape Evans and Cape Royds. He also gave an evening lecture at nearby McMurdo Station where a standing room only crowd was enthralled with Hillary's tales of polar exploration.

The excitement at McMurdo around Sir Edmund's visit was as high as at Scott Base, with people queuing in the corridors for hours before his talk. Hillary holds a lot of affection for the Americans and vice-versa. His connection to them dates back to the South Pole and Admiral Dufek.

A particular highlight for Hillary was his first trip to the McMurdo Dry Valleys region to meet a range of New Zealand and American scientists. Another highlight was a celebratory dinner for 20 people in the Trans-Antarctic Expedition / International Geophysical Year (TAE/ IGY) Hut, the first building erected at Scott Base by Sir Edmund. The evening's speakers included Hillary, Antarctica New Zealand's CEO Lou Sanson, the Hon Phil Goff and Antarctica New Zealand Board Chair Paul Hargreaves.

Preparation for Hillary's visit included the conservation of artefacts in the TAE Hut and the installation of new storyboards in it, along with the production of a set of commemorative postcards.

The Hillary Field Centre, Scott Base's largest construction project ever, was also named during Hillary's visit with an official opening ceremony on 29 November. It was a great honour that the founding father of Scott Base agreed to have the newest building named after him and was also there to see the final stage of his base completed.

Extensive planning and preparation went into all aspects of the visit, resulting in a very successful event. This included the creation by the Scott Base carpenter of "the Hillary Steps" which allowed Sir Edmund easy access to helicopters. Feedback from Sir Edmund indicates that he would like to return to Scott Base in 2007 to participate in the 50th Anniversary celebrations at Scott Base.

Left (Top): Sir Ed arriving on the ice
© The Dominion Post / anzpc K310 04/05

Left (Bottom): Table setting prior to the TAE dinner
Photo courtesy of Emma Reid

Top: Sir Ed Hillary visiting Shackleton's Hut
© The Dominion Post / anzpc K310 04/05

Right: Dave Bresnahan speaking at the Erebus Memorial service at Scott Base
© The Dominion Post / anzpc K310 04/05

Below: The laying of wreaths at the crash site memorial, Mt Erebus, Antarctica
© The Dominion Post / anzpc K310 04/05

Bottom: Part of the aeroplane visible at the time of the 25th anniversary of the crash
© The Dominion Post / anzpc K310 04/05

Hillary's return to Antarctica generated significant national and international media interest. There was daily television coverage on TVNZ (Breakfast, Midday, 6 o'clock News, and Late Edition) and TV3 (3 News and Nightline) along with extensive print and radio coverage. Filming also begun for a documentary on the 50th anniversary of Scott Base in 2007 that will feature Sir Edmund.

25th Anniversary of Flight TE 901

Sir Edmund's visit also coincided with the 25th anniversary of the Erebus crash that claimed the lives of 257 people in Antarctica on 28 November 1979.

Considerable planning went into the organisation of commemorative activities at Scott Base to ensure that Antarctica New Zealand did justice to the memories of those who lost their lives when Flight TE 901 crashed on the lower slopes of Mt Erebus.

Commemorations acknowledged the efforts of New Zealand and United States personnel who were involved in the recovery effort. The commemorative service took place on the Ice on 28 November and was led by the Dean of ChristChurch Cathedral, the Very Reverend Peter Beck. New Zealand Poet Laureate and former Antarctic Arts Fellow, Bill Manhire wrote a poem *Erebus Voices*, which Sir Edmund Hillary read. The service was accompanied by an original composition by another former Antarctic Arts Fellow, Chris Cree Brown. A special feature of the service was a reading written by a Margaret Broad who lost a family member on Mt Erebus.

The service included messages of remembrance from relatives of those who died and from Air New Zealand staff and crew. Foreign Affairs Minister Phil Goff, Antarctica New Zealand staff and US National Science Foundation representative Dave Bresnahan, who was at McMurdo when the accident happened, all contributed readings.

In the morning, a small group from Scott Base flew up to Mt Erebus to lay wreaths at the memorial cross site. A brief ceremony was held which included sprinkling water from Aoraki Mt Cook over the memorial site.

Antarctica New Zealand and Archives New Zealand also remounted a joint remembrance exhibition in Wellington to mark the 25th anniversary of the disaster. The exhibition was opened by the Hon Phil Goff and included maps, photos and other official documents relating to Flight TE901, which were originally held by the Antarctic Division of the DSIR and later transferred to Archives. The exhibition has been extended until the end of 2006 due to public demand.

Again there was significant media coverage of this event. Both television channels led the news that night with extended features on the commemorative service on Mt Erebus and at Scott Base. Also included was particularly moving footage of Dave Bresnahan speaking. Unexpectedly, some of the wreckage was still visible and photographs taken by the Dominion Post appeared in every daily newspaper.


Ice melt
© David Trubridge / anzpc K320 04/05


Ice formation
© Kim Westerskov / arcpic.tif

Statement of Responsibility for the year ended 30 June 2005

In terms of section 155 of the Crown Entities Act 2004, the Board of Antarctica New Zealand are responsible for:

- the preparation of the financial statements and statement of service performance and for the judgements in them; and
- establishing and maintaining a system of internal control designed to provide reasonable assurance as to the integrity and reliability of financial reporting.

In the Board's opinion, the financial statements and statement of service performance for the year ended 30 June 2005 fairly reflect the financial position and operations of Antarctica New Zealand.

Paul Hargreaves
Chairperson
11 October 2005

Francis Small
Board Member
11 October 2005

Audit Report

To the readers of the New Zealand Antarctic Institute's Financial Statements for the year ended 30 June 2005

The Auditor-General is the auditor of the New Zealand Antarctic Institute (Antarctica New Zealand). The Auditor-General has appointed me, Scott Tobin, using the staff and resources of Audit New Zealand, to carry out the audit of the financial statements of Antarctica New Zealand, on his behalf, for the year ended 30 June 2005.

Unqualified opinion

In our opinion the financial statements of Antarctica New Zealand on pages 51 to 84:
- comply with generally accepted accounting practice in New Zealand; and
- fairly reflect:
  - Antarctica New Zealand's financial position as at 30 June 2005;
  - the results of its operations and cash flows for the year ended on that date; and
  - its service performance achievements measured against the performance targets adopted for the year ended on that date.

The audit was completed on 11 October 2005, and is the date at which our opinion is expressed.

The basis of the opinion is explained below. In addition, we outline the responsibilities of the Board and the Auditor, and explain our independence.

Basis of opinion

We carried out the audit in accordance with the Auditor-General's Auditing Standards, which incorporate the New Zealand Auditing Standards.

We planned and performed our audit to obtain all the information and explanations we considered necessary in order to obtain reasonable assurance that the financial statements did not have material misstatements, whether caused by fraud or error.

Material misstatements are differences or omissions of amounts and disclosures that would affect a reader's overall understanding of the financial statements. If we had found material misstatements that were not corrected, we would have referred to them in the opinion.

Our audit involved performing procedures to test the information presented in the financial statements. We assessed the results of those procedures in forming our opinion.

Audit procedures generally include:
- determining whether significant financial and management controls are working and can be relied on to produce complete and accurate data;
- verifying samples of transactions and account balances;
- performing analyses to identify anomalies in the reported data;
- reviewing significant estimates and judgements made by the Board;
- confirming year-end balances;
- determining whether accounting policies are appropriate and consistently applied; and
- determining whether all financial statement disclosures are adequate.

We did not examine every transaction, nor do we guarantee complete accuracy of the financial statements. We evaluated the overall adequacy of the presentation of information in the financial statements. We obtained all the information and explanations we required to support the opinion above.

Responsibilities of the Board and the Auditor

The Board is responsible for preparing financial statements in accordance with generally accepted accounting practice in New Zealand. Those financial statements must fairly reflect the financial position of Antarctica New Zealand as at 30 June 2005. They must also fairly reflect the results of its operations and cash flows and service performance achievements for the year ended on that date. The Board's responsibilities arise from the Public Finance Act 1989.

We are responsible for expressing an independent opinion on the financial statements and reporting that opinion to you. This responsibility arises from section 15 of the Public Audit Act 2001 and the Public Finance Act 1989.

Independence

When carrying out the audit we followed the independence requirements of the Auditor-General, which incorporate the independence requirements of the Institute of Chartered Accountants of New Zealand.

Other than the audit, we have no relationship with or interests in Antarctica New Zealand.

S M Tobin
Audit New Zealand
On behalf of the Auditor-General
Christchurch, New Zealand

Statement of Objectives and Service Performance for the year ended 30 June 2005

Performance Achieved Against Agreed Measures, Standards and Costs for all Outputs

The overall requirement of Antarctica New Zealand is to deliver Foreign Affairs and Trade Non-Departmental Output Class 01 Antarctic Research and Support:

Description

Advice on, and the development, management and execution of New Zealand activities in respect of Antarctica and the Southern Ocean, in particular the Ross Dependency. The outputs purchased include:

- Ensuring an effective New Zealand presence in the Ross Dependency through the safe, effective operation of Scott Base, and an efficient and flexible logistic support capability, which is appropriately resourced to support New Zealand objectives in Antarctica, including supporting initiatives in science, education, public awareness and environmental stewardship.
- Planning, co-ordination, facilitation and logistic support for an international quality science programme based on a long-term strategic plan for New Zealand science in Antarctica and the Southern Ocean, in particular the Ross Dependency.
- Environmental stewardship for New Zealand activities Antarctic-wide and, in particular, in the Ross Dependency and the Ross Sea region, including state of the environment reporting and management and monitoring of environmental impacts and associated logistical support.
- Public awareness and education on Antarctica and the Southern Ocean, including publications and events aimed at public awareness, encouragement of education in schools, and logistics support for associated visits to Antarctica.
- International representation in respect of scientific and other programme-level New Zealand activities in Antarctica and the Southern Ocean.
- Providing input into the development of New Zealand Antarctic policy.

Quantity, quality and timeliness

- Outputs will be delivered in accordance with the priorities and policy directions established by the Government.
- Outputs will be delivered by agreed dates and as specified in the Purchase Agreement between the Minister and the New Zealand Antarctic Institute.
- At least 80% of affected parties will rate as very good or better the consultation processes and final standard of the New Zealand Antarctic Institute's policy advice, planning and support services, rules and procedures, publications and international representation.
- Appropriate outputs will be assessed against the following quantitative benchmarks:

Performance Measures	Performance Standards	
	2004/2005 (estimated)	2004/2005 (actual)
Number of person-days in the Antarctic supported for science activities	at least 6,500 days	6,510 days
Number of person-days in the Antarctic supported for non-science activities	at least 1,000 days	1,935 days

1.1 Operational Presence in Antarctica

Purchase Agreement Outcomes

- Delivery of logistic support and infrastructure maintenance is co-ordinated by Antarctica New Zealand staff, using Antarctica New Zealand, New Zealand Defence Force (NZDF), and private sector resources as appropriate, and co-operating with other national Antarctic programmes.
- Effective management of Scott Base and the capability to support science, environmental, public awareness and education projects in the field throughout the Ross Dependency.
- Scott Base and all events operated within established risk management framework, including provision of a safe working environment for all programme participants.
- Minimising impact on the Antarctic environment through sound environmental management practices.

Costs

Full year estimate: $7,874,069
Expenditure: $7,532,463

Activity	Performance Measures	Achievement
Scott Base Management Operation of Scott Base as a support facility for science and other approved activities; including: • Accommodation capacity for 85 personnel, including catering, storage and ablution facilities. • An all terrain vehicle fleet replaced in accordance with the approved capital plan.	Year-round resident New Zealand Government representative.	Achieved. Year-round representation has been provided through designation of a resident Scott Base Manager.
	99.9% availability of power generation, and telecommunication capability.	Partially achieved. Achieved for power generation. Not achieved for telecommunications due to the failure of the Intelsat satellite in January 2005 which resulted in the complete loss of telephone, fax, email and data transfer capability for approximately one week. Emergency communications capability was maintained through McMurdo Station, and via Iridium satellite phones until a temporary service providing approximately 12 hours connectivity a day was established using a different Intelsat satellite. Return to full service was achieved by Telecom NZ using an alternative satellite PanAmSat 2.
	Minimum potable water holding of 75% of capacity at all times.	Not Achieved. The construction of the Hillary Field Centre required approximately two tonnes of water per day over and above usual requirements when concreting the floor. This combined with maintenance issues on the reverse osmosis plant lowered water holdings below the 75% threshold. Water rationing, and the completion of concreting saw water holdings return to minimum acceptable levels within 10 days otherwise minimum water holdings were maintained.

Activity	Performance Measures	Achievement
Capture opportunities to enhance efficiency and accountability through procedural/system reviews.	95% availability of vehicles.	Achieved with the exception of two Hagglunds tracked vehicles which suffered major engine problems and were taken out of service and returned to New Zealand for rebuilding. The type of diesel engine in these vehicles has been proven to be inadequate for this role so will be replaced with a more robust system.
	100% Environmental Management System compliance.	Achieved. Requirements met as evidenced by "EnviroMark" gold-level accreditation in March 2005.
	Review of operational procedure documentation by 1 October annually.	Achieved. Completed prior to the start of the 2004/2005 season in October.
Risk Management		
Provide a safe working environment in Antarctica to enhance personnel health and safety, environmental compliance, and protect assets.	Biannual statutory compliance reviews, and annual review of risk management procedures.	Achieved. Completed for the six months ended September 2004 and March 2005.
	Annual risk assessment and management plan for all events in Antarctica by 30 September annually.	Achieved.
Logistics Capability		
Logistics and supply support for approved New Zealand activities in the Ross Sea region and Southern Ocean.	Flights providing a minimum of 375,000lbs of airlift.	Not achieved. Unusually warm summer temperatures caused the closure of the sea ice runway for wheeled aircraft before the RNZAF could complete their allocation of 15 missions (only 11 were completed). This had the effect of New Zealand contributing inadequate airlift to the joint logistics pool with the USAP.
	100% screening of programme participants to Antarctica New Zealand medical standards.	Achieved.
	Efficient movement of all cargo requirements with 95% accuracy in cargo assignments.	Achieved.
	100% compliance with hazardous materials transport regulations.	Achieved.

Activity	Performance Measures	Achievement
Field operating support in the Ross Sea region, including: • Search and rescue (SAR) support including joint operations with other national programmes. • Transport support (ground, sea and air). • Specialised training both in New Zealand and Antarctica, including fire fighting, field training, diving operations, handling of hazardous materials, and small boat operations. • Co-ordination of total logistics support to authorised science and non-science events, throughout the Ross Sea region. • Effective delivery of support services to meet user requirements, in an effective manner to conserve organisational resources.	100% availability of field communications including radio and satellite phone.	Achieved.
	Three SAR personnel trained to a minimum of New Zealand Outdoor Instructors Association (NZOIA) Alpine 2 provided to the Joint SAR team with the United States.	Achieved. A secondary SAR team has also been trained. A number of SAR team callout exercises have been carried out in concert with the United States Antarctic Program.
	Provision of a medium lift helicopter capability with a 95% availability rate.	Achieved with a 99% availability rate.
	All Scott Base contract staff and NZDF seconded staff meet the New Zealand Fire Service training standard for fire fighting prior to deployment to Antarctica. All Antarctica New Zealand staff hold a current first aid qualification prior to deploying to Antarctica.	Achieved. The New Zealand Fire Service has conducted validation training at Scott Base. There were numerous fire training exercises in the reporting period, and no fires.
	Event requirements reviewed and a supportable logistics plan implemented by 30 September annually.	Achieved. The operational plan was successfully implemented and event outputs satisfactorily achieved.
	Fulfilment of event support requirements as measured by event debrief scores of seven or better.	Achieved. Event debrief scores averaged 9 out of 10 for service delivery satisfaction.
Train and equip New Zealand Government National Representatives.	Provide training and equipment appropriate to the activities and areas that National Representatives will operate in as agreed with MFAT and DOC.	Achieved.
Infrastructure Development		
Annual capital development plan.	Delivered in accordance with the capital replacement plan approved by the Board of Antarctica New Zealand.	Achieved. The main focus during the year has been the Hillary Field Centre which is projected to be completed within budget and on time. Planning for the replacement Arrival Heights Laboratory is ongoing.
Improved efficiencies in energy and waste management at Scott Base and in field operations (joint environment/operations initiative). NOTE: Longer-term aim is reduction of fuel usage by 10% of 2002/2003 figures within five years. This is to be based on fuel usage divided by the total square metres of heated floor space.	Energy use at Scott Base audited by 30 June 2005.	Achieved. Independent experts from the University of Canterbury completed an audit of Scott Base energy usage in January 2005. Its key recommendations have been accepted for implementation. Alternative energy systems will be trialled at Cape Bird and on two remote field camps next summer to assess performance. Data collection for siting a wind turbine farm is continuing.

Activity	Performance Measures	Achievement
	Scott Base waste reduced through review of purchasing policy by October 2004.	In progress. The Government initiative to reduce packaging waste has been implemented and supplier reviews and contracts will stipulate the need for packaging minimisation.
ANDRILL Project As Project Operator provide a project management function responsible for: planning, budget, on-ice operations and environmental oversight, on behalf of Project members (Germany, Italy, New Zealand, United States).	New drill site laboratory and emergency camp designed and built, and transported to Antarctica by January 2005.	Completed. This work has been completed and was shipped to Antarctica in February 2005. The camp has been stored at Scott Base for use next season.
	Begin the redesign and refurbish/build the CRP main camp (for transportation to Antarctica in January 2006).	In progress. The utilities section of the main camp has been returned to Christchurch. Progress to date has been limited to some redesigning of the electrical system and rearrangement of some modules. Because the main camp is not required until the 2007/2008 summer season it will now be transported to Antarctica in January 2007.
	In conjunction with the United States Antarctic Program in the 2004/2005-summer season, begin McMurdo Ice Shelf (MIS) drill site preparation and continue site survey work at Southern McMurdo Sound (SMS) drill site.	In progress. The United States Antarctic Program cancelled all support for ANDRILL site preparation and site survey work in the 2004/2005 summer season. This work will now be undertaken during the 2005/2006 summer season.
	Plant purchase programme finalised by October 2004 and delivered to Antarctica by January 2005.	In progress. Because drilling was delayed one year (now planned for the 2006/2007 summer season) the plant (vehicles) purchase programme was also delayed for one year. Exceptions have been the purchase of a second-hand Hagglunds all-terrain-vehicle and two snowmobiles which were shipped to Antarctica in January 2005.
	Draft ANDRILL Operations Plan written and circulated to Project partners no later than 30 June 2005.	In progress. Because of the one year delay the Operations Plan will now be circulated to Project partners no later than 30 June 2006.
	CEE amended and submitted to ATCM in April 2005.	In progress. Because of the one year delay the final version of the CEE will be submitted to the ATCM in April 2006.

Activity	Performance Measures	Achievement
Manage design and construction of ANDRILL drill system.	Drill system completed and tested/trialled before transporting to Antarctica, either by air (October 2005) or ship (January 2006).	In progress. Steady progress is being made on the design and build of the drill system. The complete system (with the exception of the hot water drill) will be tested/trialled in mid-late 2005 and transported to Antarctica by ship in January 2006. The hot water drill will also be shipped to Antarctica in January 2006 and trialled before the season closes.
	Purchase drill rod and drill 'muds' and transport to Antarctica in January 2005.	In progress. Because of the one year delay the purchase of drill rod and drill 'muds' will now be made in 2005 and shipped to Antarctica in January 2006.
	Write draft ANDRILL Drill Plan by 15 June 2005 to be included in ANDRILL Operations Plan.	In progress. Because of the one year delay the Drill Plan will now be completed by 15 June 2006 for inclusion in the Operations Plan.
Latitudinal Gradient Project		
Operate a field camp for a season, including vehicles, to Cape Hallett, to support 15 scientists.	Camp deployed no later than 15 November 2004. Scientists supported through until the end of January 2005.	Achieved. The LGP Camp completed a full season supporting science and environmental remediation parties at Cape Hallett.
Quality and Environmental Management Systems		
Work will continue to enhance service delivery, environmental compliance, occupational safety and health, and information accessibility.	100% compliance with the Antarctica (Environmental Protection) Act, and the Occupational Safety and Health Act.	Not achieved. Fifteen corrective actions were raised in the Environmental Management System over the 2004/2005 season. Seven of these were as a result of our "EnviroMark" audit of Scott Base. Some minor changes to the Scott Base health and safety management system have been implemented, raising the level of employee involvement in the working of the Base OSH Committee, and the correct dissemination of minutes and other information.
	The requirements of the Environmental Management System met consistent with the AS/NZ ISO 14001:1996.	Achieved. Requirements met as evidenced by "EnviroMark" gold-level accreditation in March 2005.
Ensure the integrity of planning information by implementing the event planning, preventive maintenance and other relevant components of the Information Management System (IMS) project.	Meet the implementation deadlines in accordance with the IMS project.	Achieved. The event-planning module of the IMS is operational and being used to plan the 2005/2006 summer season.

1.2 Science

Purchase Agreement Outcomes

- Research in and related to Antarctica and the Southern Ocean is recognised as a valuable part of New Zealand's science investment by the Foundation for Research, Science and Technology (FRST); Ministry of Fisheries (MFish); the Marsden Fund; and research providers, such that the total amount of Antarctic and Southern Ocean science funding is increased.
- New Antarctic and Southern Ocean researchers are encouraged into the New Zealand Antarctic programme and a scientist succession plan is created.
- New Zealand's research in the Southern Ocean is efficiently and effectively coordinated in response to the Cabinet Paper on Southern Ocean issues (Cabinet 2002 decision).

Costs

Full year estimate: $359,172
Expenditure: $357,934

Activity	Performance Measures	Achievement
Science Management and Facilitation Provide strategic direction and planning for New Zealand Antarctic and Southern Ocean science.	3-5 year science plan developed, in consultation with funders, providers and users, incorporating the Latitudinal Gradient Project (LGP), ANDRILL and BioRoss by August 2004.	In progress. LGP and ANDRILL have well defined plans for the next five years. Integration of these into the rest of the science event planning is being done by the Antarctic Research Committee (ARC).
	Two LGP Science Steering Committee meetings convened to plan on data management and future research during 2004/2005.	Achieved. Two meetings were convened and the LGP Science Steering Committee is going forward with a special issue of Antarctic Science devoted to LGP. The committee will act as guest editors for the 20 articles currently proposed.
	The Research Theme Committee (RTC) established and directing Antarctic and Southern Ocean long-term planning by April 2005.	In progress. The membership of the Research Theme Committee has been finalised and consists of: Tim Haskell (IRL), Bryan Storey (U of Canterbury), Ashley Sparrow (U of Nevada), Clive Howard-Williams (NIWA), Neil Andrew (World Fish Centre) and Neville Smith (MFish). The first meeting of the RTC will follow the outcome from the science review committee.
	Integrated plan for New Zealand's contribution to the International Polar Year (IPY) 2007/2008 research projects is drafted by June 2005.	In progress. The first IPY Census of Antarctic Marine Life meeting was held in May 2005 in Brussels. The Science Strategy Manager represented New Zealand's interests in the project. Fourteen countries attended the meeting and initiated the science plan to be presented at COMNAP meeting in July 2005.
	Science succession plan is created with university and CRI input by May 2005.	In progress. The Science Strategy Manager is meeting with each university to discuss this issue in more detail. A plan will be drafted after all the universities and CRIs related to Antarctic science are consulted.

Activity	Performance Measures	Achievement
Manage a process for the 2005/2006 Antarctic season "Application for Support" round for Antarctic and Southern Ocean science, and initial selection of acceptable projects using the Antarctic Research Committee.	Conduct an independent review of New Zealand Antarctic science looking at the last 20 years by October 2004.	In progress. This project has now been rescoped and is scheduled for completion by March 2006. The independent review committee has been selected and a questionnaire was sent to all scientists involved in Antarctic research over the past 5 years. The Science Strategy Manager has interviewed a number of researchers to get their views on their own contributions to Antarctic science over the past five years which will feed into the review committee.
	Create an integrated science plan for marine research in the Southern Ocean in response to the Cabinet Paper on Southern Ocean issues by June 2005.	In progress. An inter-departmental funding proposal for marine research in the Southern Ocean was developed for the 2005 Budget but was unsuccessful. The Science Strategy Manager is drafting a new plan focused on marine IPY initiatives with FRST, MoRST and MFish for 2006.
	Create Letters of Agreement and Memorandums of Understanding with individuals and institutes of science providers for the 2-year period of support before August 2004.	Achieved. Letters of Agreement were in place for all supported events for the 2004/2005 season.
Provision of technical scientific support and facilities for science in Antarctica.	All approved science projects are appropriately supported in Antarctica to achieve project goals.	Achieved. The events scheduled to take place in Antarctica have all been supported appropriately.
	Provision of science technician, computing and science support facilities meets event requirements as indicated by event debrief comments within cost constraints.	Achieved. The failure of the Intelsat satellite in January 2005 adversely affected computing facilities at Scott Base for a number of weeks. Otherwise feedback suggests that science support facilities continue to meet event requirements within cost constraints.
Reporting Science		
Publish information on New Zealand's Antarctic and Southern Ocean science.	Annual Report includes contribution of science using the three science strategy themes.	Achieved. The three science themes are integrated within the science section of the Annual Report.
	The website has up to date scientific information relating to past findings and future directions.	Achieved. The new website has a large section devoted to science. The structure of the website uses other existing websites maintained by the researchers to further describe their results to the public.

Activity	Performance Measures	Achievement
	Maintain the National Antarctic Data Centre with current data from science events.	Achieved. Each event submits metadata relating to their research. This information is then submitted to the Antarctic Master Directory. The NADC is planning on holding LGP data, which will be used by multiple groups.
	Update a running bibliography on New Zealand's Antarctic publications in August 2004.	Achieved. The bibliography was updated in August 2004 and is scheduled for further update in August 2005. All abstracts have been added to the bibliography where acceptable by the publisher.
Public education and awareness of recent scientific events and findings.	Co-ordination of an annual Antarctic conference in March/April 2005.	Achieved. The 2005 Antarctic conference was held in early July at the University of Canterbury with over 100 attendees.
	All science events are given an opportunity for media profile.	Achieved. Science exposure opportunities through print, TV and radio presentations were provided all through the season.
	Lecture on Antarctic science for public education events and Gateway Antarctica graduate certificate course.	Achieved. Management and staff have given many lectures throughout the year at the University of Canterbury and other universities around the country.
Science Funding Continued advocacy for Antarctic science to ensure funding availability for high quality research.	Create a Memorandum of Understanding with FRST to better coordinate science and logistic support for Antarctic and Southern Ocean research by June 2005.	In progress. A first draft Memorandum of Understanding has been circulated to FRST. Because of the difference in deadlines between Antarctica New Zealand's support bidding round and the portfolios run by FRST the draft MOU has not progressed further and has been put on hold.
	Advice provided to the Ministry of Fisheries on Southern Ocean issues and contribute to their annual Medium Term Plan for Biodiversity in the Ross Sea.	Achieved. Advice is given to the Ministry of Fisheries when required.
	Findings of the independent science review panel reported to the Royal Society Committee on Antarctic Science (RSCAS) and the Officials Antarctic Committee (OAC) by February 2005.	In progress. Deferred until the independent science review is completed in 2006.

1.3 Environmental Stewardship

Purchase Agreement Outcomes

- Recognition of Antarctica New Zealand as a centre of expertise on Antarctic environmental stewardship.
- A high level of environmental awareness and commitment among staff and stakeholders.

Costs

Full year estimate: $579,646
Expenditure: $381,382

Activity	Performance Measures	Achievement
Environmental Performance		
Continued efficiency improvements in energy management at Scott Base and in field operations (joint environment/operations initiative). Note: Longer-term aim is reduction of fuel usage by 10% of 2002/2003 figures within five years.	Renewable-energy partnership agreement signed with University of Canterbury engineering department by September 2004.	Achieved. Partnership agreement signed September 2004. Key projects have been identified for further development over the coming year.
	At least one alternative energy field trial supported during the 2004/2005 field season.	Achieved. A wind and solar-power package was tested at Cape Hallett with significant success. An energy audit was completed at Scott Base – all under the auspices of the above agreement with Canterbury University. Outcomes to this work have been reviewed and further projects (notably at Cape Bird) are planned for 2005/2006.
Waste volumes from Scott Base further reduced through review of purchasing policy and increased recycling – glass in particular.	Implement system to accurately measure and record all waste returned from Scott Base by 30 June 2005.	In progress. Some progress made with recording waste data for the 2004/2005 season. A major review of waste streams has been started. The Recovered Materials Foundation (based in Christchurch) have been engaged to assist in maximising recycling of waste materials.
Further development of Antarctica New Zealand's environmental management system.	Gold level "EnviroMark" accreditation achieved by December 2004.	Achieved.
Implementation and enhancement of Antarctica New Zealand's environmental monitoring programme.	End of season environmental performance report provided to EARP by end May 2005.	Achieved. Environmental performance report provided by May 2005. Key highlights of the report are the removal of 27 tonnes of waste materials from the abandoned Cape Hallett station; the decrease in total fuel use, and the waste stream review and introduction of new recycling units at Scott Base.

Activity	Performance Measures	Achievement
Environmental audits reported back to all event science Principal Investigators.	Audits provided to all science Principal Investigators within one month of the end of the season.	Achieved. Thirteen field events were audited during the 2004/2005 season. All audits have been sent to relevant Principal Investigators.
Further development of the environmental database to ensure a more integrated approach to monitoring, storing and reporting environmental data.	Unified database in place by June 2005.	In progress. Improvements to data handling have been made. The GIS system developed by Gateway Antarctica is being used to display key information.
Further develop the Ross Sea region state of the environment reporting system.	Action plans, to meet key issues identified in the report, in place by December 2004.	In progress. Significant progress has been made in reviewing Antarctica New Zealand's monitoring and reporting programme. This will continue through 2005/2006.
Undertake an assessment of the bio-security risks for the Ross Sea region of Antarctica.	Risk assessment completed by March 2005.	In progress. We are working with Gateway Antarctica with a view to holding an international biosecurity workshop in autumn 2006. This workshop was endorsed by CEP VIII.
Develop, in co-operation with the United States Antarctic Program, an Oil Spill Contingency Plan for the Ross Sea region of Antarctica.	Contingency plan operational by June 2005.	In progress. A project plan has been prepared. Maritime New Zealand comments and observations have been incorporated. The plan has been sent to USAP and IAP for their views. An operational plan is now unlikely until 2006.
Environmental Compliance Ensure full compliance with the Antarctica (Environmental Protection) Act 1994 and the Environmental Protocol to the Antarctic Treaty, for all Antarctica New Zealand managed activities.	Environmental impact assessment (EIA) and permitting processes are submitted for all Antarctica New Zealand supported activities by due deadlines.	Achieved. All EIAs were submitted to MFAT on target for the 2004/2005 season.
	No infringements of the Act reported for the 2004/2005 season.	Not achieved. Fifteen corrective actions were raised during the season for a range of minor incidents (e.g. small fuel spills, inadvertent ASPA entry, "EnviroMark" audit).

1.4 Public Awareness

Purchase Agreement Outcomes

- Increased public awareness of the global significance and importance to New Zealand of Antarctica and the Southern Ocean.
- Increased interest and engagement in New Zealand's national involvement in the Ross Sea region.
- Increased understanding of New Zealand's international obligations under the Antarctic Treaty System.

Costs

Full year estimate: $217,815
Expenditure: $228,433

Activity	Performance Measures	Achievement
Public Awareness Improve general public awareness and understanding of the Antarctic environment, and New Zealand's involvement in Antarctica and the Southern Ocean.	Develop and implement a public awareness programme for the 2004/2005 season including a media programme and the Artists to Antarctica programme. Evaluate against previous years.	Achieved. Successful media visits occurred during the 2004/2005 season with coverage still being generated with the following artists visiting Antarctica: furniture designer David Trubridge, jeweller Kirsten Haydon, author Bernadette Hall and illustrator Kathryn Madill, along with invitational artist Dick Frizzell. Successful Artists to Antarctica programme completed for 2004/05 season. Coverage continues to be generated by former Antarctic Arts Fellows through exhibitions, articles, performances and arts awards. In addition a range of artists and media participants from the 2004/05 season will present to the Annual Antarctic Conference in July 2005.
	Investigate a media measurement system to evaluate media coverage.	Achieved.
	Develop partnerships with visitors centres, museums, galleries and other public profile partners to ensure at least four public events relating to Antarctica by 30 June 2005.	Achieved. The following public events were delivered as result of developing partnerships with visitor centres, museums, galleries and other public profile partners: 1 Antarctica New Zealand / Archives New Zealand *Erebus Remembered* exhibition in Wellington. Recently extended another 14 months due to public interest 2 Te Papa's South: *Race to the Pole* exhibition and accompanying events. Over 64,000 people visited the exhibition.

1.4 Public Awareness *continued*

Activity	Performance Measures	Achievement
		3 Lake Vanda Reunion involving over 100 former Antarcticans. 4 Sinfonia Antarctica in tandem with Christchurch Symphony Orchestra which included a live link up to Scott Base and the use of Antarctic imagery. 5 The launch of Antarctica New Zealand's Science Strategy at a Wellington function in August 2004. 6 The Kids Congress which had an Antarctic theme and involved 325 primary school children and over 150 teachers, parents and other adults. The Congress was held at the International Antarctic Campus and was also supported by the Antarctic Attraction and United States Antarctic Program/Raytheon Polar Services.
Maintain and update Antarctica New Zealand's website.	Report website usage and length of user session. Increase number of hits by 5% by 30 June 2005.	Achieved. New website designed and created for Dry Valleys ASMA. Between 1 July 2004 and 30 June 2005 Antarctica New Zealand's website achieved a 58% increase in unique user hits.
Provide efficient access to Antarctica New Zealand's pictorial collection.	15% of Antarctica New Zealand's pictorial collection accessible via database by 30 June 2005.	Achieved.
Provide a New Zealand based National Antarctic Data Centre (NADC) system.	NADC system developed by 30 June 2005.	Achieved. NADC redesigned so that metadata is included. The metadata requirement is now also included in logistics reports. A presentation on the NADC will be given at the Annual Antarctic Conference in July 2005.
	Retrospective metadata added to Global Change Master Directory (GCMD) by 30 June 2005.	Achieved.
Maintain Antarctica New Zealand art collection.	Investigate options for storage and display by 31 December 2004.	Achieved. Recommendations being implemented with additional framing and conservation work in progress as budget priorities allow.
Commence planning to mark the 50th anniversary of New Zealand on Ice.	Initial plan developed by 31 January 2005.	Achieved. Initial plan approved in principle by the Board. Exhibition plan completed. External curator appointed. Meetings held with a range of key external stakeholders.

1.5 Education

Purchase Agreement Outcomes

- Public commitment to conservation of intrinsic and wilderness values of Antarctica and the Southern Ocean.
- Awareness of New Zealand science initiatives.
- Academic involvement in Antarctic research.
- Contribution to New Zealand's national identity and significance of Antarctica New Zealand's role in Antarctica.
- Encouragement and appreciation in schools of Antarctica, the Southern Ocean and New Zealand's activities in Antarctica.

Costs

Full year estimate: $54,967
Expenditure: $56,470

Activity	Performance Measures	Achievement
Facilitation of Antarctic Education		
Encourage the provision of high quality education about New Zealand's Antarctic interests and activities.	Develop a web-based education system by 30 June 2005.	Achieved.
Develop a web-based education system by 30 June 2005.	Implement a Youth on Ice programme by 30 June 2005.	Achieved. Four Project K graduate students visited Antarctica in January 2005 and successfully delivered all outcomes. Following a review of this pilot project, Project K have been confirmed for the 2005/06 season. All four Project K students from 2004/05 season spoke at the Annual Antarctic Conference in July 2005. Initial discussions also under way with Royal Society for Youth on Ice project in 2006/07 season.
	Formalise relationship with Christchurch College of Education through the establishment of a partnership agreement by 30 June 2005.	Achieved. The focus of the education programme has since moved to a web-based system. An ongoing informal relationship continues with Christchurch College of Education.
Support education in Antarctic studies at New Zealand tertiary institutes.	Relationships formalised between Antarctica New Zealand, Gateway Antarctica and other tertiary institutions.	Achieved. New Zealand Universities Antarctic Alliance established.
	Assist Gateway Antarctica increase applicant numbers and quality of applicants through input into GCAS Business Marketing Plan by 31 March 2005.	Achieved. Information and assistance provided as required.
Increase publicity of Antarctic post-graduate research scholarships to New Zealand universities and research institutes.	Review Antarctica New Zealand scholarship programme by 1 November 2004.	Achieved.
	Develop and implement a marketing / advertising plan by 31 January 2005.	Achieved.

1.6 International Representation, Influence and Leadership

Purchase Agreement Outcomes

- Enhanced New Zealand profile and influence in the international management of Antarctica and the Southern Ocean, evidenced by Antarctica New Zealand scientific, technical and environmental support to New Zealand delegations to: Antarctic Treaty Consultative Meeting (ATCM), Committee on Environmental Protection (CEP) and Council of Managers of National Antarctic Programmes (COMNAP).
- New Zealand's international profile is elevated through quality science and collaborations with international partners and Scientific Committee on Antarctic Research (SCAR) programmes.
- New Zealand is acknowledged internationally as a science leader through its contributions to ANDRILL, LGP and BioRoss.
- A strong New Zealand input to, and influence of, international Antarctic environmental policy.
- Foreign collaboration, research and scholarship in Antarctic activities through New Zealand is encouraged as a result of Antarctica New Zealand initiatives.

Costs

Full year estimate: $213,462
Expenditure: $149,801

Activity	Performance Measures	Achievement
International Forums / Antarctic Treaty Consultative Meeting Contribute to MFAT and OAC consideration of ATCM issues, the New Zealand ATCM/CEP delegation, and a positive New Zealand profile in the Antarctic Treaty System.	Expert advice provided to the New Zealand delegation within a maximum 10 day timeframe.	Achieved. Advice provided as required.
	Chief Executive and Environmental Manager members of the New Zealand delegation to ATCM XXVIII and CEP VIII.	Achieved. The Environmental Manager was appointed as New Zealand's CEP Representative. CEP VIII was a significant success for New Zealand with 4 working papers and 5 information papers submitted.
	International leadership provided to the working groups within ATCM on: • State of the environment monitoring (jointly with Australia) • Cumulative impact monitoring • Review of five year management plans • Antarctic environmental domains analysis.	Achieved. Antarctica New Zealand was involved in all intersessional groups preparing for ATCM XXVIII. The Environmental Manager convened the contact group on state of the environment reporting.
	ATCM "Exchange of Information" provided in consultation with MFAT two months prior to the Treaty Meeting.	Achieved.
	Presentation of ATCM outcomes with MFAT to key sectoral groups in New Zealand within 30 days of the Treaty meeting.	Achieved. Assistance provided to MFAT as required in reporting the outcomes to the 2005 ATCM.

Activity	Performance Measures	Achievement
Contribution to the New Zealand influence in the Convention for the Conservation of Antarctic Marine Living Resources (CCAMLR).	Provision of environmental and scientific advice, particularly in relation to marine protected areas, to the New Zealand CCAMLR delegation throughout the year.	Achieved. Environmental Manager attended CCAMLR XXIII (November 2004). The issue of marine protected areas is gaining prominence within CCAMLR. The Environmental Manager has been elected on to the steering committee for CCAMLR's first marine protected areas workshop (August 2005).
International Operational Influence		
Influence in international operational developments through COMNAP and its sub-groups.	Chief Executive to attend the annual COMNAP meeting in July 2004 and continue as Chair of the Environmental Co-ordinating Group.	Achieved. Reports tabled with Board.
	Operations Manager to attend the annual COMNAP meeting in July 2004 and continue as New Zealand's delegate to the Standing Committee on Antarctic Logistics and Operations.	Achieved. Key issues for SCALOP at the forthcoming meeting remain the completion of protocols for the operation of ships in Antarctic waters, review of the Antarctic Flight information manual, and the publication of the symposium proceedings from the Bremen meeting.
International Science Leadership		
New Zealand's international profile is elevated through quality science and collaborations with international partners and SCAR programmes.	Chair the Joint Committee on Antarctic Data Management Meeting and SCAR Session in July 2004.	Achieved. The Science Strategy Manager successfully chaired the JCADM meeting in Bremen, Germany. Since then the Science Strategy Manager has stepped down as the Chief Officer of JCADM after the completion of his second appointment to the position.
	The Science Strategy Manager is appointed as SCAR alternate-delegate for New Zealand by August 2004.	Not achieved. Dr Fred Davey has stayed on as New Zealand's alternate-delegate to SCAR. Now that the JCADM position is finished the Science Strategy Manager will be better suited to pursue the role as alternate-delegate.
	Present LGP preliminary findings and plans to the Regional Sensitivity to Climate Change in Antarctic Terrestrial Ecosystems (RiSCC) conference in July 2004.	Achieved. The Science Strategy Manager presented an update to the RiSCC project in France during a four-day workshop. The RiSCC scientists were very interested in working with LGP and there have been some new plans for collaborations with the Italians and the British.

Activity	Performance Measures	Achievement
	Foster at least two more international collaborations with scientists from Italy and the United States under the LGP by June 2005.	In progress. The Italians will be working at the LGP on soil research and marine research during the 2005/2006 season. The United States are interested in working closely with LGP at the Darwin Glacier site in 2006/2007.
	Continue to lead science programme management issues related to ANDRILL by finalising the terms of the McMurdo Sound ANDRILL Science Implementation Committee (MASIC) by July 2004.	Achieved. A final agreement between the four programme managers from Italy, Germany, United States and New Zealand was reached at the SCAR conference in July. MASIC has had a successful meeting since without any reported problems related to information sharing.
	Increase New Zealand's scientific collaboration with Australia by supporting at least four Australian researchers in the Ross Dependency during the 2004/2005 season.	Achieved. Dr Hamish McGowan was supported by New Zealand during the 2004/2005 season. He worked in the Dry Valleys on ancient dunes in the area. His group was the first to be acknowledged by either country as part of a New Zealand / Australian agreement.
International Environment Leadership Actively contribute to the Committee for Environmental Protection's further development of an Antarctic-wide state of the environment reporting system.	State of the environment reporting system endorsed and operational by CEP VIII (May 2005).	In progress. Environmental Manager lead the state of the environment reporting contact group for 2004/2005. CEP VIII endorsed the work undertaken to date and encouraged further development of the system.
Continue with the clean up of sites of past New Zealand activities, in particular joint clean up of the Cape Hallett station with the United States Antarctic Program.	IEE for the Cape Hallett clean up programme completed ahead of the 2004/2005 season.	Achieved. A revised version of the IEE was submitted to MFAT ahead of activities during the 2004/2005 season. The IEE was completed and submitted to MFAT in June 2005.
	22 tonnes of waste material removed from Cape Hallett by February 2005.	Achieved. Five tonnes of additional waste collected during 2004/2005. All 27 tonnes removed by the Italian Antarctic research vessel Italica in February 2005.
Prepare an inventory of locations of past (and where appropriate) present New Zealand activities.	Inventory in place by May 2005.	In progress. The inventory has been developed. We are working with Gateway Antarctica to present the inventory in a GIS format.
Clean-up requirements at other known sites of past activities identified.	Action plans prepared by February 2005.	Achieved. A priority list of clean-up sites has been developed and will be implemented from the 2005/2006 season on.

Activity	Performance Measures	Achievement
Maintain and further develop an effective network of Antarctic protected areas including:		
• Undertaking five year reviews of the management plans completed for Canada Glacier, Cape Evans, Cape Royds, Hut Point and Cape Adare.	Five year reviews submitted to CEP VIII by due deadlines.	Achieved. Five years reviews of relevant plans were presented to CEP VIII and endorsed with no additional changes by ATCM XXVIII
• Full implementation of the Dry Valleys Antarctic Specially Managed Area (ASMA) management plan, including provision of relevant training for all Antarctica New Zealand supported personnel operating in the Dry Valleys.	No ASMA management plan infringements reported at the end of the 2004/2005 season.	Achieved. No ASMA management plan infringements have been reported.
• Contribute to the further development of a network of marine protected areas in the Southern Ocean and Ross Sea.	Principle of marine area protection supported at the CEP and CCAMLR.	Achieved. CCAMLR will have a marine protected area workshop in August 2005. The Environmental Manager has been elected on to the workshop steering committee.
High quality New Zealand input to international environmental fora, including meetings of the CEP, ATCM, Antarctic Environmental Officers Network (AEON) and COMNAP as appropriate.	Working and information papers submitted by due deadlines	Achieved. Four working papers and five information papers were submitted by due deadlines.
	Antarctica New Zealand leads at least one inter-sessional contact group by 30 June 2005.	Achieved. Environmental Manager convened the CEP's contact group on state of the environment reporting. Outcomes to this intersessional work were supported by CEP VIII.
International Connections		
Continue to increase international connections in Antarctic science.	Provide seven places in the New Zealand Antarctic programme in support of New Zealand's efforts to encourage Malaysia's signature of the Antarctic Treaty.	Achieved. Seven Malaysian Antarctic Research Programme personnel participated in the New Zealand Antarctic programme over the 2004/2005 summer.
	Provision of visits in November 2004 by international delegations from Belgium, China (jointly with the United States) to Scott Base.	Achieved. Belgian delegation visited Scott Base in November 2004. A Chinese delegated was hosted at Scott Base in February 2005.
	Complete Letter of Understanding in consultation with MFAT to increase international collaboration with the Australian Antarctic Division.	Achieved. Memorandum of Understanding signed on 27 May 2005.

Output Cost Estimates (Excluding GST)

	Actual (Expenditure)	Full Year Estimate (Crown Appropriation Funding)
Operational Presence in Antarctica	$7,532,463	$7,874,069
Science	$357,934	$359,172
Environmental Stewardship	$381,382	$579,646
Public Awareness	$228,433	$217,815
Education	$56,470	$54,967
International Representation, Influence and Leadership	$149,801	$213,462
Total	$8,706,483	$9,299,131

Prasiola frozen in ice, Joyce Glacier

Financial Statements for the year ended 30 June 2005

Statement of Accounting Policies for the Year Ended 30 June 2005

Reporting Entity

Antarctica New Zealand is the trading name of the New Zealand Antarctic Institute, a Crown Entity established by the New Zealand Antarctic Institute Act 1996.

The financial statements have been prepared in accordance with the Crown Entities Act 2004 and the Public Finance Act.

Measurement Base

The measurement base adopted is that of historical cost.

Accounting Policies

The following particular accounting polices which materially affect the measurement of financial performance, financial position, and cash flows have been established and consistently applied.

(a) Budget Figures

The budget figures are those approved by the Board at the beginning of the financial year.

The budget figures have been prepared in accordance with generally accepted accounting practice and are consistent with the accounting policies adopted by the Board for the preparation of the financial statements.

(b) Revenue Recognition

Antarctica New Zealand derives revenue through the provision of outputs to the Crown, for services to third parties and income from its investments. Such revenue is recognised when earned and is reported in the Statement of Financial Performance in the period to which it relates.

(c) Leases

Operating lease payments where the lessors effectively retain substantially all the risks and benefits of ownership of lease items are charged as expenses in the periods to which they relate.

(d) Property, Plant and Equipment

All owned items of property, plant and equipment are initially recorded at cost and, except for land and the art collection, depreciated. Initial cost includes the purchase consideration, or fair value in the case of a donated asset, and those costs directly attributable in bringing the asset to the location and condition necessary for its intended use.

The art collection is recorded at market value as at 9 September 1999, this is deemed to be cost. Subsequent additions to the collection are recorded at market valuation on the date of acquisition.

Capital work in progress is not depreciated. The total cost of a capital project is transferred to the relevant asset class on its completion and then depreciated.

(e) Depreciation

Depreciation is calculated using the straight-line method to allocate the cost of an asset over its estimated useful life.

The estimated useful lives of property, plant and equipment are as follows:

Buildings	40 years
Clothing	10 years
Communications Equipment	5-7 years
Computer Hardware and Software	2-7 years
Leasehold Improvements	10-15 years
Library Collection	20 years
Office Equipment	3-5 years
Office Furniture	3-5 years

Plant and Machinery	10 years
Scott Base Fit Out	20 years
Tents	10 years
Vehicles - Christchurch	7 years
Vehicles – Scott Base	10 years

(f) Employee Entitlements

Provision is made in respect of Antarctica New Zealand's liability for annual leave and long service leave.

Annual leave and long service leave have been calculated on an actual entitlement basis at current rates of pay or the appropriate historical rate whichever is the highest.

(g) Accounts Receivable

Accounts receivable are stated at their estimated net realisable value.

(h) Goods and Services Tax

The figures stated in these financial statements are GST exclusive, except for accounts receivable and accounts payable which are stated GST inclusive.

(i) Income Tax

Antarctica New Zealand is a public authority for the purposes of income tax legislation and is exempt from income tax.

(j) Financial Instruments

Antarctica New Zealand is party to financial instruments as part of its normal operations.

These financial instruments include bank accounts, short-term bank deposits, accounts receivable, accounts payable and forward foreign exchange contracts.

Antarctica New Zealand enters into forward foreign exchange contracts to hedge currency transactions. Any exposure to gains or losses on these contracts is generally offset by a related loss or gain on the item being hedged.

All financial instruments other than forward foreign exchange contracts are recognised in the Statement of Financial Position.

Revenues and expenses in relation to all recognised financial instruments are recognised in the Statement of Financial Performance.

(k) Joint Venture

The financial statements include Antarctica New Zealand's 25% share in the Antarctic Drilling Project - ANDRILL. Antarctica New Zealand's share of the assets, liabilities, revenues and expenses of ANDRILL have been incorporated into the financial statements on a line-by-line basis using the proportionate method.

Changes in Accounting Policies

There have been no changes in accounting policies during the year. All policies have been applied on a basis consistent with those used in previous years.

Statement of Financial Performance for the year ended 30 June 2005

	Note	2005 Budget $000	2005 Actual $000	2004 Actual $000
Revenue				
Crown Revenue	1	9,299	9,069	8,807
Interest Income		233	318	308
Other Income		424	541	616
		9,956	9,928	9,731
Expenditure				
Operating Expenses	2	8,034	7,668	7,794
Depreciation	6	1.192	1.038	960
		9,226	8,706	8,754
Net Operating Surplus	3	730	1,222	977

Statement of Movements in Taxpayers' Funds for the year ended 30 June 2005

	Note	2005 Budget $000	2005 Actual $000	2004 Actual $000
Taxpayers' Funds at 1 July		16,057	16,057	7,651
Net Operating Surplus for the year		730	1,222	977
Total Recognised Revenue and Expenses		730	1,222	977
Crown Capital Contribution		-	-	7,429
Taxpayers' Funds at 30 June		16,787	17,279	16,057

Statement of Financial Position as at 30 June 2005

	Note	2005 Budget $000	2005 Actual $000	2004 Actual $000
Taxpayers' Funds				
Taxpayers' Funds	3	16,787	16,989	16,057
ANDRILL Project Management Reserve	4	-	290	-
Total Taxpayers' Funds		16,787	17,279	16,057
Represented by:				
Current Assets				
Cash and Short Term Deposits		4,070	4,612	4,120
Accounts Receivable and Prepayments	5	567	864	956
Total Current Assets		4,637	5,476	5,076
Non Current Assets				
Property, Plant and Equipment	6	13,000	12,950	11,806
Total Non Current Assets		13,000	12,950	11,806
Current Liabilities				
Accounts Payable and Accruals	7	700	963	680
Employee Entitlements	8	150	184	145
Total Liabilities		850	1,147	825
Net Assets		16,787	17,279	16,057

Statement of Cash Flows for the year ended 30 June 2005

	Note	2005 Budget $000	2005 Actual $000	2004 Actual $000
Cash Flows from Operating Activities				
Cash was provided from:				
Receipts from the Crown		9,299	9,069	8,807
Receipts from Customers		847	1,086	594
Interest Received		224	308	310
Total Receipts		10,370	10,463	9,711
Cash was applied to:				
Payments to Suppliers		(5,210)	(4,956)	(5,685)
Payments to Employees		(2,797)	(2,784)	(2,713)
GST (Net)		(25)	(45)	22
Total Payments		(8,032)	(7,785)	(8,376)
Net Cash Inflow/(Outflow) from Operating Activities	9	2,338	2,678	1,335
Cash Flows from Investing Activities				
Cash was provided from:				
Sale of Property, Plant and Equipment		8	10	4
Cash was applied to:				
Purchases of Property, Plant and Equipment		(2,396)	(2,196)	(3,913)
Net Cash Inflow/(Outflow) from Investing Activities		(2,388)	(2,186)	(3,909)

Statement of Cash Flows for the year ended 30 June 2005 *continued*

	Note	2005 Budget $000	2005 Actual $000	2004 Actual $000
Cash Flows from Financing Activities				
Cash was provided from:				
Crown Capital contribution		-	-	3,937
Net Cash Inflow/(Outflow) from Financing Activities		-	-	3,937
Net Increase/(Decrease) in Cash Held		(50)	492	1,363
Add Opening Cash and Deposits		4,120	4,120	2,757
Closing Cash and Deposits		4,070	4,612	4,120

Notes To and Forming Part of the Financial Statements for the year ended 30 June 2005

Note 1 Crown Revenue

Crown revenue includes $702,000 (2004 - $800,000) funding for Antarctica New Zealand's share of the Antarctic Drilling project, ANDRILL.

Note 2 Operating Expenses

	2005 Actual $000	2004 Actual $000
Remuneration of Auditor		
- Audit Fee	20	19
- Other Services	-	-
Directors' Remuneration	72	72
Rental and Operating Lease Costs	276	382
Bad Debts Written Off	-	1
Changes in Provision for Doubtful Debts	(1)	(1)
Loss on Disposal of Property, Plant and Equipment	3	-
Salaries and Wages	2,833	2,655
Other Administrative and Operating Expenses	4,465	4,666
Total Operating Expenses	7,668	7,794

Note 3 Taxpayers' Funds

	2005 Actual $000	2004 Actual $000
Opening Balance	16,057	7,048
Net Surplus for the year	1,222	977
Crown Capital Contribution	-	7,429
Transfer (to)/from ANDRILL Project Management Reserve	(290)	603
Closing Balance	16,989	16,057

Taxpayers' funds at balance date include $1,369,000 (2004 - $1,372,000), attributable to Antarctica New Zealand's 25% share of the assets and liabilities of the ANDRILL project (refer Note 10).

Note 4 ANDRILL Project Management Reserve

	2005 Actual $000	2004 Actual $000
Opening Balance	-	603
Transfer from/(to) Taxpayers Funds	290	(603)
Closing Balance	290	-

In 2005 the $290,000 reserve reflects the balance of Crown funding provided to Antarctica New Zealand for the ANDRILL project but not yet transferred to the joint venture.

Note 5 Accounts Receivable and Prepayments

	2005 Actual $000	2004 Actual $000
Trade Debtors	275	280
Owing by Joint Venture Parties (refer Note 10)	162	663
Advance to Joint Venture	398	-
Term Deposit Interest	22	11
Prepayments	7	2
	864	956

At 30 June 2005 Antarctica New Zealand's contribution to ANDRILL is in accordance with the joint venture agreement payment schedule, but in excess of its overall 25% share of the project. The additional funding contribution is recorded as an advance to the joint venture.

Note 6	Property, Plant and Equipment 2005	Accumulated Cost $000	Depreciation $000	Book Value $000	Depreciation Expense $000
	Buildings Scott Base	4,461	(635)	3,826	222
	Land	230	-	230	-
	Leasehold Improvements	170	(139)	31	17
	Communications Equipment	219	(130)	89	27
	Plant and Machinery	1,049	(480)	569	104
	Vehicles	2,945	(1,706)	1,239	261
	Computer Hardware and Software	869	(476)	393	177
	Scott Base Fit out	2,591	(1,500)	1,091	175
	Office Furniture	98	(55)	43	13
	Office Equipment	82	(57)	25	9
	Clothing	364	(315)	49	4
	Tents	244	(41)	203	22
	Library Collection	135	(62)	73	7
	Art Collection	106	-	106	-
	Work in Progress	4,983		4,983	
		18,546	(5,596)	12,950	1,038

Note 6 *continued* Property, Plant and Equipment

2004	Accumulated Cost $000	Depreciation $000	Book Value $000	Depreciation Expense $000
Buildings Scott Base	4,439	(413)	4,026	119
Land	230	-	230	-
Leasehold Improvements	170	(122)	48	17
Communications Equipment	618	(520)	98	25
Plant and Machinery	1,131	(471)	660	116
Vehicles	2,559	(1,445)	1,114	265
Computer Hardware and Software	1,246	(689)	557	191
Scott Base Fit out	2,848	(1,679)	1,169	175
Office Furniture	85	(43)	42	11
Office Equipment	82	(48)	34	6
Clothing	324	(311)	13	13
Tents	214	(19)	195	15
Library Collection	135	(55)	80	7
Art Collection	87	-	87	-
Work in Progress	3,453	-	3,453	-
	17,621	(5,815)	11,806	960

Note 7 Accounts Payable and Accruals

	2005 Actual $000	2004 Actual $000
Trade Creditors	745	539
Accruals	218	136
Accrued Director's fees	-	5
	963	680

Note 8 Employee Entitlements

	2005 Actual $000	2004 Actual $000
Long Service Leave	8	8
Annual Leave	176	137
	184	145

Note 9 Reconciliation of Net Surplus to Net Cash Flow from Operating Activities

	2005 Actual $000	2004 Actual $000
Net Operating Surplus	1,222	977
Add/(Less) Non-Cash Items		
Depreciation	1,038	960
Loss on sale of property, plant and equipment	3	2
Total Non-Cash Items	1,041	962
Add/(Less) Movements in Working Capital		
Decrease/(Increase) in accounts receivable and prepayments	92	(694)
Increase in accounts payable and accruals	323	90
Working Capital Movements - Net	415	(604)
Net Cash Flow from Operating Activities	2,678	1,335

Note 10 Interest in Joint Venture

Included in the financial statements are the following items that represent Antarctica New Zealand's 25% interest in the assets and liabilities of the Antarctic drilling project - ANDRILL:

	2005 Actual $000	2004 Actual $000
Current Assets		
Cash and Short Term Deposits	730	623
Owing by Joint Venture Parties	162	663
Total Current Assets	892	1,286
Non Current Assets		
Property, Plant, and Equipment	539	116
Total Non Current Assets	539	116
Current Liabilities		
Accounts Payable and Accruals	(62)	(30)
Total Liabilities	(62)	(30)
Net Assets	1,369	1,372
Revenue	43	7
Expenditure	(73)	(74)
Operating Surplus	(30)	(67)

The financial statements of the ANDRILL joint venture are unaudited.

Note 11 Post Balance Date Events

No post balance date events have come to the attention of Antarctica New Zealand that are of a material nature as to require adjustment of the amounts contained in the financial statements or separate note disclosure.

Note 12 Related Party Transactions

Antarctica New Zealand is a wholly owned entity of the Crown. The Government influences the roles of Antarctica New Zealand as well as being its major source of revenue.

All transactions entered into with Government Departments, Crown Entities and State Owned Enterprises are conducted at arm's length on normal business terms. Antarctica New Zealand also transacts with other overseas Government agencies in order to operate cost effectively in Antarctica. These transactions are not considered related party transactions.

Material related party transactions for the period 1 July 2004 to 30 June 2005.

During the year Antarctica New Zealand purchased the following goods and services at arm's length on normal commercial terms:

- Computer hardware, software and support services at a cost of $47,000 from Datacom Systems. Paul Hargreaves is a Director of Datacom Group Ltd.
- Electricity supply and services at a cost of $25,000 from Meridian Energy Limited. Francis Small was the Chairman and a Director of Meridian Energy Limited, until 30th June 2005.
- Engineering parts and equipment at a cost of $257,000 from Gough, Gough & Hamer Ltd. Kerry McDonald is a Director of Gough, Gough & Hamer Ltd.
- Building supplies at a cost of $13,000 from Carters. Kerry McDonald is a Director of Carter Holt Harvey.
- Training, development and advisory services at a cost of $124,000 from Advanced Dynamics NZ Ltd. Kerry McDonald is the Chairman and a Director and Bill Mansfield is a Director of Advanced Dynamics NZ Ltd.

During the year Antarctica New Zealand provided logistical support to the following events at arm's length on normal commercial terms and subject to due review and approval:

- Event K053 Ice Shelf Sensitivity and Change at a net fully allocated cost of $208,000 to the University of Canterbury. Wendy Lawson is the Principal Investigator for Event K053.

- Event K200 Graduate Certificate in Antarctic Studies at a net fully allocated cost of $440,000 to Gateway Antarctica, a research unit within the University of Canterbury. Wendy Lawson is the Chair and Lou Sanson a member of the Gateway Antarctica Advisory Board.

During the year Antarctica New Zealand conducted banking business at arm's length on normal commercial terms with the Bank of New Zealand Ltd. Kerry McDonald is the Chairman and a Director of Bank of New Zealand Ltd.

Note 13 Financial Instruments

(A) Nature of activities and management policies with respect to financial instruments

1) Foreign Exchange Risk

Antarctica New Zealand undertakes transactions denominated in foreign currencies. As a result of these activities exposures in foreign currencies arise. It is the policy of Antarctica New Zealand to hedge significant foreign currency risks and it uses forward and spot foreign exchange contracts to manage this exposure. There are outstanding foreign exchange forward contracts of $958,000 at balance date. (2004 - $nil).

2) Credit Risk

In the normal course of business Antarctica New Zealand incurs credit risk from trade debtors and financial institutions. There are no significant concentrations of credit risk from trade creditors and exposures to them are monitored on a regular basis.

Antarctica New Zealand places its cash and short term investments with high quality financial institutions which limits the amount of credit exposure. No collateral or security to support financial instruments is required due to the quality of the financial institutions dealt with.

Note 13 *continued*

3) Interest Rate Risk

Interest rate risk is the risk that Antarctica New Zealand's return on the funds it has invested will fluctuate due to changes in market interest rates.

All investments are held on a short term basis, thus minimising any interest rate risk.

(B) Fair Values

The estimated fair values of Antarctica New Zealand's financial assets and liabilities which differ from the carrying amount disclosed in the Statement of Financial Position, are as follows:

	2005 Actual $000	2004 Actual $000
Forward Foreign Exchange Contracts:		
Carrying value	-	-
Fair Value (Loss)/Gain	(21)	-

Note 14 Segmental Reporting

Antarctica New Zealand operates in New Zealand and Antarctica to primarily support scientific research in Antarctica and the Southern Ocean.

Note 15 Capital and Operating Commitments

	2005 Actual $000	2004 Actual $000
Capital Commitments - in respect of Antarctica New Zealand	-	740
Capital Commitments - in respect of the ANDRILL joint venture	151	210
Total Capital Commitments	151	950
Operating Lease Commitments		
Non-cancellable operating lease rentals are payable as follows:		
Less than one year	276	276
One to two years	276	276
Two to five	335	612
Over five years	-	-
Total Operating Lease Commitments	887	1,164

Note 16 Contingent Assets and Liabilities

Antarctica New Zealand and the Crown have a liability for site restoration costs at Scott Base should New Zealand withdraw from the Antarctic programme. Other than this item there are no other contingent assets or liabilities that Antarctica New Zealand is aware of. (2004 - Nil).

Note 17 Employees' Remuneration

During the year the following number of employees received remuneration of $100,000 or more:

Remuneration band	2005 Actual No of Emplyees	2004 Actual No of Emplyees
$100,000-$109,999		1
$110,000-$119,999	1	
$120,000-$129,999	1	1
$130,000-$139,999		
$140,000-$149,999		
$150,000-$159,999		1*
$160,000-$169,999	1*	

* The Chief Executive's remuneration is in the $160,000 - $169,999 band (2004 - $150,000 - $159,999)

Note 18 Directors Remuneration

Board members earned the following fees during the year:

Board Member	2005 Actual $	2004 Actual $
Mr Paul Hargreaves (Chairman)	$22,000	$22,000
Dr Wendy Lawson	$10,000	$10,000
Mr Bill Mansfield	$10,000	$10,000
Mr Kerry McDonald	$10,000	$10,000
Dr Maj de Poorter	$10,000	$10,000
Dr Francis Small	$10,000	$10,000

Crustose lichen on a rock, Cape Royds

Acronyms

AAD	Australian Antarctic Division
AAF	Antarctic Arts Fellow
AEON	Antarctic Environmental Officers Network
AESOP	ANDRILL Education and Science Outreach Panel
ANDRILL	Antarctic Drilling Project
AOMG	ANDRILL Operations Management Group
APEC	Asia-Pacific Economic Cooperation
ARC	Antarctic Research Committee
ASC	ANDRILL Science Committee
ASMA	Antarctic Specially Managed Area
ASMA2	McMurdo Dry Valleys Antarctic Specially Managed Area
ASMP	ANDRILL Scientific Measurements Panel
ASPA	Antarctic Specially Protected Area
ASRP	ANDRILL Science Review Panel
ATCM	Antarctic Treaty Consultative Meeting
ATCP	Antarctic Treaty Consultative Parties
ATS	Antarctic Treaty System
BAS	British Antarctic Survey
BioRoss	Biodiversity of the Ross Sea Project
CCAMLR	Convention on Conservation of Antarctic Marine Living Resources
CEE	Comprehensive Environmental Evaluation
CEP	Committee for Environmental Protection
COMNAP	Council of Managers of National Antarctic Programmes
CRP	Cape Roberts Project
DOC	Department of Conservation
DV	Distinguished Visitor
EARP	Environmental Assessment Review Panel
EIA	Environmental Impact Assessment
FRST	Foundation for Research, Science and Technology
GCAS	Graduate Certificate in Antarctic Studies
HFC	Hillary Field Centre
HWD	Hot Water Drill
IAATO	International Association of Antarctic Tour Operators
IAP	Italian Antarctic Programme
IEE	Initial Environmental Evaluation
IGNS	Institute of Geological and Nuclear Sciences
IGY	International Geophysical Year
IMS	Information Management System
IPY	International Polar Year
IT	Information Technology
IUCN	International Union for the Convention of Nature
JCADM	Joint Committee on Antarctic Data Management
LCR	Landcare Research New Zealand Limited
LGP	Latitudinal Gradient Project
LINZ	Land Information New Zealand
LTER	Long Term Ecological Research Programme (US)
MASIC	McMurdo Sound ANDRILL Science Implementation Committee
MED	Ministry of Economic Development
MFAT	Ministry of Foreign Affairs and Trade
MFE	Ministry for the Environment
MFish	Ministry of Fisheries
MIS	McMurdo Ice Shelf
NADC	National Antarctic Data Centre
NIWA	National Institute of Water and Atmospheric Research
NGO	Non-Governmental Organisations
NPI	Norwegian Polar Institute
NSF	National Science Foundation
NZCEA	New Zealand Certificate of Education Achievement
OAC	Officials Antarctic Committee
PATC	Pre-Antarctic Training Course
PEE	Preliminary Environmental Evaluation
RiSCC	Regional Sensitivity to Climate Change in Antarctic Terrestrial Limnetic Ecosystems Project
RNZAF	Royal New Zealand Air Force
RoU	Record of Understanding
RSCAS	Royal Society Committee on Antarctic Science
SAR	Search and Rescue
SCALOP	Standing Committee on Antarctic Logistics and Operations
SCAR	Scientific Committee on Antarctic Research
SOER	State of Environment Reporting
TAE	Trans Antarctic Expedition
USAP	United States Antarctic Program
USNSF	United States National Science Foundation
WINFLY	Winter Fly-in

Antarctica New Zealand Staff 2004/2005 Season

Christchurch Staff

Lou Sanson	Chief Executive
Michelle Jones	Executive Assistant
Peter Smith	Corporate Services Manager
Eve Webb	Accountant
Jeanette Tamakehu	Accounts Assistant (until October 2004)
Janelle Masson	Accounts Assistant (from October 2004)
Melanie Lindroos	HR Advisor
Alison Whitaker	Receptionist
Jess McDuff	Office Assistant (until July 2004)
Helen Stocker	Office Assistant (August - December 2004)
Rachel Ervine	Receptionist (from January 05)
Mike Mahon	IT and Science Administrator
Dean Peterson	Science Strategy Manager
Shulamit Gordon	Science Advisor
Neil Gilbert	Environmental Manager
Rebecca Roper-Gee	Environmental Advisor
Miranda Huston	Environmental Compliance Officer
Julian Tangaere	Operations Manager
Paul Woodgate	Movements Controller
Keith Springer	Programme Support Manager (until February 2005)
Erik Barnes	Programme Support Manager (from April 2005)
Peter Cleary	Operations Planner
Kevin Rigarlsford	Maintenance and Field Engineer
Rob Stewart	Movements Officer (Cargo)
Kevin Leech	Movements Officer (Clothing)
Jim Cowie	ANDRILL Project Manager
Johno Leitch	ANDRILL Project Assistant
Michael Nottage	Inventory/Purchasing Controller
Peter Brookman	Facilities Engineer
Emma Reid	Communications Manager
Natalie Cadenhead	Information Services Specialist
Anna Howard	Information Communications Co-ordinator

Scott Base Staff

Dean Peterson	Base Manager	
Julian Tangaere	Base Manager	
Kevin Rigarlsford	Base Manager	Winter over
Keith Springer	Programme Support Manager	
Kathryn Gilberd	Canteen Manager (AFCC)	
Steve Locke	Telecom Technician (Downer)	
Bede McCormick	Telecom Technician (Downer)	Winter over
Peter de Joux	Science Technician	Winter over
Tristan Chan	Science Technician	
John McGregor	Field Centre Engineer	Winter over
John Newell	Field Centre Engineer	Winter over
Rob Stewart	Field Centre Materials Controller	Winter over
Rikki O'Brien	Field Centre Carpenter	Winter over
Conrad Pearce	Field Centre Carpenter	Winter over
Paul Stewart	Field Centre Carpenter	Winter over
Lyal Cross	Field Centre Electrician	Winter over
Matt Searle	Leighs Construction Crew	
Will Ngatai	Leighs Construction Crew	
Matt Goddard	Leighs Construction Crew	
John Broadbent	Leighs Construction Crew	
Ross Vercoe	Leighs Construction Crew	
Nick Appleby	Leighs Construction Crew	
Bernie Haines	Leighs Construction Crew	
Graeme Tod	Base Services Manager	
John Roberts	Programme Support Coordinator	
Erik Barnes	Programme Support Coordinator	
Blake McDavitt	Field Support Officer	Winter over
Ewan Paterson	Field Support Assistant	
Lizanna Muir	Communications Operator	
Jason Arcus	Communications Operator	
Nyree Morgan	Communications Operator	
Michael Borlase	Communications Operator	
Tania Brewer	Communications Operator	
Rory Quinn	Communications Operator	
Rob McBrearty	Field Training Instructor	

Antarctica New Zealand Staff - 2004/2005 Season *continued*

Mark Morrison	Field Training Instructor	
Mike Barker	Field Training Instructor	
Paula Marshall	Field Training Instructor	
Ian Whiteley	Field Training Instructor	
Deanna McKay	Domestic and First Aid	Winter over
Deanna Robb	Domestic	
Suzanne Tait	Domestic	
Victoria Chandler	Domestic	Winter over
Kirsty Watt	Stores person	
Marty Howe	Cargo Handler	
Neil Evans	Chef	
Jeff Reid	Chef	Winter over
Stephen Denby	Engineer	Winter over
Glenn Powell	Engineer	Winter over
John Dobson	Plant Operator	
Greg Nathan	Plant Operator	
Barry Herrick	Mechanic	
Scott Iremonger	Mechanic	Winter over
Hedley Berge	Electrician	Winter over
Robert Turner	Carpenter	Winter over
Rachel Brown	LGP Camp Manager/Field Safety	
Gus McAllister	LGP Camp Mechanic	

Directory

Directors

Mr P M Hargreaves (Chairman)
Dr Maj De Poorter
Dr Wendy Lawson
Mr Kerry McDonald
Mr Bill Mansfield
Dr Francis Small

Chief Executive Officer

Mr Lou Sanson

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Westpac Banking Corporation

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