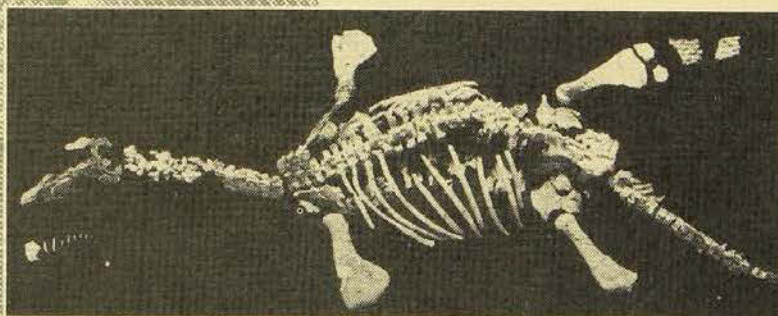


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The Trust and staff have pleasure in thanking those organisations and individuals who have provided financial assistance. In particular, we would like to acknowledge the following supporters.

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ANNUAL REPORT 1992/93

To the Hon. Peter Collins QC, MP
Treasurer, Minister for the Arts in NSW

Sir

In accordance with the provisions of the Annual Reports (Statutory Bodies) Act 1984, and the Public Finance and Audit Act 1983, we have pleasure in submitting this report on the activities of the Australian Museum Trust for the financial year ended June 30, 1993, for presentation to Parliament.

On behalf of the Australian Museum Trust,

Dr Robyn Williams AM

Dr Des Griffin AM

Trust President Robyn Williams AM, (Hon)DSc
Director Des Griffin AM, MSc, PhD
Deputy Director Hal Cogger MSc, PhD

General admission: \$8 families, \$4 adults,
\$1.50 concessions. Free entry after 4pm daily
Open 7 days, 10am - 5pm.

A U S T R A L I A N M U S E U M

6 College Street, Sydney. PO Box A285 Sydney South, NSW 2000. Phone (02) 339 8111

NEW SOUTH WALES



Ministry for the Arts

MINISTER'S MESSAGE

In 1992/93 the Australian Museum took a leading role in staging exciting programs and exhibits while continuing to maintain a high standard of scientific research.

The Museum has been active in its acknowledgment of the International Year of the World's Indigenous People, with the establishment of the "Black Art" competition and exhibition for children living in NSW.

One of the year's major highlights was the staging of the sensational "Beyond the Java Sea: Art of Indonesia's Outer Islands". This prestigious collection of Indonesian artefacts, curated in the United States, was a triumph for the Museum and the first of its kind to be exhibited in this country.

In spite of intensely focussing on diverse cultures this year the Museum did not ignore the natural sciences.

"Gargantuans from the Garden" was an extraordinary exhibition and was extremely popular. It attracted high attendance levels of all ages in Sydney and throughout its national tour.

Addressing the challenge of acquiring its own funds saw the Museum active in promoting commercial ventures. Australian Museum scientists provided expertise for many major developments in New South Wales, including the Olympic site at Homebush Bay.

I congratulate the Trustees, the Director and the staff of the Australian Museum for their innovative and valuable contribution to art and sciences and for a highly successful and active 1992/93.

A handwritten signature in black ink, appearing to read "Peter Collins".

The Hon Peter Collins QC MP
Minister for the Arts

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STATEMENT OF PHILOSOPHY

We intend to grow and develop in Sydney as one of the world's leading museums specialising in natural history and human studies. We want visitors and the wider community to have easy access to our accumulated knowledge and opportunities for enjoyable learning experiences.

We use exhibitions, education programs, publications and other effective media to communicate with people throughout New South Wales, other parts of Australia and tourists. We intend to be market responsive without compromising the integrity of our mission. We want the Museum's public environment to be pleasant in all ways, our staff to be friendly and reliable and to show respect for the interests and needs of those who visit, those with whom we do business and our wider audience.

We want the information we create, manage and communicate to be accurate and our activities and services to be, and be seen to be, of high quality, supportive of our mission and relevant to the community.

Our research activities concentrate on Australia and nearby regions. Collections and associated information are managed for the purposes of research and communication to the public and are being preserved for the benefit of future generations.

The future of our natural environment and cultural heritage is of central concern: we intend to join in public debate and give advice to government, the community and business where we have special knowledge.

We will respect the rights and wishes of the peoples whose knowledge and material culture form the basis of our human studies programs. We will consciously abide by legislation and conventions protecting the natural environment, wildlife and cultural heritage.

We believe support for the Museum to be the responsibility of the community, the private sector and government: the Trust and staff will be active in gaining that support. We will seek increased financial support from the community, mainly by effective merchandising and donations, and especially sponsorship of programs.

We provide opportunities for staff to contribute to the development of the Museum, realise their own potential and co-operate with others to achieve those ends. It is intended that staff continue to contribute to a range of Museum programs beyond the

discipline in which they work. We will seek new ways to advance the Museum's goals, rather than emphasise traditional roles and procedures. Equality of opportunity in employment, health and safety and staff development will continue to be emphasised.

Resources are focused on specific programs and projects, especially those which we are in a unique position to undertake and in which we can achieve results of superior quality. Authority to manage resources is delegated to those in charge of programs. Evaluation of the success of programs, and of staff conducting them, will be a central feature of management.

We will account for the way in which we use the support gained from the community to achieve our objectives. We will be effective financial managers. We will introduce new technology where it will help to achieve the Museum's goals.

We want the Museum to be an exciting and rewarding place to visit and work in ... and it should be fun!

MISSION

Our mission is to increase understanding of our natural environment and cultural heritage and to be a catalyst in changing public attitudes and actions.

Research and the maintenance and improvement of collections are central to the achievement of the mission.

P R E S I D E N T ' S R E P O R T

This year has been a kind of symbol of what the Australian Museum stands for. We had major exhibitions that showed the poles between which we should perform: the popular (Gargantuans from the Garden) and the exquisite (Beyond the Java Sea). We had a number of events to highlight the International Year of the World's Indigenous Peoples and an increase in the number of activities aimed at children. We intensified the Museum's tradition of scientific excellence. All this in the middle of a recession!

It has been my delight to mingle with the public during ordinary visits to the Museum's displays and to overhear enthusiastic remarks on how wonderfully the place has changed since last they were there. I have also been gratified to hear again and again, from Aboriginal people, from environmental groups, from retired folk who use the Museum for meetings of their specialist clubs, how much it is a place that stands for something important.

A remarkable indication of that, in a way, was the response to save Eric. This pliosaur skeleton, owned by a company of Sid Londish, was suddenly put out to tender this year. Karina Kelly of Quantum phoned me to suggest they do an Appeal on their program over three weeks. The result was well over \$500,000 - and we now own Eric, on behalf of the nation. It will tour Australia for all to admire: the most complete such skeleton, in opal form, yet found. It was an extraordinary tribute both to the audience of Quantum and to the Australian Museum.

Our relationship with Quantum was most conspicuous during the Eureka Prize presentation, which was broadcast on that program to over two million viewers. This will occur again in 1993, ensuring that the Eureka Prizes continue as the nationally significant event they have quickly become. They reflect some of the tasks to popularise science carried out by the Royal Society of London (a science book prize and one for the popularisation of science) as well as three original prizes we believe to be vital symbols for Australia's scientific well-being (a prize for industry, a prize for environmental research and one for environmental reporting).

The Museum Society is, for me (and I suspect thousands of others) an utter delight. They combine, like the place itself, remarkably thorough professionalism and exuberant informality. When I hear back from our succession of famed guest speakers, such as the most recent: Sir Crispin Tickell of Oxford, they invariably speak ecstatically of their enjoyment and intellectual stimulation during their visit.

All of this rests fundamentally on the vigour of our scientific research and how it relates to the wider community. The list is too extensive to do justice to it here (it is well represented in our ever popular magazine ANH). We range from the invertebrates such as the scavenging crustacea now being sampled from Hobart to Cairns by Dr Jim Lowry, to the fish stock studies done throughout Australian waters, even as far as New Guinea. Our mammal quests have again taken Museum scientists to the highlands of PNG where our anthropologists continue to have a presence. Indeed, our studies of Pacific people and their culture extends throughout this region.

This year has also seen another of Alex Ritchie's coups. His excavation of two hundred tonnes of Devonian fish rescued me from a slight embarrassment in protocol. I was chairing a Museum Trust meeting on a boilingly hot day wearing shorts and sandals. Other trustees stewed quietly in their formal gear. Then I was reminded that the Governor of NSW was paying an official visit that afternoon to the Boardroom. The fish fossils proved to be an entirely suitable distraction from my informal garb.

This will be my last report as President. I have been blessed, in the last few years, with an immensely able, hardworking Trust. For the Museum staff I have the greatest admiration and affection. When I joined the Trust ten years ago I knew full well that dealing with Des Griffin was like trying to sit on top of Mount Vesuvius - the view is exciting but there will be lots of bumps. I do believe, however, that he and his deputy Hal Cogger, are amongst the best museum executives in the world, and this not a minority view.

Finally, since his taking the portfolio in the first Greiner government, I believe Peter Collins has become one of the finest supporters of the arts this state has had. Despite very difficult times we have had steady leadership and, always important, vital funds.

The arts and the sciences are not optional extras. They are the glue of civilisation. Those societies which have had the misfortune to fall apart were usually ones which allowed their cultural institutions to collapse. In NSW, so far, we have been fortunate to avoid that calamity. Long may it be so.

Robyn Williams AM

DIRECTOR'S REPORT

Amongst the most important achievements this year was the completion of a new Public Program Plan for the next two years. The Plan outlines the approach the Museum will take to public programs, the audiences the individual programs will serve and the audience research and evaluation that will help to improve the quality of the visitors' experience. The Plan was prepared by the Heads of the Divisions of Community Relations, Education and Exhibitions, endorsed by other senior managers and enthusiastically received by the Trust.

Recent years have seen all museums devote more attention to programs for their visiting public. This has been driven by increasing competition from similar attractions, the need to generate more earnings from a widening base as governments gradually reduce funding. There have been demands too that museums be more relevant. If this means anything, it means better services for visitors, exhibitions and other programs which address the interests and backgrounds of the visitors and engage them in enjoyable learning experiences. It also means moving away from the One Right View, just as the telling of history must. And it means better promotion.

The new Plan calls for reconstruction of foyers to provide better orientation. More space is to be provided for temporary exhibitions in accordance with the Corporate Strategic Plan which stresses the need for themed spaces with higher turnover. The *Contemporary Australia* exhibition will open early 1994 replacing the exhibition on people of the Abelam region of Papua New Guinea. New exhibitions on fossils and dinosaurs and on marine and terrestrial environments will open in succeeding years. The interactive exhibits brought together in the Discovery Space will be gradually moved to relevant exhibition spaces emphasising that all programs involve interactivity. An Investigation Centre, sponsored by The Australian Museum Society, will give more access to the Museum's resources of collections and knowledge.

Further efforts will be made to develop exhibitions from our own resources and overseas museums to emphasise particular themes. New interpretive programs will be introduced including interpretive theatre.

To achieve these changes will require funding from the Museum's traditional sources as well as Government and sponsors. Gaining the funding and putting the Plan firmly in place will be a major challenge for the next year.

The exhibition, *Gargantuans from the Garden*, opened to an enthusiastic audience on 25 September 1992. Giant moving animatronic creatures together with actual specimens, large models, stereoscopic scanning electron microscope (SEM) images, interactives, audio visuals, models, dioramas, theatrical sets, photo murals, photographs, artefacts, live displays, graphics and text surprised and delighted more than 180,000 visitors who came to the exhibition in the four months to the end of January 1993. The exhibition then moved to the Museum of Victoria in Melbourne where it had attracted over 100,000 visitors by the end of June. From Melbourne it will move to Albury in southern NSW and then to other cities throughout Australia.

Through this project the Australian Museum strengthened its skills and experience in producing and touring exhibitions. These will be applied again in developing a major exhibition on sharks to open early 1994 and then also tour other museums in Australia.

At the opening of *Gargantuans*, the Minister for the Arts, the Hon Peter Collins, QC, announced a grant of \$200,000 to assist the tour of *Beyond the Java Sea* to the Australian Museum and then the Queensland Museum. The tour of this exhibition, containing some of the finest items of cultural material from the outer islands of Indonesia, took months of patient and careful negotiation with lenders around the world. Although *Beyond the Java Sea* attracted far fewer people than did *Gargantuans* it was of no less significance in extending understanding. There really is very little knowledge and understanding of the very significant cultural diversity of Australia's nearest neighbour and one of the largest Asian nations.

Museums sometimes take a long time - up to two years - to plan, develop and stage exhibitions and other public programs. The formation of a group to take charge of 'rapid response' programs therefore created interest. This group, with help from appropriate staff in various divisions, was able to mount programs on topical issues such as feral cats, oil spills, mangroves and so on in six weeks or so.

A major feature of any successful organisation is that the people in it work together to achieve common goals. One of the distinguishing characteristics of the Australian Museum is the dedication of its staff, their commitment. Successive surveys of morale consistently show high levels of job satisfaction, understanding of the Museum's mission and understanding of the reasons for policy changes as well as recognition of individual achievement.

DIRECTOR'S REPORT

New approaches to industrial relations such as enterprise bargaining, an expansion of the structural efficiency principle which seeks to extend multiskilling and promote flexibility in work and conditions, can make it possible for further gains in job satisfaction with a flow on to higher achievement levels including improvements in quality and productivity. Extension of the enterprise agreement regime was pursued this year with the establishment of a policy and a list of common factors to be included in the agenda for negotiations. But whether this process continues will depend on the level of commitment of government, management and staff. Not the least requirement will be flexibility and trust and provision of resources to achieve at least the most essential of the aspirations of the parties.

The Museum's philosophy seeks to provide opportunities for staff to contribute to a wide range of programs and the necessary training and development opportunities. The continued work of research and development groups comprising staff from various sections to explore new technology, audience reactions, museum practice and contemporary issues is consistent with such goals.

The 'Square Pegs' group, which works outside the formal decision-making structure and pursues ideas suggested by staff members also provides opportunities and encourages flexibility and innovation. Amongst their most interesting suggestions were a survey of the attitudes of adolescents visiting the Museum; they also pursued opportunities for promotion of the Museum provided by the redevelopment of the closest two railway stations on the City Circle Line: the outcome could be a winner for the Museum with much greater exposure to thousands of people every day.

Senior staff joined in a major conference over three days to review policies and practices of the Museum, identifying those areas where new policies must be developed and those practices which ought to be improved: these will be examined over the next year. This is a major feature of the Corporate Strategic Plan which is dealt with elsewhere in this report.

One of the most extraordinary events of the year was ABC TV Quantum's launch of a public appeal on the Museum's behalf for funds to buy the opalised fossil remains of an Australian pliosaur. Pliosaurus were seal-like animals with a long neck which lived in early Cretaceous times 110 - 120 million years ago. Eric, as this particular Pliosaurus came to be known, has been displayed at the Museum during the last two years. The spectacular Eric was offered for

sale through closed tender: the fear was that the specimen would be sold to an overseas bidder. But over 30,000 Australians subscribed more than \$340,000 and the Australian company Akubra Hats provided a further \$200,000. The Museum's tender was successful, much to the joy of everyone involved: Eric will remain in Australia. After touring the country for display in various cities and towns commencing with Perth at the ANZAAS conference in September, the new Fossil and Dinosaur gallery will give pride of place to Eric. The sponsorship of Akubra Hats and Australian citizens will be of enormous help.

Special programs, including a competition and subsequent display of Aboriginal children's art, were developed for the International Year for the World's Indigenous Peoples. The Museum Trust adopted in principle a Policy Statement developed by the Council of Australian Museum Associations which emphasises the shared interests of many parties in Aboriginal cultural heritage but the primacy of indigenous people's interests and the need for the Museum to consult on all issues concerning management of collections and interpretation of cultural heritage issues. More progress was made in returning human remains to communities in the state and in the Northern Territory.

A huge range of other activities were conducted during the year, as in years past. Scientific research all over Australia, improvements in collection management reached their usual high standard and more.

Amongst the smaller but important programs renowned eclectic Australian musician, Michael Atherton, completed a four month term as artist in residence exploring a vast range of unusual instruments and ways of making music using the Museum's collections and involving many staff and visitors.

All of us in the Museum continued to confront the challenge of gaining additional financial resources. The decline in attendances experienced last year was overcome to a large extent by the *Gargantuans* exhibition and steady increases followed in successive months with the general admissions targets being met. The decline of last year in merchandising was turned around and substantial increases in profitability occurred. The award winning ANH magazine increased the number of subscribers and moved (for the second time) into selling through newsagents so reducing its deficit. Increased grants were obtained from various

DIRECTOR'S REPORT

research agencies. The decline in funding from Government seemed to steady.

Overall, the Museum moved to a funding level from non-Government sources of more than 70% of total revenue: more than \$6.8 million gross came from areas other than State Government of which more than \$4.5 million was earned from merchandising, business operations, travelling exhibitions and admissions. These levels are very high compared to other museums in Australia and more particularly with museums around the world.

All of these achievements will have meaning if they contribute to the increase of understanding of Australia's natural environment and cultural heritage. That the Museum can really be an agent for changing people's attitudes and understanding is an enormous challenge. With continued confusion about the proper goals of education, especially learning,

argument about the appropriateness of certain economic dogmas, distaste by some for intervention by government and seeming despair amongst some sections of business, parts of our community and environment which many cherish seem as threatened as the rarest species of animals and plants.

Australia faces challenges in these areas as great as does any developed country. Can the Museum play a really meaningful role in the way Australia confronts the need to conserve biodiversity, the pursuit of human rights by indigenous people and citizens from other countries to be part of the community? Can the Museum play a significant role in the way Australia confronts the future of the environment, the future of our heritage and the nation?

I again thank all the Museum staff, especially my senior colleagues. I am grateful for the support of the Museum Trust and of the Minister for the Arts.

Des Griffin AM



*Museum visitors were entertained by "Yidaki Dreaming"
- Pauline McLeod, Alan Dargin, Michael Atherton*

REVIEW OF CORPORATE STRATEGIC PLAN

The Museum's Corporate Strategic plan covered the period 1990/92. The plan encompasses four key result areas - Effective and Efficient Management; Public Programs; Research and Collections; Financial Viability. Each Division of the Museum has its own Corporate Plan that links closely with the Museum's plan and strategic direction.

The plan was reviewed in June/July 1992, and major achievements in each key result area are as follows.

Effective and Efficient Management

*Management retreat held in March 1993 to develop policy in defined areas, review Museum management practices, as well as a discussion of cost-benefit analysis.

*1993/94 Corporate Plan developed with ten key issues identified and new objectives included covering Indigenous Australians; Multiculturalism; Information Access/Decision Making and Customer Focus.

*Review undertaken of National Photographic Index commercialisation practices, and a promotional plan developed.

*Exhibitions Enterprise Agreement signed in November 1992, and a comprehensive skills audit of Exhibitions staff completed.

*Museum-wide policy on Enterprise Agreements developed and circulated, with progress made in Education, Science and Corporate Services Divisions.

*Staff development program developed to address skills required for next five years.

*Two morale surveys conducted, with information collected continuing to assist management assess morale within the Museum, and highlight areas that require action.

*Major review of space requirements in the Museum for collections storage, office space, and public programs undertaken.

*Formation of "Square Pegs" group outside formal decision making structure in Museum to deal with suggestions for change.

*Michael Atherton, a musician, appointed as the Museum's 1992 Artist In-residence.

*Funding application successful to employ 13 Aboriginal trainees in all Divisions across the Museum.

*Appointment of Cultural Diversity Officer and major

planning undertaken for Contemporary Australia gallery.

*Museum grievance policy revised to include grievance procedures as required under the Industrial Relations Act 1992.

*Development of Museum's Guarantee of Service statement.

Public Programs

*Planning and development of the Public Program Plan for 1993/95 commenced.

*Revision of Public Program Guidelines completed.

*Framework for evaluating Public Programs developed for trialling in 1993.

*Production of series of exciting temporary public programs:

- * "Masks" (exhibition of fantastic masks from around the world)
- * "Work it Out" (multicultural children's exhibition)
- * "Roots in Denmark" (Danish children's book exhibition)
- * "Beyond the Java Sea" (arts and cultures of the outer Indonesian islands)
- * Earthworm Environmental Awards
- * Annual Dinosaur Picnic
- * Open Day (during National Museums Week) including demonstrations, workshops, behind-the-scenes tours, and performances by Michael Atherton (Artist-in-Residence)

*Rapid Response Program introduced - small exhibitions highlighting significant issues, such as A Burning Issue - Ozone holes and UV, Australian fisheries in crisis; change at Homebush Bay; and oil spills.

*"Gargantuans From the Garden" featuring giant animatronic insects exhibition staged at the Museum as well as tours to Melbourne and Albury.

*"Live at the Museum" entertainment program complementing all major exhibitions, providing entertainment to an average of 500 visitors during each session on Sundays and holidays.

*Public Programs developed for International Year for the World's Indigenous Peoples, including the "Black Art" exhibition, performance and activity program.

*Increase of 21% in visitors involved in Visitor Services activities (190,000 to 230,000).

REVIEW OF CORPORATE STRATEGIC PLAN

*Visits by education groups increased by 15% and expanded inservice programs for educators now offered.

*Over 730 Museum-in-a Box loans to schools throughout the State, an increase of 8%.

*Substantial increase of 160% in people viewing Museum on the Road travelling exhibitions and Regional gallery exhibitions (500,000 in 1991/92 to 1.3 million in 1992/93).

*Continuation of Museum Society's Super Science Series featuring Professor Jared Diamond and Dr Susan George.

*Planning commenced for inaugural Sydney Festival of Science; Contemporary Australia Space; Marine Environment exhibition and the temporary exhibition Shark!.

Research and Collections

*Implementation of recommendations and policy direction from Science Division long term planning conference.

*A review of Earth Science collection management policies and procedures conducted, leading to recommendations for improved storage conditions, curation and documentation for the Museum's large and valuable holdings of gemstones, other minerals, rocks and fossils.

*"Eric", the opalised pliosaur skeleton, purchased with the help of Quantum's highly successful ABC TV appeal.

*Commencement of 'Talking Science', a regular radio program on 2SER.FM, produced and directed for the Museum Society.

*Research projects continuing in critical areas such as the environment, endangered species, urban ecology and biodiversity.

*Recognition of importance of issues concerning collections of Aboriginal and Torres Strait Islander cultural heritage by inclusion of new strategic objective "Human Studies" in the Museum Corporate Strategic Plan.

*Program of returning human skeletal remains and repatriation of cultural material to Aboriginal communities continued.

*Negotiations commenced for second stage of repatriation of cultural material of Native Canadians to the Canadian Museum of Civilisation, Ottawa.

*Major progress made on planning for computerisation of data from the Anthropology collection.

*Additional positions of Terrestrial Ecologist and Invertebrate Palaeontologist created and filled.

*Upgrading of the Local Area Network, with smooth integration of 30 more users, including offsite staff.

*Archives program continuing with the Museum being one of only two museums in Australia with professionally managed Archives.

*Research projects within the Invertebrate Zoology Division attracted grant funding totalling \$450,387 in 1993 (\$233,021 in 1992).

*Science staff involvement in commercial projects continued to increase, including studies in the Homebush Bay Olympic development; Federal Airports Corporation Botany Bay studies; and biological assessments for the Environmental Protection Authority.

*Australian Natural History magazine sales increased by 27%; and the magazine was recognised with its sixth successive Whitley Award for best zoological periodical.

*Lizard Island Research Station had its busiest year ever with 3,664 user days, yielding an average occupancy of 10 people per day throughout the year.

*Recent studies using the Station's facilities discovered the world's oldest living animal and largest bacterium.

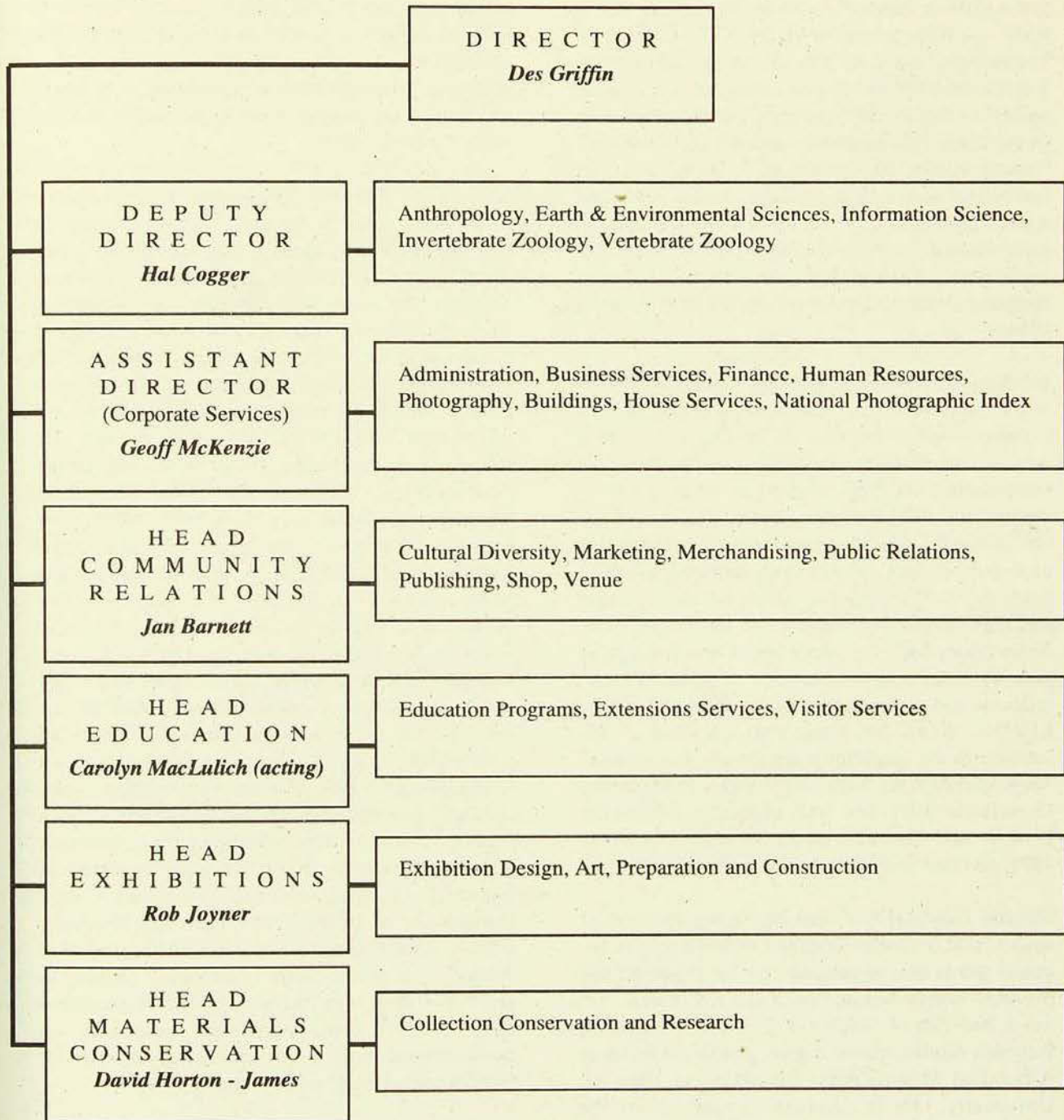
Financial Viability

*Total earnings from commercialisation for the 1992/93 year totalled more than \$470,000, a 90% increase on the previous financial year.

*Sale of the Museum's (Lizard Island) vessel, RV Sunbird achieved through auction in February for \$233,000, against a reserve set of \$160,000.

*Kinhill Engineers Pty Ltd appointed to assist in evaluating the viability of potential development of the Museum site.

MANAGEMENT STRUCTURE



TRUSTEES

Australian Museum Trust Profiles

Dr Telford Conlon holds degrees in Chemistry from Sydney University and University College, London and a PhD in Biophysics from the University of NSW. A former lecturer at the NSW Institute of Technology, he was on the staff of the Minister for Science in 1973 and was a consultant on science policy to the Royal Commission on Australian Government Administration and the Department of Foreign Affairs. He was a director of the Australian Institute of Political Science for fifteen years and was Chairman in 1979-80. Formerly a Research Associate of the Neurobiology Unit at the NSW Institute of Technology, Dr Conlon is now a company director. He joined the Museum Trust in 1986.

Ms Robyn Holt is the Managing Director of Parfums Yves Saint Laurent. Graduating from Sydney University with a Bachelor of Art Degree, Ms Holt joined Ord Minnet, JJ Thompson & Partners (Stockbrokers) in 1967, working as an adviser there through the 1969 Poseidon Boom. To realise her creative skills, she then freelanced for Australian newspapers and magazines, worked on film production and designed costumes for the television and film industry (including the successful mini-series "Bodyline", for which she won a prestigious industry award). Her career has also included public relations and several years as the Editor of Vogue LIVING magazine, during which time a 14% increase in the magazine's circulation was secured. She joined Parfums Yves Saint Laurent as Marketing Director in 1990 and was appointed Managing Director and Chairman of the Australian Board in 1991. Ms Holt joined the Museum Trust in 1993.

Mr Jim Layt AM has been Managing Director of Blue Circle Southern Cement Limited for over ten years, and is also responsible for the domestic and overseas energy businesses of Boral Limited. He has a Bachelor of Science degree and a Master of Business Administration degree, and has undertaken Advanced Management Programs at Harvard University. He is currently a Member of the Business Council of Australia, Past President of the Cement & Concrete Association of Australia, a member of the Council of the University of New South Wales, Honorary Trustee of the Committee for Economic Development (CEDA), Director of the Australian Institute of Management Limited (AIM), Past President of the Employers' Federation of NSW, and Chairman of the Technical Aid to the Disabled Foundation. He joined the Museum Trust in 1990.

Professor Brian Low is Pro-Vice-Chancellor (Academic Support) at the University of Technology, Sydney. He was born and educated in Queensland and has worked as a secondary school teacher in Queensland, and as an academic staff member in universities in New South Wales. His research interests are in the areas of mathematical reasoning, the education of mathematics teachers and education policy. Professor Low joined the Museum Trust in 1990.

Mr Chris Puplick graduated from Sydney University with a Master of Arts degree in Government having made a particular study of the operations of federal systems in Australia and overseas. He subsequently worked on the personal staff of the first Federal Minister for Aboriginal Affairs and for several members of the Federal Parliament. He entered Federal Parliament as a Liberal Senator for New South Wales in 1978 and served until 1981, and later from 1984 to 1990. He was at various times federal Shadow Minister for the Environment, Heritage, the Arts (including museums) and Sport, as well as being Manager of Opposition Business in the Senate. He has several published works and was an active broadcaster and book reviewer for the ABC Science Unit. He currently serves on the Boards of the National Institute for Dramatic Art, the Griffin Theatre Company and the Zoological Parks Board of NSW, and on the Executive of the Australian Council for the Care of Animals in Research and Teaching (ACCART). He is Chairman of the Privacy Committee of NSW. During 1993 he chaired two inquiries for the NSW Government dealing with issues of law reform relevant to questions of HIV/AIDS policy. He is an active member of Amnesty International and the International Commission of Jurists. He is the Chief Executive Officer of the Packaging Environment Foundation of Australia - a private sector organisation working to promote solutions to the management of municipal solid wastes with particular emphasis on environmental issues in the packaging industry. Mr Puplick joined the Museum Trust in 1991.

Mr Aden Ridgeway is a member of the Gumbayngirr Aboriginal people of northern New South Wales. He is currently Land Policy Manager with the NSW Aboriginal Land Council providing advice on matters concerned with common law Aboriginal "native" title. He has extensive experience on matters concerned with Aboriginal perspectives of land management, cultural property issues, Aboriginal land rights and community planning. He has been a consultant to Aboriginal

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organisations on business planning and is currently developing the Regional Plan for the socio-economic conditions of Aboriginal people in the Sydney Region. Other matters of interest include his role as an Aboriginal Assessor at the NSW Land and Environment Court, being an executive member of the Sydney Regional ATSIC Council and a Counsellor to the Geographical Names Board of NSW. Mr Ridgeway joined the Trust in 1993.

Ms Patricia Watson is the Editorial Business Manager for the Condé Nast Publications Pty Ltd. Over the past twenty years she has had a diverse career in accountancy and arts administration, including theatre management; front-of-house coordination for the South Pacific Arts Festival; band management, recording and publicity; and administration of the Sydney Film Festival and Travelling Film Festival. She has previously served as Secretary/Treasurer on the Board of the Crafts

Council of New South Wales, a Board member of the Sydney Film Festival (Chairman of the Finance Committee) and as a member of the New South Wales Arts Advisory Council. Ms Watson joined the Museum Trust in 1992.

Dr Robyn Williams AM has been producer/presenter of the ABC Science Show since 1975. His television experience includes "The Uncertainty Principle" and "The Nature of Australia". He has had several books published including "Here Come the Philistines" and "The Best of the Science Show" and is a regular contributor to Australian Natural History magazine. He is currently Chairman of the Commission for the Future and has been awarded honorary doctorates from the University of Sydney, Macquarie University and Deakin University. He was elected Fellow of the Academy of Science in 1993. He joined the Museum Trust in 1984 and was elected President in 1986.

The Trust met on 6 occasions during the year. Attendance at meetings was as follows:

Dr Robyn Williams (President) 5 (of 6) apology received for 1 meeting
Dr Malvin Eutick (Deputy President) 4 (of 6) apology received for 2 meetings
Dr Telford Conlon 4 (of 6) apology received for 2 meetings
Ms Robyn Holt 3 (of 3)
Dr Jonathan King 1 (of 3) apology received for 2 meetings (resignation accepted December 1992)
Mr Jim Layt 4 (of 6) apology received for 2 meetings
Professor Brian Low 4 (of 6) apology received for 2 meetings
Mr Chris Puplick 6 (of 6)
Mr Aden Ridgeway 2 (of 3) apology received for 1 meeting
Ms Patricia Watson 5 (of 6) apology received for 1 meeting

CODE OF CONDUCT

Values Underlying the Code

The Code of Conduct rests upon the assumption of a number of values which require that public servants behave with:

- * integrity
- * honesty
- * loyalty to the public interest
- * fairness
- * conscientiousness
- * compassion

1. Principles

Codes are prepared within a framework of principles which are fundamental to the ethos governing behaviour. These have been identified for the public sector as:

Public Confidence

The public has a right to expect that public sector organisations are of the highest integrity and competence which treat all citizens fairly, reasonably and equitably.

Responsibility to the Government of the Day

The Government of the day is entitled to expect public servants to provide impartial and accurate advice and to implement its policies promptly, efficiently and effectively.

Public Servants' Rights

Public servants' rights are the normal rights of employees, under the common law and within the provisions of legislation.

2. Conflicts of Interest

Public servants should avoid any financial or other interest or undertaking that could directly or indirectly compromise the performance of their duties.

Conflicts of interest should be assessed in terms of the likelihood that officers possessing a particular interest could be influenced, or might appear to be influenced, in the performance of their duties on a particular matter.

In many cases only the individual officer will be aware of the potential for conflict. Therefore, the onus is on the officer to notify his or her senior officers if a potential or actual conflict of interest arises.

3. Acceptance of Gifts or Benefits

No public official should accept a gift or benefit if it could be seen by the public, knowing the full facts, as intended or likely to cause the official to do his or her job in a particular way, or deviate from the proper course of duty.

Organisations will vary in their policies on accepting gifts and benefits depending on the nature of their business. It is expected, however, that token gifts or benefits may be accepted in circumstances approved by a Chief Executive Officer, provided that there is no possibility that the recipient might be, or might appear to be, compromised in the process.

As a general rule a line may be drawn in situations where a gift could be seen by others as either an inducement or a reward which might place an official under an obligation.

4. Personal and Professional Behaviour

Public servants should perform any duties associated with their positions diligently, impartially and conscientiously, to the best of their ability.

In the performance of their duties, public servants should:

- * keep up to date with advances and changes in their area of expertise
- * comply with any relevant legislative, industrial or administrative requirements
- * maintain adequate documentation to support any decisions made
- * treat members of the public and other staff members with courtesy and sensitivity to their rights
- * provide all necessary and appropriate assistance to members of the public
- * strive to obtain value for public money spent and avoid waste and extravagance in the use of public resources
- * not take or seek to take improper advantage of any official information gained in the course of employment

Public servants are expected to give full support to the Government of the day regardless of which political party or parties are in office. When implementing government policy, public servants' own values should not take precedence over those explicit or implicit in government policy.

CODE OF CONDUCT

When faced with having to implement a policy which is at variance with his or her own view, public servants should discuss the matter with an appropriate officer, depending on the nature of the matter, to resolve the issue.

Public servants should not harass or discriminate in work practices on the grounds of sex, marital status, pregnancy, age, race, colour, nationality, ethnic or national origin, physical or intellectual impairment, sexual preference, or religious or political conviction when dealing with their colleagues and members of the public. Supervisors should understand and apply EEO principles.

Public servants have a duty to report to a senior officer any unethical behaviour or wrongdoing by any other public servant.

5. Fairness and Equity

Issues or cases being considered by public servants should be dealt with consistently, promptly and fairly. This involves dealing with matters in accordance with approved procedures, quickly, without discrimination on any grounds. There is an obligation to treat each issue reasonably and with a view to meeting the principles of natural justice.

When using any discretionary powers public servants should ensure that they take all relevant facts into consideration and have regard to the particular merits of each case.

6. Public Comment and the Use of Official Information

Public comment includes public speaking engagements, comments on radio and television and expressing views in letters to the newspapers or in books, journals or notices or where it might be expected that the publication or circulation of the comment will spread to the community at large.

While public servants, as members of the community, have the right to make public comment and to enter into public debate on political and social issues, there are some circumstances in which public comment is inappropriate. These include:

- * the implication that the public comment, although made in a private capacity, is in some way an official comment of the Government or of the public servant's organisation.
- * where public comment, regardless of the

connection or lack of connection with a public servant's normal duties, amounts to criticism sufficiently strong or persistent to give rise to the public perception that the officer is not prepared to implement or administer the policies of the Government of the day as they relate to his or her duties.

Public servants can disclose official information which is normally given to members of the public seeking that information.

A public servant should only disclose other official information or documents acquired in the course of his or her employment when required to do so by law, in the course of duty, when called to give evidence in court, or when proper authority has been given.

In such cases, comments made by public servants should be confined to factual information and should not express opinion on official policy or practice.

7. Use of Official Facilities and Equipment

It is expected that public servants will be:

- * efficient and economical in the use and management of public resources
- * scrupulous in their use of public property and services and not permit their abuse by others

Official facilities and equipment should only be used for private purposes when official permission has been given.

8. Outside Employment

For organisations covered by the Public Sector Management Act, the prior approval of the Chief Executive Officer is required before public servants may engage in any form of paid employment outside their official duties.

In all cases when outside employment is considered, public servants should give their public service employment first consideration and avoid situations which give rise to, or the appearance of, a conflict of interest. In particular, they must consider whether the company or organisation concerned is in, or entering into, a contractual relationship with the Government, whether its primary purpose is to lobby Government organisations or members of Parliament, or whether it is in a regulatory relationship with the organisation.

9. Political Participation

Public servants need to ensure that their participation in political matters does not bring them into conflict with their primary duty as public servants to serve the government of the day in a politically neutral manner. This is important in order to maintain Ministerial and public confidence in the impartiality of the advice given, and actions taken, by public servants.

Determining what is appropriate in any particular case will depend on the extent of the participation of the individual, the nature of the issue, and the position held by the individual.

If a public servant becomes aware that a potential conflict, whether real or apparent, has arisen or is likely to arise, the public servant should immediately inform the head of his or her organisation.

If a conflict of interest does arise, the public servant may have to stop participating in political activity or withdraw from areas of his or her duties giving rise to the conflict of interest.

10. Post Separation Employment

Former public servants should ensure that they do not accept employment or engage in activities which may cast doubts on their own integrity or that of the organisation in which they were previously employed or of the Public Service generally.

11. Other Issues

Dependent on the nature of the organisation's operations, it may be necessary to address matters such as:

- * Employment - responsibilities of both parties
- * Security - particular requirements
- * Monitoring, reporting and acting on corrupt conduct
- * Accountability requirements over and above those already covered
- * Conduct and dress regulations - if there are particular requirements in the organisation
- * Dealing with clients - specifying any behaviour which is prohibited or encouraged

Australia's situation in one of the most culturally diverse regions of the world is reflected in the range of the anthropological collections held by the Australian Museum. The activities undertaken by the Division of Anthropology reflect this regional diversity as well as the diversity of the Australian population as well.

The Division provides opportunities to the Australian public and other visitors to learn about and understand this cultural diversity through research, scholarship and public programs. While the Division's collections are drawn primarily from the indigenous cultures of Australia, the western Pacific islands and South East Asia, the smaller collections from the Americas, Africa and Asia allow us to introduce Australians to cultures from beyond the immediate region. Important to achieving this objective is the sound management of the Division's collections of heritage items, especially in making them accessible to the indigenous people of Australia and the neighbouring region.

The program of returning human skeletal remains to Aboriginal communities was continued, with two skulls to Miriam Vale and two sets of remains to Scone. Two carved trees were returned to the Gunnedah Local Aboriginal Land Council for display in the local Keeping Place, and archaeological materials from Arnhem Land were returned to the Northern Territory Museum of Arts and Sciences. Negotiations began for the second stage of repatriation of artefacts to the Canadian Museum of Civilisation, Ottawa.

As a result of efforts to increase access to the collections by their cultural stakeholders and researchers, the Division received nearly 1,000 visitors. Community liaison embraced the Maori, Cook Islands, Tongan and Balinese communities in Sydney, as well as Aboriginal and Torres Strait Islander groups throughout eastern Australia. The Division participated in five public program activities and the highly-successful Gamelan Summer School, and planning for four other activities.

Research

Dr Christopher Chippindale (Cambridge University Museum of Archaeology and Anthropology) was Visiting Fellow in the Division for three months to work with Paul Tacon on their joint rock art research project in Arnhem Land. This project deals with the content, meaning and age of the rock art of Arnhem

Land. In September 1992, they were joined by Dr. Erle Nelson (Simon Fraser University, Vancouver), George Chaloupka (N.T. Museum, Darwin) and Kenneth Mangiru (Gunbalanya Association, Oenpelli), and obtained samples of beeswax from rock art sites for Accelerator Mass Spectrometry (AMS) dating. The oldest beeswax art at the three sites sampled proved to be 800 years old, while other images are younger, 100 and 400 years old. Dates of 1000 and 4000 years ago were obtained from samples taken elsewhere in 1991.

In April-June, 1993, Paul Tacon and Christopher Chippindale spent a further eight weeks with Belinda Pulvertaft (Australian Museum) recording the older rock art styles of Kakadu National Park. Over 30 previously unrecorded sites were located, all with paintings estimated to be between 4,000-14,000 years old.

Paul Tacon completed several papers on the relationship between contemporary Aboriginal material culture, identity and the landscape. Field and library research into how indigenous peoples express the biodiversity of animals in art, oral histories, mythology, economics and other ways resulted in a joint publication with Gerry Cassis (Division of Invertebrate Zoology).

Val Attenbrow continued her long term project into the prehistory of the Aboriginal people living around Port Jackson. A shell midden at Balmoral was excavated. Initial fieldwork was undertaken in conjunction with Mosman Municipal Council as a heritage management project. This proved that the site has a rich deposit relevant to the research aims of the Port Jackson Archaeological Project, and a second field season was undertaken. Use of the site extends back almost 4000 years. The deposits contained a wide range of shellfish and fish species, as well as many land animals (including wallaby, wombat and dingo). In addition to a large number of stone artefacts, there were several bone implements and a piece of hafted shell. The Balmoral excavations were exciting, not only because of the richness of the deposits, but also because of their accessibility to the local residents and visitors to Balmoral Beach who viewed the archaeological work with great interest. Aboriginal people from Metropolitan Local Aboriginal Land Council were involved in the fieldwork and analysis of the excavated materials, as well as university students and local residents.

Richard Fullagar rejoined the Division as an Australian Research Council Fellow for five years

working on a project titled 'The role of stone tool technology in plant food production'.

The research laboratory facilities for stone tool residue analysis attracted several university research students. Richard Fullagar began a project on the Cuddie Springs, NSW, megafauna site with Judy Furby (PhD student, University of NSW) and Associate Professor John Dodson (School of Geography, University of NSW), funded by the Australian Research Council. Judy Furby has set up techniques for identifying blood residues and established a blood reference collection in collaboration with Taronga Park Zoo. She confirmed positive identifications of blood and other residues of prehistoric tool-use on artefacts associated with megafauna at Cuddie Springs dated to about 30,000 years ago. Leanne Brass (BA Hons student, University of Sydney) used the facilities for a study of use residues on ethnographic and archaeological stone tools from various localities on the mainland of New Guinea.

Richard Fullagar continued his study of the function of artefacts from West New Britain and the East Kimberley, the latter in conjunction with Dr Lesley Head and Mr David Price (University of Wollongong). Artefacts from the lower levels of the East Kimberley site (Jinmium) include flaked stone, ochre and a sandstone slab with peck marks or engravings. Thermoluminescence dating samples are currently being analysed by Price.

Robin Torrence continued her archaeological research on Garua Island, West New Britain Province, Papua New Guinea. She excavated at three Lapita pottery sites, and obtained radiocarbon dates that place them near the end of the pottery distribution.

Jim Specht produced the first draft of three chapters of a monograph on Watom Island, Papua New Guinea, a joint project with Professor R.C. Green (Auckland University) and Dr D. Anson (Otago Museum). His West New Britain archaeological project, jointly with Dr C. Gosden (La Trobe University) is now in the analysis and writing-up stage. With L-A. Kreller, Specht analysed materials from the Awakuo rock shelter near Kandrian, Papua New Guinea.

Denise Donlon, Research Fellow funded by the Australian Institute of Aboriginal and Torres Strait Islander Studies, is studying the nature and distribution of Aboriginal burials along the NSW coast and coastal hinterland. The research is

focussed on the burial grounds rather than the skeletal remains. Denise Donlon is mapping the distribution of burials along the coast of NSW and coastal hinterland and examining associations between the burial grounds, other archaeological sites and geological and geomorphological aspects of the deposits and landforms in which burials are found, to provide a method for predicting the location of burial grounds. She is also examining the history of museum collections of NSW coastal skeletal remains and their use by researchers, and Aboriginal concerns and interests in the burial sites.

Collections

Judith Graham (Aboriginal Collection Manager) and Susan Thomsett, Pacific Collection Manager, resigned. Liz Bonshek was appointed Acting Collection Manager for the Pacific collections. Sascha Lynch moved temporarily to the Deputy Director's Office, and was replaced by Kathy Patrick.

Following Australian Museum Trust approval, Paul Tacon supervised the repatriation of archaeological materials from the Northern Territory to the Northern Territory Museum of Arts and Sciences, Darwin. This repatriation will increase accessibility to the collections by traditional Aboriginal land-owners, and by researchers at the Northern Territory University. Some of the collection will later be transferred to a keeping place in Kakadu National Park. Paul also liaised with representatives of the Larrakia people, Darwin, concerning the return of artefacts and human remains from their area in 1993/94.

The Charlestown Museum, South Carolina, U.S.A., repatriated to the Museum 12 Aboriginal artefacts from its collection.

The divisional project to create a computerised collection management system is designed to streamline many collection management tasks, to free staff time for other activities and allow a better service to stakeholders. Prue May refined the data fields, their values and their meanings, constantly reconsidering aspects of the design. She completed the draft specification of the database requirements, including a data model, data dictionary, object/action dialogue model, compilation of an authority and vocabulary control list with categories and item names associated with each, and a synonym list to accompany the authority list. May also documented the requirement specification for the Malacology collection database. She examined various

collection management software packages with computerisation staff in the following museums: the Art Gallery of NSW, Sydney; National Museum of Ethnology, Osaka, Japan; American Museum of Natural History, New York; Metropolitan Museum of Art, New York; and the Whitney Museum, New York.

Justine de Mestre and Craig Sadlier were employed for three months, under the supervision of Liz Bonshek, to trial data entry of the NSW ethnographic collection on dBASE IV using the data fields belonging to the ARTEFACT form. The test allowed the refinement of data fields and field values. Tests were also carried out on the transfer of a sample African collection data from WP51 files to the dBASE IV format, and the development of selection criteria to enter data in the Description and Interpretation fields.

Mr Ricky Guivarra, Mapoon Aboriginal Community and Dr Frank McKeown, Australian Institute of Aboriginal and Torres Strait Islander Studies, representing the Mapoon community in northern Queensland, looked at the Museum's collection of Mapoon material. They took a video record of the contents of the collection, how it was stored, recorded and maintained by the Museum. This information was taken back to the Mapoon community.

Aboriginal students from Kempsey TAFE examined the collection from the Kempsey region with a view to incorporating traditional designs into their art curriculum studies.

Nan Goodsell and Liz Bonshek completed the inventory of Pacific bark cloth and mat collections, which await a conservation-friendly storage system. They also continued work on the large collection of weapons and the Pacific unnumbered/unlocated artefacts. Pasemata Holani, from the Sydney Tongan community, assisted them with a project to document the collection of 19th century photographs taken by George Brown in Tonga.

Effective public access to cultural collections can be greatly assisted by comprehensive photographic coverage. Zoe Wakelin-King completed colour slide photography of the African and American ethnographic collections, and substantial portions of the Asian collections including textiles, masks, puppets, musical instruments and the Borneo and Balinese ethnographic items.

The collections were developed by the acquisition of artefacts from all of the major collection areas. Over 1,100 Pacific items were registered, covering recent

acquisitions, items in the University of Sydney collection, and artefacts formerly in the Education Division collection. A Balinese Gamelan Orchestra was purchased by the Australian Museum Trust and many donors who responded to an appeal for funds. The gamelan was made on commission and arrived in September, 1992. The Australian Museum Society organised a special launch for the gamelan.

D. Moore, former Curator of Anthropology, and Dr S. Bard started work on the Torres Strait ethnographic collection to prepare a catalogue for publication.

Stan Florek completed the inventory of 860 archaeological collections received under the National Parks and Wildlife Act since 1967. The data on these sites, stored in 3,300 boxes, was added to the draft catalogue of the archaeological collections. This catalogue will be published in 1993/94.

Museum Activities

The United Nations International Year of the World's Indigenous People was the major focus of the Division's activities. Phil Gordon chaired the project team for the Year's activities. Although the Year is listed as a single project, it is in fact a series of diverse activities, including exhibitions, publications, lectures, several collection-based initiatives and a conference.

As part of the ongoing promotion of access to the collections by indigenous people and research workers, loans were made from all sections of the collections. Fourteen important Australian Aboriginal art works were loaned to a major Aboriginal art exhibition at the National Museums of Modern Art, Kyoto and Tokyo. Kate Khan acted as courier for these valuable art works to Japan. The exhibition, called 'Crossroads - Towards a New Reality', was favourably received by the Japanese public in both venues. Torres Strait islands' masks were loaned to the National Maritime Museum, Sydney and to the Kunstsammlung Nordrhein-Westfalen, Germany. The Division's collection of Aboriginal breastplates was loaned to the Historic Houses Trust for the exhibition 'Poignant Regalia'.

A collection of local Aboriginal artefacts was loaned to the Jillie Binna Cultural Resource Centre, Kuranda, Queensland.

Kate Khan completed revision of the first volume of the Catalogue of the Roth Collection of Aboriginal Artefacts from North Queensland. It is due to be published by the Museum in October 1993. There are three further volumes on the material culture of the

north Queensland Aboriginal people to be written. Peter White, a vacation student from the University of Canberra, completed a catalogue of the Museum's artefacts from the Tamworth area. This is the first part of the series planned on the NSW collections.

Paul Tacon and Phil Gordon participated on the Contemporary Australia Gallery project team, and Paul gave presentations about the proposed gallery at the Community Discussion Day. Paul Tacon developed a proposal for a travelling exhibition on contemporary Australian and Canadian indigenous transitional art.

On June 22nd, the Division of Anthropology organised a celebration of the distinguished career of Dr F.D. McCarthy, former Curator of Anthropology who worked at the Museum from 1920 until 1964, and to launch in his honour a special Records of the Australian Museum Supplement 17.

Prue May was appointed a Museum spokeswoman for 1993 and 1994. She publicised the role of spokeswoman through a newsletter MUSEWOMAN and addressed Corporate Services staff and the Staff Induction course.

The Division benefitted greatly from the presence of Michael Atherton, Musician-in-Residence, who made a significant contribution to Anthropology collection management through instrument identifications and cultural liaison with community musicians.

Zoe Wakelin-King established two performing groups using the Javanese and Balinese gamelan orchestras. The Balinese gamelan featured prominently in the Balinese Music Summer School held in February, 1993. This popular event was led Wayan Gandra, a Master Musician from Bali, and was supported financially by the Australia-Indonesia Institute. The two orchestras have been used in several public performances, including the opening of 'Beyond the Java Sea', at the Museum's Open Day, and the Prize Night of the Sydney Institute of Technology TAFE, Ultimo. Ida Bagus Manuaba voluntarily taught the Balinese Community Orchestra on a weekly basis, and led the monthly public performances at the Museum. An ongoing program of demonstration lessons is offered to student groups from primary to tertiary level, through the Education Division.

Tjokorde Raka Kerthyasa has contributed substantially to all of these activities as a teacher.

Beth Hise curated 'The Living Mask' temporary

exhibition, which ended in August 1992. This exhibition included highlights of the Museum's collections of masks from Africa, Asia and America, and a loan of Australian Aboriginal masks from the South Australian Museum and other masks from private owners. The exhibition incorporated a successful program of performances and activities.

Zoe Wakelin-King handled the financial administration of the Australia-Indonesia Association grant money, and liaison for the program, performance venue, report, etc, for the Australian tour of Balinese shadow puppeteer, I Wayan Pater, organized by Senta Taft-Hendry in September 1992. This tour involved a professional puppeteer and two musicians from Bali working with two Australian tertiary student assistants and Tjokorde Raka Kerthyasa as tour manager. They played in 13 venues from Melbourne to Brisbane. This was both a significant cultural exchange and a commercial success.

Zoe Wakelin-King worked on the 'Beyond the Java Sea' temporary exhibition, and a subsidiary display of 12 artefacts and Indonesian cultural reference books mounted in the Australian Museum Library. She also provided a training session on the Balinese and Javanese gamelans to the Education volunteer guides.

Members of the Division provided tours of the storage areas and visits to the research laboratory for the Museum's Open Day, as well as organising a gamelan concert.

Students from eight Australian universities worked on divisional collections for a range of courses.

Community Activities and Conferences

Robyn Torrence and Jim Specht gave papers dealing with the archaeological evidence for trade and exchange in the south-west Pacific at the Australian Archaeological Association annual conference. With W. Boyd, J. Webb and C. Gosden, Jim co-authored a paper about sea level change and uplift of land on the south coast of New Britain, PNG, over the last 6000 years at the Inter-INQUA conference.

Phil Gordon presented a paper on the control of artefact collections at the Australian Archaeological Association annual conference, and participated as a discussant at the Australian Museum Association's seminar on 'The Changing Significance of Anthropology Collections'. He also represented the Australian Museum at the annual conference of the

American Association of Museums in Fort Worth, Texas, USA, where he gave a paper titled 'What future? Museums and indigenous people in the 21st century'.

Zoe Wakelin-King chaired the Australian Museum Society's one-day seminar on 'Museums and Indonesian Culture' in March, 1993.

Kate Khan gave a talk on the Aboriginal Gallery to a group of First Year Aboriginal Health Worker students from the Cumberland College of Health Education.

Two members of the Division presented papers at *Archaeology in the 1990s*, Armidale, NSW in August 1992. Paul Tacon presented a paper on 'Digging into the past: archaeology, interpretation and the involvement of indigenous peoples in Australia and Canada.' Robyn Torrence acted as a discussant to one of the sessions.

At the Second Australian Rock Art Conference, Cairns, Paul Tacon co-chaired a session on 'Spatial considerations in rock art' with Dr. Paul Faulstich (Portland Art Museum), and presented a paper on petroglyphs of the Canadian arctic and Dorset portable art, and three papers jointly authored with C. Chippindale about their rock art research in Arnhem Land. His photographs of rock art were also in demand, being published in the Australian Heritage Commission's 'Jewel Sea' poster, three in R. Layton's *Australian rock art: a new synthesis*, and three in Leigh Dayton's 'Mystery of the old masters' (*Sydney Morning Herald's* 'Good Weekend' magazine). He also provided 85 colour slides for 'Yidaki Dreaming', a musical performance at the Museum by Alan Dargin and Michael Atherton.

The Division was represented at the Conference of Museum Anthropologists held in Melbourne by Paul Tacon, Liz Bonshek and Belinda Pulvertaft. Paul presented a paper titled 'Contemporary Indigenous arts: betwixt and between or at the cutting edge?', and chaired a session on 'Repatriation of cultural property'. Belinda Pulvertaft presented a paper titled 'Colonial Collections in Context: An example from Southern Africa'.

Liz Bonshek presented a paper titled 'Objects, people and identity: an interplay between past and present at the Australian Museum', at an *International Conference on Anthropology and the Museum* held in Taiwan, Republic of China, in December 1992.

Liz Bonshek and Nan Goodsell attended the

Australian Anthropological Society Conference, and a 'Symposium on Computerisation in Museums', both in Canberra. Prue May and Liz Bonshek also attended a conference on 'A National Approach to Museum Documentation' at the Powerhouse Museum. Bonshek attended the Fifth Pacific Arts Association Conference in Adelaide.

Denise Donlon presented a seminar at the Australian Institute of Aboriginal and Torres Strait Islander Studies, Canberra, on Aboriginal burials on the NSW coast and gave a talk to the Wanaruah (Hunter Valley) Aboriginal community, at their request, titled 'The differences between Aboriginal and Non-Aboriginal skeletons'. She also gave a lecture on the determination of race and sex from bones to the Master of Forensic Science students at Westmead Hospital.

Val Attenbrow gave an on-site talk about her excavations in a rockshelter at Northmead to members of the Northmead Uniting Church. She also talked to Carlingford Court Tuesday Club about her project, and her excavation at Balmoral Beach was featured in the ABC television news and in several local newspapers. Dr Sarah Colley (University of Sydney) assisted with the taking of latex 'peels' from the trench walls, one of which was subsequently displayed in the Aboriginal Australia gallery.

Val Attenbrow presented a seminar in the Australian Museum's seminar series on the excavations at Balmoral Beach, and a talk to the Australian Association of Consulting Archaeologists on the results of her Port Jackson Archaeological Project. She gave a lecture on consultation with Aboriginal people for her Port Jackson Archaeological Project to students in the Prehistoric and Historic Archaeology Department, University of Sydney.

Paul Tacon presented a seminar titled 'The environment bites back' in the Department of Anthropology, University of the Northern Territory, Darwin. It focused on encounters with insects, reptiles, mammals, fire, flood and climatic extreme in remote wilderness regions of Australia, Canada, and the U.S.A. He gave seminars on his recent rock art research in western Arnhem Land to the Jawoyn Association, Katherine and the Gagudju Association, Jabiru as part of his negotiation for permission to conduct research in their country. He presented three lectures on Australian Aboriginal art and religion to secondary school students, conducted two TAMS collection tours and talks, and gave eight radio interviews in Cairns, Canberra, Darwin, Melbourne and Sydney about his research on rock art.

Richard Fullagar gave a seminar with Dr L. Head at the Northern Australia Research Unit, Darwin titled 'Archaeology and palaeoecology in the East Kimberley'. He also gave a paper at the Australian Archaeological Association annual conference, with L. Head, titled 'Fire and stone: technological resistance in the East Kimberley'.

Val Attenbrow and Jim Specht assisted in Museum submissions for reviews of environmental impact statements, and Val Attenbrow commented on several management plans.

Val Attenbrow and Jim Specht were involved in discussions with NSW National Parks and Wildlife Service about the powers and responsibilities of the Australian Museum for archaeological materials from New South Wales under the National Parks and Wildlife Act 1974. This has been an on-going problem over several years.

Val Attenbrow, Jim Specht, Robyn Torrence and Richard Fullagar are Research Affiliates, Department of Prehistoric and Historic Archaeology, University of Sydney. Jim Specht, Richard Fullagar, Denise Donlon and Robyn Torrence served as external examiners for several universities at BA (Hons) and PhD levels.

Phil Gordon was appointed to the Board of Management of the Armidale Aboriginal Keeping Place project.

Val Attenbrow ended her term as joint-editor of *Australian Archaeology* in December 1992. Richard Fullagar continued as Review Editor of the same journal. Jim Specht and Robyn Torrence continued on the editorial board of *Archaeology in Oceania* and Specht as a research adviser to the Oceanic Research Foundation.

Members of the Division acted as co-supervisors for students at several universities: University of Sydney (Attenbrow, Specht, Tacon and Torrence); University of NSW (Fullagar); La Trobe University, Melbourne (Specht); Flinders University, Adelaide (Specht); University of New England (Torrence).

Denise Donlon served as Editor of the *Newsletter for Australian Association for Consulting Archaeologists*, and NSW State representative for the Australian Archaeological Association. She worked with Dr. N. Heikal (Medical Officer in the Division of Forensic Medicine, Glebe Street Morgue) on the investigation of unresolved police cases involving skeletal remains. The purpose of this

work is to develop a strategy to deal with the identification and disposal of these skeletal remains. She was interviewed for a newspaper report on the 'Ice Man' from Outzie, Italy.

An important part of Denise Donlon's work is the identification of human skeletal remains for various groups and organisations. This included identification of bones from Mt Annan and Berry Island for the National Parks and Wildlife Service of NSW. She also prepared the following reports: *Investigation of skeletal remains No. E44471 held in Glebe Street Morgue* (NSW Police Service); *The NSW coastal burial project: a preliminary report for local Aboriginal communities* and *Dating of teeth from the Swansea Channel Burial Ground* (Australian Institute of Aboriginal and Torres Strait Islander Studies); *Assessment of the cultural significance of Australian Aboriginal skeletal remains held in the National Museum of Australia* (National Museum of Australia); *Skeletal remains from Rufus River, NSW*, (Dareton Local Aboriginal Land Council and National Museum of Australia); *Skeletal remains from 'Tarwin', Victoria* (the local Aboriginal community and National Museum of Australia); *Skeletal remains from Euston, NSW* (the local Aboriginal Community, and National Museum of Australia); *Skeletal remains from Lindsay Creek, NSW* (Dareton Local Aboriginal Land Council and National Museum of Australia); *Skeletal remains from Malakunanja I, N.T.* (Australian Museum); *The Malakunanja I skeletons* (Gagudju Association, particularly people of the Bunitj clan, and the Australian Museum).

Liaison Activities

Richard Fullagar attended some Brewarrina Land Council meetings with Judy Furby and Phil Gordon to keep the Aboriginal community informed of research and to seek further permissions to do research.

During his visits to Arnhem Land, Paul Tacon visited the following Aboriginal communities: Larrakia, Darwin; Jawoyn, Katherine; Kunwinjku, Oenpelli; Gundjeibmi, Cannon Hill; Gundjeibmi, Jim Jim; Gundjeibmi, Patonga Airstrip; Eastern Kunwinjku, at Maningrida, Mumeka and Yikarrakkal. He also visited Aboriginal organisations in Redfern, and the Wiradjuri, Wagga Wagga, NSW.

Phil Gordon visited Aboriginal communities and Land Councils throughout NSW to discuss various cultural issues. He assisted the Brewarrina

community with a display for the local Keeping Place, and organised several loans of artefacts for National Aboriginal and Islander Day. He assisted the Environmental Defender's Office with the planning of a major conference on Aboriginal issues to be held at the Museum in September, 1993. Gordon also convened the Aboriginal Advisory Committee to the Australian Museum Trust.

Aboriginal people from the Metropolitan Local Aboriginal Land Council continued to be involved in the activities relating to Attenbrow's archaeological project. C. Johnson and J. Webb, nominated by the Land Council, were employed during the fieldwork at Balmoral Beach, on a grant from the Australian Institute of Aboriginal and Torres Strait Islander Studies. Results of the research are communicated regularly to the relevant Local Aboriginal Land Councils.

Several hundred Aboriginal, Torres Strait Islander, Maori and other Pacific Islanders visited the Division to examine collections of heritage items from their regions and to conduct cultural events. Organisations represented among the Aboriginal visitors included Kempsey TAFE, various Land Councils and students from Maningrida Aboriginal community.

Commercialisation

Tours of galleries and storage areas proved extremely popular commercialisation events, with Kate Khan, Judith Graham, Paul Tacon and Phil Gordon giving talks to visiting tour groups. Paul Tacon began a rock art recording project on the Mann River, Northern Territory, on behalf of the Maningrida Aboriginal Community. He met with traditional owners and visited six sites to organise field work in July, 1993. The consultancy will assess rock art sites along the Mann River, and provide training to Aboriginal personnel working on the project.

Richard Fullagar (with Judy Furby, University of NSW) completed a report titled 'Use-wear and residue analysis of stone tools from site MSD, Hunter Valley' for N. Baker.

Val Attenbrow undertook three consultancies to survey for Aboriginal archaeological sites which might be affected by proposed developments in various parts of Sydney: part of the Optus telecommunications line for Kinhill Pty Ltd; a walking track in Explosives Reserve for Willoughby Municipal Council; and a management plan for Katoomba Creek Falls Valley for the Blue Mountains City Council.

Future Plans

Activities for the International Year for the World's Indigenous People will include publication of the first volume of the catalogue of the W.E. Roth collection of artefacts from North Queensland, and the launch of the Tamworth section of the NSW catalogue. Kate Khan will prepare for publication the second part of the Roth catalogue, and Phil Gordon the second part of the NSW catalogue. The Division will contribute to several public programs, including the Malaysian Art exhibition (Goodsell), Maoritanga (Bonshek), ScienceScape (Attenbrow, Fullagar, Tacon), Contemporary Australia (Gordon, Tacon) and Sharks (Specht, Tacon).

Two Aboriginal trainees in collection management will be recruited. The computerised collection management system will be implemented to ensure a faster and more efficient service to our stakeholders. Completion of the project will take four years. In 1993-94, the system will be refined and the following issues will be addressed: preparation of manuals, training, data integration and transfer, and finalising five data forms. The work will include conversion to the new system of the basic data for about 40,000 records. These records will be extended to include additional information essential for the new databases. All new acquisitions will be added to the system.

A new acquisition policy will be developed with more precise selection criteria for new acquisitions. The establishment of a collection acquisition fund will also be investigated.

Major repatriations of human skeletal materials and artefacts will continue. Among these will be the return of items to the Larrakia people of the Northern Territory and to Maori people in New Zealand, and the second phase of repatriations to the Canadian Museum of Civilisation.

Special customized travel cases will be commissioned for the Balinese Gamelan Orchestra. These will be used for off-site performances for both community and commercial purposes.

Paul Tacon will undertake the commercial project on the Mann River rock art in July 1993 and will continue his rock art project with Chippindale. Val Attenbrow will complete excavations and analyses for Stage II of the Port Jackson Archaeological Project, and produce Aboriginal community reports and papers for professional journals. Richard Fullagar (with T. Loy, Australian National University) will set up experiments to monitor the taphonomy of residues. With J. Furby, he will undertake fieldwork at Cuddie

Springs, NSW, and initiate with D. Colgan (Evolutionary Biology Unit) a study on the identification of DNA in stone tool residues. Denise Donlon's research plans include the reconstruction of day-to-day activity patterns of NSW coastal Aboriginal people through the investigation of occupational stress marks on bones. These include osteoarthritis of joints from repetitive knapping or grinding; damage to the spine from carrying heavy loads on the head and the lower back; and extension of joint surfaces due to unusual positions of sitting, squatting etc.

Visitors

- Ms M. Abernathy, Material Culture Unit, James Cook University
 Ms K. Barnes, Craft Adviser for Tiwi Arts, Bathurst Island
 Professor L. Binford, Southern Methodist University, U.S.A
 Dr R. Bird, Australian Nuclear Science and Technology Organisation, Lucas Heights NSW
 His Excellency, Mr N. Bolset, Ambassador for Norway
 Dr C. Chippindale, University Museum of Archaeology and Anthropology, Cambridge, U.K.
 Mrs. A. Chippindale, Antiquity Publications, Cambridge, U.K.
 Mr E. Christian, Minister for Lands, Norfolk Island
 Mr D. Collins, Pioneer Park Museum, Griffith
 Ms A. Craven, England
 M. Enetama, Alofi, Niue
 Mr S.M. Eoe, Director, National Museum of Papua New Guinea
 Sir Vincent S. Eri, Trustee, National Museum of Papua New Guinea
 Mr H. Forestier, ORSTOM, New Calaedonia
 I Wayan Gandra, Bali, Republic of Indonesia
 Professor & Mrs D. Gilbertson, University of Sheffield, U.K.
 Mr S. Gillett, James Hardie Industries, Sydney
 Mr R. Guivarra, Mapoon Aboriginal Community
 Dr. M. Gunn, Northern Territory Museum of Arts and Sciences, Darwin
 Professor T. Hanihara, Sapporo Medical College, Japan
 Ms M. Havini, North Solomons Province, Papua New Guinea
 Dr P. Hiscock, Northern Territory University, Darwin
 Dr. S. Holdaway, La Trobe University
 Mrs Hu Jian, People's Republic of China
 Mr Jiang Ying Ju, Deputy Director, Shandong Provincial Bureau of Cultural Relics, People's Republic of China
 Mr B. Kaman, Boroko, Papua New Guinea
 Mr E. Kasarherou, Director, Musee Territorial de Nouvelle-Caledonie, New Caledonia
 Dr P. Kedit, Acting Director, Sarawak Museum, Malaysia
 I Wayan Konolan, Bali, Republic of Indonesia
 Professor Lien Chao-Mei, National Taiwan University, Republic of China
 Ms. D. Lyons, Simon Fraser University, Vancouver, Canada.
 Mr N. Lurang, Culture and Tourism Officer, New Ireland Province, Papua New Guinea
 Dr G. McDonald, Canadian Museum of Civilization, Canada
 Dr F. McKeown, Australian Institute of Aboriginal and Torres Strait Islander Studies
 Mr A. Mokai, Southern Highlands Province, Papua New Guinea
 Ibu Ita Munaf, Java, Republic of Indonesia
 Ms R. Oliver, Pioneer Park Museum, Griffith
 I Wayan Pater, Bali, Republic of Indonesia
 I Ketut Rena, Bali, Republic of Indonesia
 Lord and Lady C. Renfrew, Cambridge, England
 Ms N. Richardson, Northern Territory Museum of Arts and Sciences, Darwin
 Dr. Barry Russell, Northern Territory Museum, Darwin
 Her Royal Imperial Highness Princess Sayako, Japan
 Dr S. Sears, Paris, France
 Dr D. Smidt, Rijksmuseum voor Volkenkunde, Leiden, Netherlands
 Dr N. Stone, Southern Methodist University, U.S.A.
 Ms Suhardin, National Museum, Republic of Indonesia
 Mr Tong Zheng Hong, Director General, China Cultural Relics Promotion Centre, People's Republic of China
 Dr D. Tumarkin, St. Petersburg Museum, Russia
 Mr J. Uri, Cook Islands Association, Sydney
 Mrs Wang Ying San, Researcher, Henan Provincial Museum, People's Republic of China
 Ms V.L. Webb, Metropolitan Museum of Art, New York
 Dr R. Welsch, Field Museum of Natural History, Chicago, USA
 Pak Widianto, Java, Republic of Indonesia
 Mrs A. Williams, Curve Lake First Nation, Ontario, Canada.
 Mr D. Williams, Curve Lake First Nation, Ontario, Canada.
 Mr Xu Hu Ping, Deputy Director, Nanjing Museum, People's Republic of China
 Mrs Xu Jing Xiu, Researcher, Tian Jin Art Museum, People's Republic of China
 Mr A. Yalu, Premier, Southern Highlands Province, Papua New Guinea

Mr Yan Zhen Tang, Deputy Director, State Bureau of Cultural Relics Centre, People's Republic of China

Mr Zhang Jian Xin, People's Republic of China

Acknowledgments

Paul Tacon received \$3100 from the Ian Potter Foundation and \$1000 from the Margaret Fielman Foundation for his rock art project. Additional grants were received through his co-researchers: \$100,000 to Dr. Erle Nelson (Simon Fraser University) from the Canadian government, for the AMS dating of Aboriginal rock art; and \$21,000 to Dr. Christopher Chippindale from the British government, the McDonald Institute (Cambridge) and the Society of Antiquaries (London).

With Dr L. Head (University of Wollongong), Richard Fullagar received grants of \$2282 from the Australian Institute of Aboriginal and Torres Strait Islander Studies for travel, and \$4050 from the Australian Institute for Nuclear Science and Engineering for AMS dates for their East Kimberley project. They also received a continuation of their Australian Research Council small grant of \$9,000.

Val Attenbrow received two grants totalling \$16,400 from the Australian Institute of Aboriginal and Torres Strait Islander Studies for her Port Jackson Archaeological Project.

The Balinese Gamelan project was sponsored by Professor A. Boyd; P. Cousens; G. and E. Geering; R.F.F. Gillespie; B. and L. Gilmour; Putu Sri

Kanniakah; R. and A. Kerthyasa and the Balinese community of Sydney; I. and R. Langlands; B. Leigh; B. Leonard; Dr J. Lindsay; A. Maisey; J. and T. McCormic; D. and G. Moore; Dr and Mrs J. Murray; S. Myers; S. Robertson; N. Routley; M. Adelson; Dr M. Slaytoe; T. Strachan; Mr and Mrs Suwitra; G. Watson; Dr J. Yu; A. and K. Yuliarsa.

S. Weiss from Sydney University provided voluntary weekly tuition on the Javanese gamelan for museum staff. G. Watson acted as voluntary coordinator and teacher of 'Tirta Sinar', the Australian Student Balinese training orchestra group. S. Myers loaned Nias swords, documentation photos and tapes for the 'Beyond the Java Sea' exhibition season in Sydney.

Ms S. Hoass, Mrs P. Bostock, Ms J. Tory, Mr C. Massens, Choy Lee Fut Federation, South Australian Museum and the Performing Arts Centre (University of Sydney) loaned items for 'The Living Mask' exhibition.

Under the Tax Incentives for the Arts Scheme, R. Norton donated a collection of 30 Philippines textiles and other items.

Other donations of artefacts were received from: J. Andreisse, M. Atherton, L. Bonshek, A. Lange, B. & G. Solyom, M. Bain, L.M. Bolton, Sir Vincent S Eri, M. Esson, M. Hilsden, Y. LeForte, E. Lowrey, G. McClelland, J. Powys, J. Rix, C. Thew, M. Tuckson, D. Hacket, L. Norman, M. Tomkins.



Noh Masks, Japan, from the exhibition "The Living Mask"

COMMUNITY RELATIONS

The Community Relations Division encompasses expertise in Marketing and Public Relations, Cultural Diversity, Publishing and Merchandising. It is the aim of the Community Relations Division to promote the highest possible understanding of the Australian Museum and to ensure maximum participation in Museum activities.

Australian Natural History magazine enjoyed a 27% increase in sales over the period, and was recognised with its sixth successive Whitley Award. Nine scientific publications were produced including two commemorative issues recognising the contributions of former Museum scientists. Community access was enhanced through a successful community discussion day attracting 100 people of differing cultural backgrounds. A broad range of merchandise was developed including Museum replicas and items for the Gargantuans from the Garden exhibition. The newly introduced Museum as a Venue coordinated over 450 functions during the year. New advertising campaigns were implemented and a high level of media attention was achieved by the Public Relations section.

Australian Natural History Magazine

It has been a watershed year for Australian Natural History (ANH) magazine with its revised, brighter format paying dividends in terms of steadily increasing subscription and retail sales. ANH is now selling more copies than at any time in the previous three years, and is continuing to grow.

Editorially ANH continues to set new standards. A provocative article in the Summer 92/93 issue, which was concerned with koala overpopulation, and which suggested culling as a solution, attracted enormous media and public attention. Original articles on sharks and Funnel-webs in the same issue were also picked up by the media. Throughout the year, strong articles on feral cats, frogs, flying foxes and dolphins among many others won praise from the readers.

On the award front, ANH continued its winning streak by collecting the Whitley Award for best periodical for the sixth successive year.

Cultural Diversity

This year the Australian Museum pursued its stated aim of giving Museum visitors a greater appreciation of multicultural Australia, as well as attracting a greater diversity of people of different backgrounds.

The Cultural Diversity Co-ordinator, Lula Saunders, also the EAPS co-ordinator, was involved in a vigorous program of community consultation and public programs. The year began with 'The Living Mask: Performance and Ceremony Around the World' which involved local Aboriginal and Torres Strait Island people, together with several NESB groups.

'Work It Out', a children's game/travelling exhibition about better understanding of Australia's cultural diversity, was organised for March/April and proved very popular with adults as well as children. This was followed by planning for 'Maoritanga', a program planned and brought to the Museum by members of Sydney's Maori community, as part of the Museum's program for the Year for the World's Indigenous Peoples.

Planning and development for an exciting new gallery reflecting contemporary Australia began during the year. The space will reflect Australia's rich cultural diversity in new and different ways, such as 'community access' spaces which will enable community groups to bring displays, exhibitions, performance, and other programs to the Museum. As a prelude to this level of interaction with the community, and to assist the planning process, a successful Community Discussion Day was held, where over 100 people of different cultural backgrounds came to the Museum to hear about the plans and to offer ideas and suggestions for the future. The consultation process continued with a small visitor survey conducted on Open Day, together with a Staff Discussion Morning. The gallery is planned to open in April 1994.

Market Research

During the year, a number of market research projects were coordinated by the Division, with results providing the basis for strategic planning, marketing and public programs plans.

A major quantitative survey identified that visitors to the Australian Museum in the last twelve months were likely to be in the 35 to 49 years age group, married with children and belong to the "Professional Managers" market segment. Visitors to the Museum come from value segments that see themselves as community minded and socially active and who take a direct interest in public affairs.

A number of qualitative research projects were undertaken for specific programs, providing useful information regarding content and marketing strategies.

Merchandising and shop

Merchandise developed within the Museum has been expanded over the year. Over 50% of the merchandise developed for the successful *Gargantuans* exhibition was designed in-house. We have developed our own range of replicas from objects from the Museum's collection at the Macquarie University. A range of Australian Museum cards was developed in conjunction with the State Library of N.S.W. using artwork from the Scott Sisters collection held in the archives at the Australian Museum.

The quality of products and improved presentation, combined with several book launches and promotional activities, resulted in a continued high level of support for the Museum shops this year.

The mailorder services of the Museum continued to be expanded during 1992/93. The third mailorder catalogue was mailed to a list of 50 000. Another booklist was mailed to all state libraries and government and non-government schools in N.S.W.

Museum as a Venue

In its first twelve months of independent operation, this section has established the Museum's venue facilities and services as being of a very high standard and also value for money.

The Museum has found a particular niche with wedding receptions, and the Terrace continues to be in high demand for these functions. For much of late 1992, the Museum was host to wedding functions almost on a nightly basis.

Internally, the section has played an important role in improvements to the catering standards for both visitors and staff.

Public Relations

The Public Relations section has responsibility for advertising, promotion, publicity and media liaison, as well as publishing the Annual and Corporate Reports and the bi-monthly magazine *Muse*, in cooperation with The Australian Museum Society.

The section coordinated the move in-house of the production of *Muse* magazine - a decision which resulted in a brighter, more user-friendly publication and cost savings.

The section continued to develop and implement promotion strategies for the Museum's programs and activities.

A new weekly press advertising campaign was created and television advertising continued during school holiday periods. Advertising campaigns were initiated for *Gargantuans* from the Garden, Beyond the Java Sea and other smaller programs.

The Museum's high media profile was maintained through regular media liaison with diverse topics such as culling koalas, feral cats, funnel web spiders, shark meshing, fossil fish and black tree kangaroos all receiving media attention. Major coverage was awarded to Museum programs: *Gargantuans*, *Museum on the Road*, the *Eureka Prizes*, *Beyond the Java Sea*, *Dinosaur Picnic*, *Open Day*, *Eric the Pliosaur*, and to the launch of a policy by the Council of Australian Museum Associations.

Records of the Australian Museum

During the past year Scientific publications produced 9 issues totalling 1038 pages: *Records* Volume 44 Numbers 2 and 3 and Volume 45 Number 1, Supplements 15, 16 and 17, and *Technical Reports* 7, 8 and 9.

The issues contained sixteen papers in zoology, two palaeontology, one bibliography, one identification guide, one faunal list, and two commemorative issues. Australian Museum (AM) scientists authored or co-authored two thirds of the papers. The balance were by other Australian and overseas scientists.

Ten new genera, 90 new species and seven new subspecies were described, including eight new species of amphipods (marine crustacea) in a world revision of the genus *Ichnopus* by Dr Jim Lowry and Ms Helen Stoddart (AM). Dr Hal Cogger and Ms Liz Cameron (AM) co-authored a massive report on the herpetofauna of the Weipa Region, accounting for 20 native species of frogs and 76 species of reptiles. 108 colour photos are included. Other significant contributions by Australian Museum scientists are: description of a new genus and two new species of freshwater isopods (Crustacea) from the Kimberley region, WA (Drs George Wilson and Winston Ponder); one new species and two new subspecies of bats from western Papua New Guinea (Drs Tim Flannery and Don Colgan); revision of two new genera of harvestmen spiders (Dr Glenn Hunt).

Dr Harry Parnaby authored an identification guide to insectivorous bats of south-eastern Australia which, due to great demand by both specialists and non-specialists, has been reprinted less than 12 months after its first release.

COMMUNITY RELATIONS

Commemorative issues were also published to honour the contribution of two senior Australian scientists. 'Ollie' Chalmers retired as curator of Mineralogy with the Australian Museum in 1971 but continues today as a research associate in the Mineralogy section. The R.O. Chalmers issue contains ten papers in mineralogy, meteoritics and geology. Fred McCarthy has published over 300 papers on archaeology, ethnography, cultural heritage preservation, museology, and Aboriginal studies. The F.D. McCarthy issue contains 14 papers contributed by his colleagues.

Conferences and Travel

Jan Barnett attended a management course for Museum senior management at Mt Eliza, Victoria in June 1993.

Lula Saunders attended CAMA Conference 1992 and presented a paper: 'Museums and Cultural Diversity: From Basement to Boardroom'. Lula also attended a conference on Multicultural Marketing: a new Dimension in Communication.

Tone Gibson attended a conference 'Affording the Arts in Australia and New Zealand', March 1993, and an ABS seminar: Information - the Marketing Edge.

Future Plans

The Division's strategic plan has identified tourism as an area needing further attention, and plans to

develop stronger links with the tourism industry will be implemented.

Other strategic plans include the production of promotional materials to increase return visitation to the Museum. Through integrated and consistent marketing, it is intended that we reinforce the Museum's image as an exciting and rewarding place to visit and that we promote the varied nature of our programs to identified target markets.

Visitors

Her Imperial Highness Princess Sayako, Japan
His Excellency Rear Admiral Peter Sinclair AC,
Governor of NSW, and family

Mr Per Lassen, Consul-General of Denmark

Mr Mogens P Pedersen, Consul of Denmark

His Excellency Mr Nils Bolset, Ambassador of
Norway

The Honourable Bill Hayden AC, Governor General
of the Commonwealth of Australia, and family

His Excellency Sabam P Siagian, Ambassador to
Australia from the Republic of Indonesia

GBPH Poeger, Director General of Culture,
Indonesia

Dr Paul Taylor, Exhibition Curator, National
Museum of Natural History, Smithsonian Institute

Delegates of the International Olympic Committee

Moirra Simpson, Lecturer, University of Warwick,
Coventry, UK

C O R P O R A T E S E R V I C E S

The Corporate Services Division provides innovative and pro-active people, property and information management; and high quality, cooperative services which respond to the needs of our customers.

The Division is made up of Business Services; Finance; House Services; Human Resource Services; National Photographic Index of Australian Wildlife; Photographic Services; and Property Services.

The major achievements for the Division centre on customer service improvements in all sections. Computerised information systems have been implemented in all areas, and training programs in Customer Relations were held for all staff of the Division to ensure that the best possible service is given to our customers.

Another major achievement was in the business services area, where total earnings for the 1992/93 year totalled in excess of \$470,000, a 90% increase on the previous financial year.

Following the calling of expressions of interest and a review process, Kinhill Engineers Pty Ltd were appointed by the Museum Trust to assist the Museum to evaluate the viability of any potential development of the eastern end of the Museum's College Street site. The Assistant Director (Corporate Services) has worked closely with the consultants on this project.

Negotiations, including all contractual and financial matters, were successfully completed and venues finalised in eight major cities around Australia, for the Museum's travelling exhibition, Gargantuans from the Gardens. Negotiations have been commenced by the Assistant Director (Corporate Services) for the exhibition to tour New Zealand museums after completion of the Australian tour.

Sale of the Museum's (Lizard Island) vessel, RV Sunbird was successfully achieved through auction in February for \$233,000, against a reserve set of \$160,000.

Australian Museum Business Services

The aim of Business Services is to identify and put into action new business opportunities utilising the Museum's substantial intellectual and material resources, for the purposes of financial gain.

The bulk of revenue for 1992/93 came from scientific

consulting in the environmental field, specifically in the areas of fauna surveys and impact assessment preparation for major public sector groups. The most significant projects to date have been a series of fauna assessments for the environmental management plan of the Homebush Bay Olympic development, ongoing biological studies of Botany Bay for the Federal Airports Corporation, and a freshwater biological indicators assessment for freshwater ecosystems for the Environmental Protection Authority.

Finance Section

This financial year has seen Finance concentrate on improving the level of understanding of the new financial computer system and reporting for all staff and, in particular, the finance staff. A number of reports were developed and the purchasing module fully installed. Implementation of the fixed assets module is now at an advanced stage and is expected to be completed within the next few months.

Major achievements for the Finance Section this year were a new cash handling procedure, improvements to mail procedures, issuing regular reports within 14 days of the end of the month, and 85% of creditors being paid on time. As well, slow paying debtors now do not exceed 25% of total debt.

House Services Section

The House Services Section is responsible for the protection of the Museum's assets, and ensures that visitors and staff enjoy a safe and clean environment.

Customer service was emphasised this year through a comprehensive training program. Additional training focussed on First Aid and computer skills. Opportunities were provided for staff to relieve in higher positions to improve their skills and understanding, as well as having a positive effect on productivity and morale.

The Security Alarm system was further expanded by the introduction of an Access Control method for non-public areas.

In June, 1993, the House Services Manager presented a paper on "Establishing Physical Security, Documentation and Environmental Protection for Cultural Property in Transit" at an international Museum Security Conference held in Helsinki, Finland. Visits to other museums in Europe, including a special visit and presentation to security staff in Russia were highlights of the trip.

Human Resource Services

This financial year has seen Human Resource Services develop a client focus, with emphasis on continuing to provide a high level of service to Museum staff. A service standard for Human Resources has been developed and implemented. A number of performance indicators have also been identified for the Section. A 99.5% accuracy level of data entry to the pay roll system has been achieved throughout the year. Group Certificates for the 92/93 financial year were issued on 24 June.

A Training and Development Officer was appointed in November 1992. This has resulted in the delivery of a flexible, pro active training program. Customer Service courses have been conducted for Corporate Services staff with a view to extending these throughout the Museum. The Training and Development Officer coordinated the Corporate Services Corporate Planning Workshop held in March, and the Museum Management retreat held in June.

The Exhibitions Enterprise Agreement was signed in November 1992. A comprehensive skills audit of Exhibitions staff was carried out at the end of 1992 by the Human Resource Manager.

The Museum grievance policy was revised to include grievance procedures as required under the Industrial Relations Act 1992. This policy was circulated to all staff and information sessions were conducted.

During 1992/1993 two morale surveys were conducted. The information collected continues to assist management to assess morale within the Museum, and highlight areas that require action.

National Photographic Index of Australian Wildlife

The National Photographic Index of Australian Wildlife is an expanding collection of colour transparencies of the mammals, birds, reptiles and frogs of Australia. It is maintained as a reference supplement to the Museum's collections of preserved specimens, as a source of illustrations for publishers and authors, and is the basis for a series of richly illustrated books.

The National Photographic Index of Australian Wildlife published the fourth volume of the Encyclopaedia of Australian Animals in September 1992, completing the four volume set.

A Field Guide to the Birds of Australia is currently in production with New Holland/Reader's Digest.

Commercial utilisation of the NPIAW has been steady despite the recession. Response to an advertisement in ANH for new photographers has been overwhelming and some new and exciting photographs have been received as a result.

Photographic Services

Photographic Services provides for the photographic needs of the Museum and its customers. It also maintains and makes accessible images from an archival and modern photographic collection of historical, cultural and scientific significance.

The Section continued to provide a quality and efficient service maintaining a wide range of photographic services including the production of images, black and white printing, X-Radiography, slide duplication and collections documentation.

Research has been conducted on electronic imaging and multimedia - specifically how these could be used in making our image collections a more accessible and valuable educative, research and commercial resource.

Our archival and modern collection of images were frequently used by researchers. One person of note was Virginia Lee Webb, photo collection archivist of the New York Metropolitan Museum who was conducting a major research project into George Brown's images of indigenous Pacific peoples.

Approximately 10,000 new records were added to our image database. All unaccessioned photographic images were surveyed and recommendations made for accessioning, further study and/or disposal.

The section continued to expand commercial photographic opportunities, and to increase sales of images held in the collection. The total value of external jobs increased by 23% over last year.

Property Services

Major maintenance works were effected on the waterproofing of the New Wing. Corrections to the air conditioning and ventilation equipment defects have been undertaken, together with the commencement of an asset replacement program of plant and equipment.

Cyclic painting and carpeting programs are continuing to provide an improved appearance of the

public galleries.

A heritage/conservation plan is being developed as part of the Total Asset Management requirements. The ongoing stone work program has seen completion of 2 sections of the Vernon Wing and preliminary works started on the Barnett Wing. The Museum stonework program is part of a Public Works Department stonework program which has received recognition by being awarded the architectural 'Greenway' Award for conservation.

Special Projects

The space review of the Museum's requirements was completed, and recommendations have been made to management for consideration.

An evaluation of the monthly Middle Management Meetings was undertaken and information and recommendations obtained will be incorporated into future meetings.

Michael Atherton, a well known musician/composer and the Museum's in-residence person for 1993, has become highly involved with diverse areas and people within the Museum and has initiated a number of exciting programs which will take place in the following months, including a number of public performances.

A final draft of the Australian Museum Trust Regulation 1993 has been approved by the NSW Ministry for the Arts and prepared by the Parliamentary Council. The next step to be

undertaken is a Regulatory Impact Statement, part of the NSW Government process of regulatory reform.

The VIP program to bring influential people to the Museum on informal "behind the scenes" tours is continuing, with visits by the Ambassador of Norway, Mr. Nils Bolset, and Ms Pam Allan, Shadow Minister for Planning and Environment, and Women's Affairs.

The Museum continues to lead the way in the Guarantee of Service program, with a detailed report on achievements and new initiatives presented to the Ministry for the Arts in February.

Future Plans

The Division plans improvements in management information and reporting systems, including investigating the direct access of databases by Project Managers.

Negotiation and completion of an Enterprise Agreement, including multiskilling, improved career paths, and increased productivity is planned as a priority for the Division. Job Evaluation, managed by the Human Resource section, is an important part of this process and will also be undertaken on a Museum-wide basis this year.

In the commercial area the focus will be to make further inroads into the environmental consulting market and, in particular, strengthening our hold on the marine and freshwater fauna studies market.

EARTH & ENVIRONMENTAL SCIENCES

The Division of Earth and Environmental Sciences comprises two disciplinary areas with largely different aims and activities.

Earth Science manages collections of minerals, rocks, meteorites and fossils for display, research and community education. Present research focuses on 'hot spot' volcanic rocks and related earthquake activity in eastern Australia and associated minerals and gemstones and research on the evolution of early Palaeozoic vertebrates.

Environmental Science carries out ecological research that investigates ecological distributions and processes leading to better environmental management. The section is active in promoting environmental management and awareness through the provision of statements, comments and advice to governments, the public, Museum programs, consultants and the media.

The Earth Sciences Collection Management Review was completed during 1992/93. Geo-Globe lectures were presented by Mineralogy staff for The Australian Museum Society and Dr Lin Sutherland gave the Presidential Address to the Royal Society of New South Wales. The R.O. Chalmers Commemorative Papers were published in Records of the Australian Museum, and the Mineralogy Section's X-Ray Diffractometer was converted by Ross Pogson to digital data capture.

"Eric", the opalised pliosaur skeleton, was purchased with the help of Quantum's highly successful ABC TV appeal. A major discovery of Devonian fish at Canowindra was developed by Dr Alex Ritchie. An Invertebrate Palaeontologist, Dr Greg Edgecombe, was appointed, and a major commercialisation venture hiring out Palaeontology display specimens was negotiated.

Also during the period, Dr Richard Major was appointed as a terrestrial ecologist. A new photographic technique, perfected for identifying predators at active nests, has led to a valuable research breakthrough. Dr Graham Pyke contributed substantially to forestry issues by commenting on EISs, attending seminars and the commercial assessments of FISSs.

Ms Anna Murray completed the extraction of life-history data for beach amphipod research. Both she and Dr Alan Jones have contributed substantially to commercial projects and environmental submissions concerning coastal and biodiversity issues.

MARINE ECOLOGY

Research

A study of biology and ecology of two beach amphipod species by Dr Alan Jones and Anna Murray has progressed to the analysis of life-history data, extracted with the aid of newly-developed software.

Alan's involvement in the EPA's Hawkesbury Ecotoxicology Project continues through membership of the Management Committee, collaboration in a study of sedimentary contaminants and supervision of two M.Sc. students investigating effects of marinas on benthic communities. He is also supervising an Honours project (University of NSW) on pollution in Botany Bay. Ms Murray identified marine invertebrate specimens for these student projects.

Museum Activities

Alan Jones continued his substantial involvement in various environmental activities, including coordination and preparation of comments on management issues concerning coasts, estuaries, streams and biodiversity and the delivery of submissions at workshops and hearings.

He contributed to Museum exhibitions and delivered a talk on the third runway during the Museum's Open Day.

Community Activities and Conferences

Alan Jones assisted in negotiations between the Friends of Dee Why Lagoon and Warringah Council concerning the lagoon's management plan; prepared an affidavit concerning alleged pollution of the Shoalhaven River for the Environmental Defender's Office and delivered talks to Environmental Engineers (University of Sydney), the Probus Club and the Marine Education Society of Australasia.

He was an invited speaker at seminars on the assessment of biodiversity and on human population size and attended conferences on biodiversity and the Rio Earth Summit. He is on the steering committee for an Australian Academy of Science conference on human population size and continues to co-ordinate a monthly discussion group for scientists interested in sediments.

Alan served as councillor to: The National Trust Landscape Conservation Committee, Coast and Wetlands Society, Friends of Dee Why Lagoon,

Australians for an Ecologically Sustainable Population, Hawkesbury Ecotoxicology Management Committee, and on the editorial board of "Biodiversity and Conservation."

Commercialisation

Dr Jones and Ms Murray contributed to commercial projects including Homebush Bay, Botany Bay, stream bioindicators, ocean outfalls, Lake Tabourie, Warnbro Sound.

MINERALOGY & PETROLOGY

Research

The Envirolith Project, led by Lin Sutherland, studies the geological evolution of east Australia. Seven papers on volcanism, earthquakes and gemstone formation were submitted for publication.

Work on New South Wales diamonds involved Professor Henry Meyer, Purdue University, Indiana, USA; Cluff Resources Pacific and the NSW Department of Mineral Resources, with samples selected by Gayle Webb. A proposal to investigate Sydney Basin lithosphere was made to ARC with Professor Jim Cole, Department of Geology, Monash University.

Ross Pogson commenced a joint project on sulphate formations at Jenolan Caves, NSW with Dr Armstrong Osborne of Sydney University.

Collections

The Earth Sciences Collection Management Review was completed and its recommendations undertaken. The X-Ray Diffractometer was modernised by conversion to digital data capture by Ross Pogson, aided by a Museum grant. This will greatly improve our mineral identification services. Data for 3800 NSW rocks were computerised with assistance from the Geological Survey Specialist Services Section and the Australian research rocks are being reorganised for better access and retrieval.

Major collection acquisitions included purchases of quartz Japanese twins from Japan, lapis lazuli from Afghanistan, fluorite from Spain, powellite from India, cobaltian calcite from Zaire and an outstanding 8.5 carat cut sphene from the Harts Range, NT, Australia.

Exchange additions included vesuvianite from Barraba, NSW, Victorian zeolites and a rare Antarctic

meteorite from the Polar Institute of Japan.

Donations included libethenite and pseudomalachite from Girilambone NSW; gold from Raglan, Qld, bismuth crystals from Wolfram Camp Qld; copper from Cornwall; sapphirine from the NT, and rainbow hematite from Brazil.

Over the year, 235 mineral and 22 rock specimens were registered and 18 loans involved 101 items. Research users included Dr. Henry Meyer, Purdue University, USA (diamond study), Dr. P. Eadington CSIRO (dawsonite spectroscopy), Dr. L. Lawrence (rare Mt. Lyell, Tas sulphosalts), Dr. Grant Henderson, Univ. of Toronto, Canada (gibbsite study by atomic force microscopy) and Dr. W. Birch, Museum of Victoria (study of rare tellurites).

Museum Activities

The Geo-Globe Lectures devised by the Mineral Section for The Australian Museum Society drew strong and enthusiastic response. Five talks on rocks and plate tectonics by Lin Sutherland were supplemented by talks on minerals, meteorites & tektites by Ross Pogson, a talk on gemstones by Gayle Webb and a keynote address on volcanoes by Professor Hubert Huppert, Cambridge University. A geology excursion across the Sydney district, led by the Mineral Section, put theory into practice.

Dr. Sutherland spoke to Museum Guides on plate tectonics, and to the Australian Museum Open day program, on "What killed the dinosaurs?".

Inca Films Ltd. recorded a segment for a BBC TV documentary on diamonds. Lin Sutherland discussed their geology and Gayle Webb spoke on their gemmology.

The Australian Museum Society trip through geological wonders of Central Australia was led by Lin Sutherland and Ross Pearson, visiting copper, opal and gold mines and spectacular outcrops in the Flinders Ranges, Uluru National Park and Kings Canyon.

Ross Pogson and Gayle Webb explained the Mineral Gallery to The Hon. Pat Rogan, NSW Shadow Minister for Minerals and Energy, Indian and Thai gem industry officials and Museum Studies students. A mineral collection tour was given to the Mineralogical Society of NSW.

Ross Pogson assisted Materials Conservation with Fourier analysis of humidity /temperature data.

Mineralogy staff participated in the Museum Open Day, with lectures, demonstrations and specimen identifications.

Community Activities and Conferences

Dr. Lin Sutherland attended several conferences, including the 29th International Geological Congress in Kyoto, Japan, where he gave a paper on meteorite and volcanic events at the 'dinosaur extinction' and collected rocks from volcanic regions of Kinki, Izu-Oshima Island and Hakone. At the "Mineralogy and Museums II" Conference, Royal Ontario Museum, Canada, he discussed the gemstone stimulus in Australian Museum public programs.

Other conferences included the Tasman Sea Conference, Christchurch, New Zealand, (presenting a paper on Evolution of Tasman Sea volcanic hotspots), the New England Orogen Symposium, University of New England, Armidale, (speaking on formation of the New England gemfield) and the 27th Advances in the Study of the Sydney Basin Symposium, University of Newcastle, where he delivered a paper on gemstone eruptions at Barrington Tops volcano, and attended a workshop on the 1989 Newcastle earthquake. Dr Sutherland also spoke on isotopes of lead minerals at the Mineralogical Societies Seminar, Adelaide.

Other talks were given to the ABC Okham's Razor program 'A slice through Australia', the Newcastle Regional Museum public Program on east Australia volcanoes and earthquakes, the Royal Society of New South Wales Presidential Address on Demise of the Dinosaurs, and the Cornell University Adult Group Visitors on Australian scenery. He was after dinner speaker at the Annual Dinner and Prizegiving of the ACT Gem Study Group.

Ross Pogson and Oliver Chalmers attended the Mineralogical Societies Seminar on "Mineralogy of Lead", Adelaide, where Ross chaired a session and Oliver gave the after dinner speech. Ross also attended the "Geology and the Community" SUCOGG Symposium at Macquarie University.

Gayle Webb attended the "Mineralogy and Museums II" conference, Royal Ontario Museum, giving a paper on "Gemstone curation in museum mineral collections". She exhibited a magnificent Burmese peridot gem, the subject of a fund raising campaign, at the ACT Gem and Mineral Show and Cumberland Show. Gayle commenced a postgraduate Diploma of Museum Studies at Sydney University.

Mineral displays were mounted in The Museum of

Contemporary Art in Sydney, The Western Australian Museum, the Perth Gold Mint, Sydney, and the Art Gallery of NSW.

Ross Pogson served as Secretary and newsletter editor of the Mineralogical Society of NSW. Lin Sutherland served as President and Vice President of the Royal Society of NSW and Vice President of the Mineralogical Society of NSW.

Fieldwork and Travel

The Mineral Section staff made short trips in New South Wales, collecting from new gemstone finds around Oberon, Blayney, Inverell and Glen Innes.

With Dr. Armstrong Osborne of Sydney University, Ross Pogson studied and photographed sulphate formations on a trip to Jenolan Caves, NSW. Ross also collected copper minerals from Mineral Hill Mine, Condobolin, NSW and rare copper, zinc and lead minerals from mines in the northern Flinders Ranges, SA.

Commercialisation

A quartz mineral sale in co-operation with the Australian Museum Shop and the Gem Identification Service, initiated by Gayle Webb assisted in raising funds.

PALAEONTOLOGY

Research

A new Invertebrate Palaeontologist, Dr Greg Edgecombe from University of Alberta, Edmonton, has been appointed and will commence duties in September 1993. He is especially interested in the evolution of early Palaeozoic trilobites.

In March and April 1993 Dr. Tiiu Marss, Institute of Geology, Tallinn, Estonia, visited the Museum under the overseas fellowship scheme, to work with Alex Ritchie on the taxonomy and biostratigraphy of Silurian agnathan fishes. A workshop on Siluro-Devonian microvertebrate fossils was held at Macquarie University to take advantage of Dr. Marss' visit and expertise.

Collections

Collection Management continued with assistance from temporary and volunteer staff. Recuration of the fossil brachiopod collection was completed and has commenced for the fossil corals.

The "F" register recorded 2934 registrations. Registration of recently acquired palaeontological thin sections is 95% complete. The "AM" (thin section) register recorded 2145 registrations.

Twenty loans involving 255 specimens were made. The collection has been significantly enhanced by purchase of the opalised pliosaur "Eric" (previously on loan) through a successful public appeal broadcast on ABC TV "Quantum". Other purchases were two dinosaur eggs and the purchase/donation of opalised fossils from Lightning Ridge. Collecting by Alex Ritchie added significantly to the fossil fish collection with the relocation of the Canowindra Devonian fossil fish site and a new site nearby with very well preserved as yet undescribed Devonian placoderms.

The Collection Management Review of the Earth Sciences collections (including palaeontology) was completed in May.

Building extensions in the collection store resulted in a small increase in storage space and office space to accommodate the Collection Manager. This was made necessary with appointment of the new invertebrate palaeontologist.

Museum Activities

The Collection Manager, Robert Jones, with Alex Ritchie and a volunteer, Gabor Foldvary participated in the Museum Open Day with collection tours, displays and provision of information.

Robert Jones is now a member of the Museum Records, Supplements, and Technical Reports Editorial Committee.

Community Activities and Conferences

Alex Ritchie is President of the Antarctic Society of Australia and is on the Council of the Linnean Society of New South Wales. He presented a paper on the Canowindra Devonian fish project at CAVEPS in Adelaide and was also invited to give the annual Stan Colliver Lecture to the Royal Society of Queensland, Brisbane on the same topic. Alex addressed Canowindra Rotary twice during the year and gave a public lecture in the town to raise interest for the forthcoming fossil dig.

Robert Jones is convenor of the "Sites and Monuments Sub-Committee of the Geological Society of Australia (NSW Division). He is also

Vice President of the Riversleigh Society. He gave talks to schools in both Queensland and NSW and to a lapidary club on palaeontological topics.

The Conference on Australian Vertebrate Evolution, Palaeontology and Systematics (CAVEPS) in Adelaide was attended by Robert Jones. He presented a paper and participated in both pre and post conference excursions to important vertebrate fossil sites in South Australia.

Fieldwork and Travel

Accompanied by a volunteer, Paul Willis, Robert Jones continued the search for dinosaurs in north central Queensland. Alex Ritchie and Robert Jones attended the inaugural 'Opal and Gem Expo' at Lightning Ridge to assist in educating the opal miners in recognition of fossils and to establish and maintain contacts with prospective finders of opalised fossils. The trip to Adelaide for CAVEPS conference provided an opportunity to show Dr. Tiiu Marss various Devonian fish sites in central and western NSW and visit Cainozoic sites around Lake Callabonna and Lake Eyre.

In January 1993, using heavy earth-moving equipment provided by Cabonne Shire Council, Alex Ritchie relocated a very rich Devonian fossil fish site near Canowindra, central NSW, first found in 1956. A major excavation of this unique, mass-kill assemblage of Late Devonian fishes, containing thousands of complete specimens, is planned for July 1993. Publicity from this project led to the discovery of another rich Late Devonian fish site near Canowindra containing abundant, well-preserved specimens of a new genus and species of armoured fish, or placoderm.

Commercialisation

During the year a commercialisation agreement was secured to rent display specimens from the collection to a recently developed private museum in Canberra.

TERRESTRIAL ECOLOGY

Research

The section's research focused on the distribution, abundance and movements of honeyeaters in heathland near Sydney. We investigated the effects of territorial behaviour on bird abundance and those of nest predation on the spacing of nests and the timing of nesting.

Graham Pyke and Michelle Christy examined the role of fauna impact statements in environmental impact assessment. Also Dr Pyke investigated the importance of fire history to the biology of the Eastern Bristlebird, a species considered endangered.

Museum Activities

Graham Pyke commented on Environmental Impact Statements, Fauna Impact Statements, Draft Environmental Legislation and Draft Policy Documents.

Both Richard Major and Greg Gowing conducted behind the scenes tours on Museum Open Day.

Community Activities and Conferences

Graham Pyke participated in a course held by the Australian Conservation Training Initiative on Conservation and Wildlife Management. Dr Pyke was involved in the sections of the course dealing with bird census and capture techniques and with forestry practices. He also participated in a Fire Ecology Workshop at Bundjalung National Park, Sustainable Forestry Conferences in Newcastle and Armidale, a Forestry Conference in Canberra and a Biodiversity Conference in Sydney. Graham was a member of NPWS Advisory Council and NSW Government Committee on Aviculture and the Bird Trade.

Richard Major was Assistant Editor of "Corella" (an ornithological journal) and Editor of the Australian component of "Recent Ornithological Literature". He is also the Museum liaison with the Ecological Society of Australia.

Richard presented a paper titled "Does territoriality limit the breeding density of New Holland Honeyeaters?" at the Ecological Society of Australia Open Forum in Adelaide. He also attended the Biodiversity Conference in Sydney.

Richard Major provided comments on EISs and government legislation/strategies.

Michelle Christy provided comments on a New South Wales NPWS draft proposal for a walking track through North Head.

Fieldwork and Travel

Richard Major, Greg Gowing, Michelle Christy and Robyn Hill monitored the reproductive performance of New Holland Honeyeaters. This has provided

three years' data on a population of birds at North Head and confirms that predation pressure is very high in Sydney Harbour National Park. Contrary to our expectation of ravens and perhaps feral cats, Ship's Rats *Rattus rattus* have been responsible for the high predation rate at our study sites.

Greg Gowing visited Barren Grounds to monitor a marked population of Christmas Bells and Graham Pyke and Greg Gowing inspected possible field study sites within State Forests in the Barrington Tops area.

Commercialisation

As a contracted activity for the New South Wales NPWS, Graham Pyke prepared an evaluation of the Fauna Impact Statement for forestry activities in the Wingham Management Area. Graham was also involved in negotiations regarding future similar contracts.

Future Plans and Objectives

Marine Ecology plans to complete research into estuarine and beach invertebrate biology and ecology, contribute to commercial projects and public programs and co-ordinate environmental submissions. Involvement with the EPA's Hawkesbury ecotoxicological project and the monthly discussion group of sedimentary scientists will continue.

Earth Science will implement Collection Management Review recommendations. Mineralogy will contribute to the International Association of Volcanology Meeting in Canberra, September 1993. Australian contributions to a new World Directory of Mineral Collections will be sent to the International Mineralogical Association Commission on Museums.

The Collection Management office will relocate to the collection area to make room for the Invertebrate Palaeontologist.

Terrestrial Ecology intends to continue research on population biology and behaviour of honeyeaters and on pollination ecology of Christmas Bells and to develop a new project on the effects of forestry practices on wildlife. They will develop and maintain a database of information on the biology of endangered fauna and on the impacts upon them of disturbance, both natural and human-induced.

They plan to study the effect of currawongs and introduced predators on populations of urban birds and the interaction between habitat fragmentation and predation pressure in ecosystems utilised for agriculture.

Visitors

Mr. Tony Cocks, Integrated Spectronics Ltd.
Mr. J. Corcoran, CSIRO Div. of Exploration and Mining
Mr. S. Currie, President of Gemmological Society of NZ
Ms A. Davis, Australian National University, Canberra
Assoc. Prof. Jia-Lin Feng, Hebei College of Geology, China
Prof. Wighart von Koenigswald, Bonn, Germany
Prof. Gu Jiexang, Univ. of Wuhan, China
Mr. G. Prideaux, Flinders University of South Australia
Prof. P. Rickwood, Dept. of Geology and Geophysics, NSW Univ. Dr. D. Ride, Australian National University, Canberra

Prof. K. A. Rodgers, Geology Dept., Univ of Auckland, NZ
Mr. W. Somerville, Gallery of Minerals, Orange
Prof. R. Stanton, University of New England
Dr. F. Wicks, Curator, Mineralogy Dept., Royal Ontario Museum
Prof P. Williams, Chemistry Dept, Univ. of Western Sydney
Dr. Kazomi Yokoyama, National Museum of Japan, Tokyo

Acknowledgments

The Palaeontology Section received a donation of \$5000 from the North Side Gem Club.
The Museum also received a donation of \$5000 (with another \$5000 promised) from Ampolex Pty Ltd towards the costs of the proposed Canowindra Devonian fish project. The Department of Mineral Resources provided \$8500 towards joint mineral projects.

EDUCATION

The Education Division aims to deliver challenging, enjoyable and experiential educational programs and services which are responsive to community needs and raise awareness of relevant issues.

During 1992-93 the Education Division has been involved in the development, implementation and evaluation of a range of successful Public Programs. A Public Program Plan for 1993-95 has been produced, and the Public Program Guidelines revised. Visits by education groups have increased by 15% and expanded inservice programs for educators are now offered. Museum-in-a Box loans increased by 8%, and there has been a major increase in people viewing MOTR and Regional gallery exhibitions of 160%. The Division has provided a variety of programs supporting International Year for the World's Indigenous Peoples, and has managed successful activities and entertainment for a number of holiday programs and special events such as 'The Living Mask', 'Gargantuans from the Garden', Dinosaur Picnic, Open Day and 'Work It Out'. During the year 35 new volunteers and 25 new Explainers were appointed and trained, and computerised booking systems for MOTR, Box and education programs installed. A pilot project evaluating exhibition text and training staff in text writing and editing was also completed.

General

The Education Division comprises three sections - Visitor Services, Education Services and Resource Services - which develop, implement and evaluate public programs for a variety of audiences. Programs include outreach exhibitions and services, temporary exhibitions, school and tertiary programs and services, interpretive programs, special events, school holiday programs and performance programs. The staff are also members of many cross divisional groups and professional organisations.

The Education Division has jointly produced the 1993-1995 Public Program Plan, with Community Relations and Exhibitions. Revision and updating of the Public Program Guidelines has also been completed. A framework for evaluating Public Programs has also been developed and will be trialled in 1993. The Division has begun developing a draft Enterprise Agreement, and has completed the 1993-94 Divisional Strategic Plan.

The Division has supported International Year for the World's Indigenous Peoples through a number of

programs and initiatives, such as the development of new Aboriginal Studies Museum-in-a-Box units; evaluation of the Aboriginal Studies hands-on-room and the introduction of this service to a wider audience; "Black Art" exhibition, performance and activity program; and the temporary appointment of an Aboriginal Education Assistant.

In early 1993 a pilot project evaluating exhibition text and training staff in text writing and editing was carried out. A review and rework of exhibition interpretive programs, including the development of new touch tables and on-site materials for students and teachers, is also underway.

Visitor Services

Over the last year, Visitor Services has developed support activities for a number of Public Programs which highlight significant issues, attract visitors from diverse cultural backgrounds and give Museum visitors a greater appreciation of the diversity of contemporary Australian society. These programs have included: "The Living Mask"; "Work it Out", a multicultural children's exhibition staffed by Explainers; "Roots in Denmark", a Danish children's book exhibition supported by workshops given by Australian illustrators and authors; and "Beyond the Java Sea" which featured the arts and cultures of the outer Indonesian islands and had extensive community participation throughout the exhibition including Indonesian cultural performances and music workshops.

Visitor Services staff developed special interpretive activities to enhance visitor experiences and support the blockbuster exhibition, "Gargantuans from the Garden". Visiting children and families joined in games, puzzles, dances, craft activities and free play experiences based on the theme of insects. These activities, as well as regular "Science Demos" in the Discovery Space, were carried out by our 55 Explainers, 25 of whom completed their training course only this year. In April 1992, many of these activities were used again at "Biota", a series of field days held by the CSIRO in Canberra to teach young children about basic principles of science and attended by over 30,000 people.

The Dinosaur Picnic and Museum Open Day provided over 8,000 visitors with unique and enjoyable experiences this year. Highlights of Open Day included demonstrations, workshops and performances by Michael Atherton, the Museum's Musician-in-Residence and the ever popular behind-the-scenes tours.

EDUCATION

The "Live at the Museum" entertainment program has complemented all major exhibitions over the last year, providing entertainment to an average of 500 visitors during each session on Sundays and holidays. Memorable performances were given by the many Indonesian musicians and dancers who performed during "Beyond the Java Sea" and by the acrobatic troupe, "Vertigo" who performed during "Gargantuans from the Garden". As part of the Australian Museum's ongoing commitment to the International Year for the World's Indigenous Peoples, "Live at the Museum" has also regularly featured Aboriginal singers and dancers, didgeridu players and story tellers.

35 new volunteers completed a comprehensive training course this year and now join existing volunteers in conducting highlight tours, staffing touch tables and meeting and greeting visitors entering the Museum. Three new touch tables have been developed for the popular Mammals exhibition so that visitors can learn about mammals' habitats, adaptations and endangered species.

The Visitor Services Section continued to manage the successful Director-for-a-Day program which provides all Museum staff with the opportunity to comment on and monitor the Museum's programs and services.

Throughout the year over 230,000 visitors have taken part in Visitor Services activities compared to 190,000 last year - an increase of 21%.

Education Services

The total number of school students visiting the Museum during this year was 67,123. This is approximately a 15% increase on the same period last year. Over 12,000 school students visited the blockbuster exhibition "Gargantuans from the Garden" during a 10 week period.

This year, communications with schools, tertiary institutions and other cultural centres increased significantly. There were four direct mailouts to schools informing them of our education programs, in-services, resource materials and current exhibitions. We held two open nights and advertised our services in relevant professional journals, newspapers and magazines. Four issues of LINKS, our primary science newsletter, were also produced. The "Australian Museum Education Services for 1993" calendar featuring an Aboriginal theme won first place for its stunning graphics and wealth of information in the "Voice Your Choice" competition

at the American Association of Museums Conference held at Fort Worth in May.

New resource booklets for the Discovery Space and the "Animals, Past and Present" Hands-on Room have been developed and another for the "Aboriginal Studies" Hands-on Room is underway. New activity sheets for the Insect exhibition and flyers describing the Education Division's Aboriginal Studies and Work Experience programs were also produced.

Five new activity modules have been developed for the Aboriginal Studies Hands-on Room making it more relevant to students in Years 7-10. Dawn Timbery, an Aboriginal Education Assistant, joined the staff in April to work with school groups in the Aboriginal Studies Hands-on Room and to provide administrative support for the "Black Art - Aboriginal Youth Art Competition" which opened at the end of June.

Over 1,000 teachers, trainee teachers, tertiary students and museum professionals have taken part in our inservice program. Particularly popular were workshops called "Insects in your Classroom" presented in conjunction with staff from the Queensland Museum, and two inservices dealing with the K-6 Science and Technology syllabus and implementing Aboriginal Studies across K-12 curricula. An increasing number of individual schools and professional associations have used the Museum as a resource for staff development days.

Education and scientific staff commented on documents circulated by the Board of Studies pertaining to the various Statements and Profiles of the National Curriculum for Australian Schools. Sheryl Connors was part of the writing team for the National Profile for the Arts.

The national Earthworm Environmental Awards were once again presented at the Australian Museum. Individual students and primary and secondary school groups received awards from Ms Penny Wensley, Australia's Ambassador for the Environment and Ross Free, the Minister for Science and Technology.

Richard Dent was appointed to the position of Computer Education Officer to develop computer based interactives and systems for Public Programs such as the Discovery Space, Shark exhibition, Rapid Response and Marine Environments.

An electronic mailing list has been set up so that we can generate our own labels for mailouts and we are also trialling a computerised system for school bookings.

The Work Experience program was extremely popular again this year with over 200 enquiries and 78 placements. Relevant information about our program was presented to school Careers Advisers at an inservice coordinated by CounterArts, an Arts Administration network.

Resource Services

Resource Services provides a quality and efficient program of exhibitions and resources to people throughout NSW who are unable to come to the Australian Museum. This is achieved through Museum on the Road (MOTR), Museum-in-a-Box, Regional Museums/Galleries program and Field Days.

MOTR exhibitions "Aboriginal Australia" and "Mammals in Australia" completed a very successful tour of the North Coast of NSW being exhibited in the larger shopping centres in each town. Thousands more people saw our exhibitions on this tour of the North Coast than four years ago due to the use of shopping centres as our preferred venues.

"Mammals in Australia" MOTR will be on extended loan to Cobar Regional Museum from September. During International Year for the World's Indigenous Peoples, "Aboriginal Australia" and "Papua New Guinea - The Abelam People" MOTRs are travelling through the south-west Riverina areas of the state.

"Street Science - Australian Museum Research" MOTR exhibition has proved to be very successful in its tour of the large shopping centres of Sydney, Newcastle and Wollongong with over one million people viewing this exhibition. Overall, there has been an increase of 160% in people viewing MOTRs: from 500,000 in 1991/92 to approximately 1.3 million in 1992/93.

The Regional Museums/Galleries program has also been very successful this year. The Museum supplied six Regional Museums/Galleries with exhibitions including Newcastle Regional Museum (3 exhibits), Lady Denman Museum, Museum of Fire, Albury Regional Museum (2 exhibits) and Griffith Regional Art Gallery. These venues provided the regional centres with exhibitions for their visitors and provided us with experienced museum people to run community programs.

The Museum-in-a-Box program also had a successful year with over 730 loans being made to schools in NSW, an increase of 8% on last years loans. This has resulted in over 80,000 students using one of our

Boxes in their classroom or school library. Four new Dinosaur Boxes are being trialled in schools and the initial planning for the 24 new Aboriginal Studies Boxes has now been completed. Six new Shark Boxes are also to be added to the program.

Education staff have been involved in Field Days such as ABC celebration, National Parks & Wildlife, SeaWeek and World Environment Week as well as the Canberra Biota 93 celebration. Education preparators have had a greater involvement in Field Days, hands-on rooms and touch tables.

The section has also given advice to various museums in the setting up of extension programs including the Australian War Memorial, Northern Territory Museum and the National Museum of Australia.

Conferences and Travel

Julie Dawson, Head of the Education Division, was on leave from 1st January 1993 for 13 months. Carolyn MacLulich was appointed as Acting Head of the Education Division during this period.

Miriam Chapman, Volunteer Co-ordinator, attended a National Conference for volunteers in the Arts, Tourism, Environment and Heritage, "Volunteers on the Move" in Brisbane in July 1992 and the Federation of Ethnic Community Councils of Australia conference in December 1992.

Sheryl Connors, Aboriginal Education Officer, was the Museum's representative at the State Committee for the NSW Aboriginal Consultative Group in Armidale in July 1992. A number of sessions were conducted to endorse Board of Studies and Department of School Education Aboriginal policies and syllabus materials. Sheryl attended the Australian Indigenous Women in Museum's Conference in Adelaide in March 1993. Sheryl also went on a fieldtrip to Darwin, Bathurst Island and Kakadu in April 1993, where she was involved in working with traditional communities and assisting with an Aboriginal print conference in Darwin.

Merona Martin, Visitor Services Manager, and Carrie Bengston, Education Officer, attended the Science Educators' Conference conducted by the National Science and Technology Centre in Canberra in July 1992.

Merona Martin and Anne Skates, Education Officer, presented papers at the National Conference on Science for Primary Teachers and Educators in Canberra in January 1993.

EDUCATION

Anne Skates assisted with a project on Ambea, Vanuatu, on women's weaving as part of the National Cultural Project in July 1992. Anne also attended the Sex/Gender and Techno-Science Worlds conference at the University of Melbourne in June 1993.

Greg Ebeling, Resource Services Manager, and Merona Martin, Visitor Services Manager, presented a paper at the Australian association of Environmental Education biennial conference in Perth in October 1992.

Helen Slarke and Paul Chatenay, Interpretive Officers, attended the inaugural Interpretation Conference held in Melbourne in November 1992. As well as providing lots of new interpretation ideas, this conference enabled them to set up an information network with Interpretations Officers from all over Australia and overseas.

Peter Macinnis, Education Officer, spent 3 weeks in Micronesia in April 1993, as a commercial venture for the Division, developing materials for the new Micronesian science curricula for Grades 1-8.

Alan Watterson, Education Officer, attended a conference on the National Water Quality Management Strategy in Sydney in June 1993.

Carolyn MacLulich, Acting Head of the Education Division, attended the first Management Course for Senior Museum Managers at Mt Eliza, Victoria, in June 1993.

Future Plans

Throughout 1993-94 the Division will be involved in developing and implementing Public Programs, such as SHARK!, Contemporary Australia, Marine Environments, an Interpretive Theatre program, 30 new Museum-in-a-Box units, in line with the 1993-95 Public Program Plan. Development of new interpretive strategies, including Explorer Backpacks and new Touch Tables for exhibitions, on-site materials for students and teachers, senior science sessions, and hands-on rooms, will be a focus next year. Increased inservice programs, "Museum as a Resource" and staff development sessions for educators will also be introduced. "Street Science" MOTR will tour to larger regional centres increasing the Museum's presence throughout NSW. Administrative processes that deal with booking and invoicing schools, tertiary and cultural institutions will be streamlined. The Division will be initiating research into evaluation of Public Programs and visitor studies with the appointment of an Evaluation Co-ordinator.

Visitors

Baralea Aleouchan, Dept of School Education, NSW
Rod Atkins, Recreation Officer, Brisbane
Forest Park, Qld

John Aquilina, Shadow Minister for Education, NSW
Sandy Clugston, Manager, Questacon, Canberra
Directors of Education, Pakistan

Vicki Dodds, Manager, Education Programs,
Scitech Science Centre, Perth, WA

Michael Evans, Deputy Director, Sovereign Hill
Museum, Ballarat, Victoria

Diane Fenton, Matilda Cruises, Sydney

Janette Gibbs, Bury College, UK

Wayne Griffiths, Red Chief Land Council, Gundah

Chris Grudenoff, N.P.W.S. Port Macquarie, NSW

Helen Harris, Retail Manager, Healesville Sanctuary,
Victoria

Shoji Kuwabara, Superintendent, Himeji City Board
of Education

Paula Latos-Valiar, Director, Western Australian Art
Gallery, WA

Sheila Leuthwaite, Canterbury Museum,
Christchurch, NZ

Geoff Monteith and Heather Janetski, Queensland
Museum, Qld

Vicki Northy, Exhibition Project Manager, National
Museum of Australia, Canberra

Shimrath Paul, Manager, Discovery World, Otago NZ

Sandra Philips, Tranby Aboriginal Co-operative
College, Sydney

Stewart Pendlebury, Justice and Police Museum,
Sydney

Kathleen Rice, Education Co-ordinator, Discovery
World, Otago, NZ

Viv Seedsmen, Field of Mars Field Study Centre,
Ryde, Sydney

Moria Simpson, University of Warwick, Coventry, UK

Geoff Snowdon, Manager, Questacon, Canberra

Steve Spear, CSIRO, Canberra

Robert Sullivan, Assistant Director Public Programs,
Smithsonian Institute of Natural History, USA

Brian Taylor, Assistant Director of Education,
Science Alive, New Zealand, NZ

Peter Taylor, Education Officer, Durban Museum,
South Africa

Jo-Anne Thompson, Mountain View, California, USA

Helen Tyzak, Lecturer in Museum Studies, James
Cook University, QLD

Andrew White, Librarian, Orange, NSW

Helen Withnell, Manager, Australian War Memorial,
Canberra.

EXHIBITIONS

The Exhibition Division at the Australian Museum is charged with the responsibility of designing, producing and maintaining all the exhibitions which make up the Museum's public program. Providing Museum visitors with an experience that is stimulating, enjoyable and thought-provoking is the challenge facing the Exhibition Division.

The Exhibition Division became the first section of the Museum to complete an enterprise agreement. This new agreement, which strongly embraces the principles of the structural efficiency principle (SEP), replaces four previous agreements and provides a new scale which rewards acquisition of skills and provides a new career path for the employees of the Division.

The Division structure now contains five (5) Exhibition Project Managers (EPM) and twenty (20) Exhibition Project Officers (EPO) who work together on the design, production and maintenance of a wide range of public programming.

During the twelve months the Exhibition Division greatly increased its ability to negotiate and manage major international touring exhibitions. The Division initiated and participated in a series of conferences with other museum Exhibition Managers from throughout Australia to facilitate improved negotiations for the sharing of travelling exhibitions.

Lengthy and intricate overseas negotiations facilitated the loan of the Beyond The Java Sea exhibition and provided an opportunity for an increased understanding of the components of management required for touring a major international exhibition. The Exhibition Division negotiated the loan of this exhibition and provided the management for its installation in Sydney and subsequent tour to Brisbane and dispersal of artefacts to the overseas lenders. Simultaneously the Division managed the interstate tour of Gargantuans From The Garden and undertook the transport and installation of this exhibition into the first venue of its Australia wide tour, the Museum of Victoria.

A number of major commercial projects were undertaken during the year. Highlights of the program were the design and co-ordination of Macquarie University's Museum of Biological Studies, design and installation of a visitor centre for the Federal Airports Corporation and design and production of educational material for the Sydney Theatre Company.

These projects provide revenue for the Museum and a proportion of that revenue goes to assist the Exhibition Division acquire computer resources and provide travel opportunities for the staff of the Division.

Design Unit

The Exhibition Division's Design Unit produced a significantly greater volume of educational, publicity and public relations material for the Museum. Productivity and excellence were enhanced by a continuation of the introduction of computers.

The Museum's MUSE publication was moved to in-house production with a stylish upgrade in design, considerable cost saving and a formatted computer based system.

The Association of American Museums acknowledged the high standard of design achieved by the Unit, with an award for the Museum's Education Services Calendar for 1993.

The difficult assignment of designing a new corporate identification system was undertaken with great enthusiasm by the Design Unit. An elegant new logo has been adopted replacing the previous one which was over ten years old. A style guide incorporates the logo with all the applications to which it will be applied.

Travel and Conferences

Two Exhibition Project Managers undertook overseas trips during the year.

Mr Ross Clendinning travelled to U.S.A., United Kingdom, France, The Netherlands and Indonesia. During a three week trip Mr Clendinning investigated future overseas exhibition loan options and undertook negotiations for the Beyond The Java Sea exhibition. Mr Clendinning's trip was financed with the assistance of the Australia Indonesia Foundation.

Exhibition Project Manager, Mr Bodo Matzick travelled to North America. Mr Matzick visited eight major museums throughout U.S.A. and Canada and the focus of his visit was to examine the presentation of indigenous cultural material throughout North America. Funds for this visit were provided in the main from proceeds of commercial activities generated by the Exhibition Division.

International Year for the World's Indigenous Peoples

A year long program of diverse events to raise public awareness of indigenous peoples and their cultures was introduced with the performance of the "Year of the White Bear" by Coco Fusco and Guillermo Gomez Pena as part of the Sydney Biennale in December, 1992. Open Day provided a special focus on Aboriginal and Torres Strait Islander collections on Sunday, May 23rd. Black Art, artworks by Aboriginal and Torres Strait Islander students of N.S.W. supported a mid-year school holiday program of performance and activities and Maoritanga: A celebration of the Indigenous Culture of New Zealand was presented from July 3rd to July 9th, 1993. The celebration of International Year for the World's Indigenous Peoples continues through to the end of 1993.

Gargantuans from the Garden

Conceived and developed by the Australian Museum's staff, this highly successful exhibition attracted 173,000 visitors and exceeded ambitious projections set for the admission revenues and merchandising. The exhibition will tour Australia until the end of 1995. *Gargantuans* was generously sponsored by C.S. First Boston, S.C. Johnson & Son (Raid) and TNT Freight Services.

The Living Mask

A lively public program incorporating an exhibition of fantastic masks from around the world with performance, story-telling, music, mask making and dressing up. The program ran from July 31 to August 30, 1992. Performances and workshops during the mid-year school holidays were very popular and were conducted by some of Sydney's Balinese, Chinese, Latin American, Koori, Sri Lankan and Torres Strait Islander people.

Beyond the Java Sea

The first major international exhibition to come from the Smithsonian Institution U.S.A. to the Australian Museum, was shown from March 6 to May 30. This superb exhibition travelled to Brisbane and will remain on show at the Queensland Museum until September 30th, 1993. *Beyond the Java Sea* was kindly assisted by Qantas, Qantas Freight Services, Hilton International and the N.S.W. Ministry for the Arts.

Work It Out

Designed to increase young children's awareness of the different cultural traditions contributing to Multicultural Australia, this program was on loan from the Migration Museum, a division of the History Trust of South Australia, and ran from March 5 to April 26, 1993.

***Roots in Denmark
March 27th - April 25th, 1993***

A colourful exhibition featuring a great variety of Danish children's books from fairy stories and folk tales to modern classics. Loaned through the courtesy of the Royal Danish Consulate General.

The Rapid Response Program

A new program of small exhibitions highlighting significant issues was introduced this year. The Project Team's brief was to produce exhibits within a five to twenty-eight day period. Five exhibits were produced. Assistance was received from the N.S.W. Cancer Council and the Homebush Bay Corporation.

*A Burning Issue: Ozone Holes and U.V.
Cat Attitude.*

*Battered Fish: Australian Fisheries in Crisis.
Wasteland to Wetland: Change at Homebush Bay
Oil Spills: The Way Clear.*

Evaluation undertaken encourages the Museum to continue this highly effective initiative in future.

Public Events

During the year the Exhibition Division was also involved in four major public programs. These were the Earthworm Awards in October, 1992, the Annual Dinosaur Picnic in April, 1993, Open Day in May, and the International Year for the World's Indigenous Peoples 1993.

The maintenance of exhibitions within the Museum continued to be given high priority with staff providing a seven-day program and an intensive preventative maintenance regime.

Future Plans

A Public Program Plan has been prepared for the period 1993 - 1995 and will be implemented in cooperation with other divisions. This Plan provides a framework for the Museum to meet the needs of our audiences in a period of great change. A major exhibition, "SHARK!" will be managed, including a tour throughout Australia.

EXHIBITIONS

Visitors

Ms Deirdre Jason-Smith, Research Director, MET Studios Ltd, London

Ms Sally Hirst, Interpretations Manager, Museum of Victoria

Mr David Ellis, Exhibition Co-ordinator, National Library, Canberra

Mr Chris Tassell, Director, Queen Victoria Museum & Art Gallery, Launceston

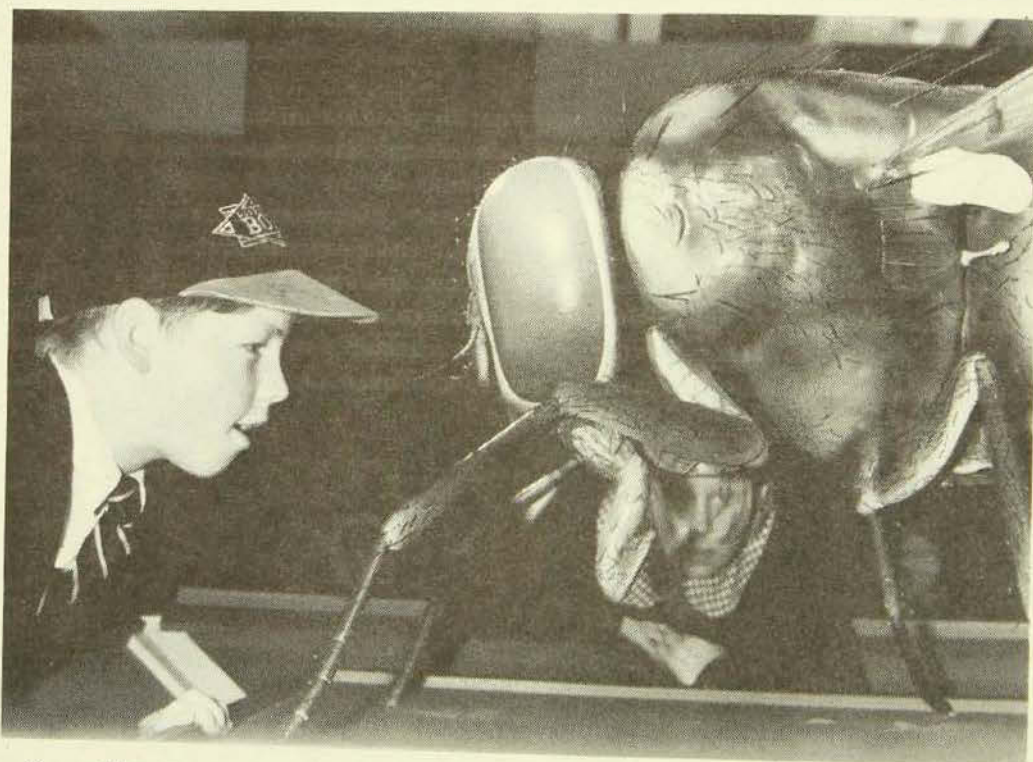
Dr Patricia Vickers-Rich, Monash University, Victoria

Mr Rex de Little, Auckland City Council, New Zealand

Ms Barbara Whiteman, Australian Embassy, Rome

Ms Coco Fusco and Mr Guillermo Gomez Pena, New York, USA

Ms Marjorie Stoller, Travelling Exhibitions Co-ordinator, Smithsonian Institution, Washington DC, USA.



Young visitors were enthralled by "Gargantuans from the Garden"

The Division of Information Science manages Information. Information may be defined as a representation, in any physical form, of knowledge used for communication. In relation to people who produce it, are affected by it, or who interface with it in any way, this Division must also consider the behavioural and cognitive implications.

The objectives of the Division are to develop systems to identify, store, retrieve, and transmit information in order to further what we know and can utilise from the flow of information. In addition, the Division develops products and services to meet identified user information needs.

The Division aims to support and interact with all other Museum Divisions through the objectives listed above and to provide clients from the general community with access, both physical and intellectual, to relevant information resources, products and services.

The Information Science Division covers the following broad areas: the Local Area Network (LAN), the Research Library, Archives, Records Management, Database Development.

During the last year, significant achievements included the upgrading of the Local Area Network; the smooth integration of 30 more users into the system, including staff from an offsite area.

Ongoing acquisition, management and dissemination of information, in all its formats, ensured that user needs were effectively met in the areas of Archives, Records Management and the Research Library.

Archives

The Archives acquired several major transfers of valuable divisional records, including those from the Anthropology and Community Relations divisions, and Crustacea and Mammals sections.

The Archives also acquired the papers of Arnold McGill, a leading amateur ornithologist. His papers include details of his field observations from c1940-1988.

The acquisition of these papers marks a new direction in our archival collection policy. The Archives will now accept the donation of field observational & other records of amateur natural scientists, providing that these records are appraised as having scientific importance and are in reasonable condition. Access

and management of these records will be through the normal operation procedures of the Archives.

The content of AMARS, the automated archives documentation system using Dataease, was further expanded, with a locations module established.

Significant research enquiries, from both staff and external users, included biographical research on early naturalists; documentation of the Anthropological collections from the Northern Territory and New Caledonia; the history of the Museum in the 1850s, of the Mawson Collection and of the Museum's Ichthyology department.

The preservation program continues with the microficheing of vital series and the continued rehousing of early correspondence series into archival quality folders. A start was made on the conservation treatment of historic photographic portraits of early trustees and museum staff. The use of recycled content paper was investigated and guidelines formulated.

The Archivist attended several professional seminars and conferences, and was invited by the Australian Science Archives Project to give a paper on the relationship between Archives and Objects at the recent national conference *Recovering Science: past, present and future strategies*. The Australian Museum is one of only two museums in Australia with professionally managed Archives, and as such Jan Brazier's expertise and experience in this developing field, was of great interest. The conference enabled significant interaction between archivists, museum curators, science historians and information professionals.

Collections Database Development

In order to more effectively store, select, relate and retrieve collections data and streamline collections management procedures, the Head of the Division has been involved in the facilitation and development of this process - from systems analysis to identification of objectives and strategies, to defining the brief with regard to both the Malacology and Anthropology Collection databases. Training, implementation and refinement are planned for the year 1993/94.

Local Area Network -

Upgrading of system

The Museum's Local Area Network has been significantly upgraded to LAN MANAGER 2.1A to bring the Museum's information technology up to current standards. This upgrade was a massive task,

entailing 173 person hours over a four day period. In addition, the File server space on the main Administration Server was tripled. The benefits of all the above are:

- . 30% improvement in speed
- . potential for a 30% productivity increase
- . more efficient use of resources
- . foundation laid for the introduction of Windows

Major Increase in Exhibitions Network Access

The penetration of the Museum's Local Area Network has been extended in the Exhibitions Division. Five new nodes were added, enabling all of the Project Managers in Exhibitions to have access to the Network, including software, hardware and the information stored on it. This will facilitate more effective communication and planning, particularly with cross divisional Project Teams.

Increase in Users/Facilities available

The number of approved Network users is now 136, an increase of 36 from last year. Not all of these users are "own node" users; some of them share a node/machine, while having their own separate identity on the network. With the acquisition of an extra e:mail package, we were able to add 15 new users to the electronic mail system. These people previously had access to the other network resources, but not electronic mail. All Network users now have access to this facility.

Network Access by Entomology

The Entomology section, housed in the building on the corner of Stanley and Yurong Streets, is now electronically connected to the Museum through the Network and therefore has shared access to a range of information facilities and resources.

This off site access was identified as a priority item as part of the Divisional Strategic Plan for 1993, under the areas of Information Access and Local Area Network development.

Entomology staff have dial in access to the Museum's internal electronic mail system, Internet, and both they and other Museum Network Users will be able to exchange any WordPerfect documents (files).

Text Retrieval System on Shared Area of Network

The contents of the shared e:\ area of the Admin Server have now been ISYSeD. ISYS is a text

retrieval system, and the introduction of this facility means that Word Perfect documents that include a desired topic/word and which are stored in this area can be quickly identified and retrieved. This is a particularly effective means of identifying policy documents, Minutes of various groups, and the full contents of the Research Library's current awareness services.

Records Management

The management of the Museum's central records aims to ensure the efficient and effective management of the current business papers of the central administrative and policy areas: the Director's office, the Deputy Director's office and the office of the Assistant Director, Corporate Services. The records of the Director's office have been fully incorporated.

Further development of the central records system (CRS), managed by the CARMS records management database, continued, with improved use of controlled terms and the incorporation of records from the Deputy Director's office.

A disposal schedule for all records generated by the Museum is to be devised, and as a first stage in its development, a survey of the Education Division was undertaken, with the next stage to be the drafting of a disposal schedule for that Division.

Research Library

The Research Library manages, acquires and accesses information to support the work and objectives of the Museum: information services are provided to both museum staff and external clients.

During the last year, Museum Research & Development Groups and Project Teams generated a significant increase in the number of specialised information requests. Library staff participated in these groups and provided specialised information, information products and expertise to the team members. In providing an effective information service, the Library accessed information from a range of local and global resources. The diversity of research requests ranged from Territoriality in Birds and Dragons in Chinese Symbolism to Copyright and Interactive Computer programs and Educational Theories in Museums.

The number of computer searches performed on dial-up databases continues to rise, reflecting the need for selective, accurate and up to date literature. In

addition to the on-line database hosts already in use, Dialog, ABN, Australis & Ausinet, the Research Library can now access BRS which provides access to much needed arts & museological databases.

The scientific journal, *Current Contents*, is now available electronically in the Research Library. This format facilitates information retrieval and storage. Several training courses have been provided for scientific staff.

The development of the Museological Database continues to improve access and increase current awareness of important holdings. This resource has proved to be especially valuable when providing information on professional development and strategic planning in the museum environment.

The Research Library also acts as a source of specialised information for the community in general and high use is made of its services and resources with tertiary students forming the largest group of external users.

Serial Madness, the current serials awareness bulletin & *Bibliomania*, the monthly listing of new acquisitions, are both available in electronic and hard format. Improved network searching facilities have enhanced access to the electronic information.

OTHER SIGNIFICANT AREAS

Professional Development

In order to further develop information skills, personal networks and increase productivity, staff attended the following conferences and training courses: Recovering Science; past, present and future strategies; ABN Search - introduction to the Australian Bibliographic Network; Accessing Global Information; Australis On-line searching - basic course; BRS On-line searching - introductory course; CAMA Conference 1992; Introduction to DOS; Online - Ondisc Conference 1993; Quattro Pro2 and WordPerfect.

Museum Activities

Divisional staff have contributed their expertise to the achievement of a range of Museum objectives by their involvement in the following Project Teams, R&D Groups and Committees: Investigation Centre, Sciencescape, Rapid Response, Contemporary Australia R&D, Contemporary Australia Gallery, Communication Media, Meeting the Audience, Museum Practice, Environment R&D, Disaster Management, Risk Management, Equal Employment Opportunity, Freedom of Information, Marine Environment Gallery, Public Programs Advisory Committee, Open Day Committee, Enterprise Bargaining Advisory Committee, Programs Evaluation Group, Nation Project Reference Group, Person in Residence Review Group and the Museum Restaurants Refurbishment Group.

Future Plans

It is planned to convert the Local Area Network to a Graphical User Interface environment, to implement, evaluate and enhance two collection databases and to enhance and make available to all staff 90% of the Management Information System.

An in-house preservation program for the archives and rare books collection is being developed, with the assistance of a Paper Conservator. The program will develop preservation measures that can be implemented by staff.

Acquisition of a CD-ROM player and appropriate CD-ROM databases will allow access to information products carried on this new technology.

The Research Library plans to promote Focused Information Seminars to bring to the attention of identified special interest groups the range of information services and products that can be accessed for them.

The Division of Invertebrate Zoology increases knowledge and promotes the importance of invertebrate biodiversity through taxonomic and environmental research, and public programs. These activities are based upon effectively maintained and documented museum collections and associated field studies.

Research projects within the Invertebrate Zoology Division attracted grant funding totalling \$450,387 in 1993 (\$233,021 in 1992). New Australian Research Council projects include Dr Jim Lowry's SEAS study that has completed its first season of sampling for scavenging crustaceans along five marine transects from Hobart to Cairns; Dr Winston Ponder (with Dr Don Colgan) has initiated an international collaborative project on gastropod mollusc phylogeny involving Australian, European and American co-researchers; Dr Dan Bickel is studying the highly diverse dance flies of the family Empididae. A conservation study of forest invertebrate diversity by Drs Mike Gray and Gerry Cassis is funded by the NSW National Parks and Wildlife Service.

Commercial initiatives have included completion of a major survey of the benthic fauna of Botany Bay for the Federal Airports Corporation. A review and recommendations regarding the utility of freshwater organisms as bioindicators in NSW freshwater ecosystems was prepared for the Environmental Protection Agency.

All registered polychaete worms have been placed upon the TITAN database, greatly improving data retrieval and management. A catalogue of the malacostracan crustacean type collection has been completed by Roger Springthorpe and Jim Lowry. Significant collection acquisitions included the Mulder beetle collection and the Lamprell figured bivalve mollusc collection. A successful field trip to northern NSW and Moreton Bay, led by Drs Penny Berents and George Wilson of Marine Invertebrates, targeted specimens both for priority research or poorly represented in collections.

ENTOMOLOGY AND ARACHNOLOGY

Research

Dan Bickel continued his work on the family of long-legged flies, the Dolichopodidae. As well, in January, Dr Bickel received a 3-year grant from the Australian Research Council (ARC) to initiate a taxonomic study on the Australian dance flies, the

family Empididae. These tiny flies are particularly diverse in southern Australia and Tasmania.

David McAlpine completed a large study of platystomatid flies of tropical forests, including descriptions of 67 new species, now in press. The work included a method for estimating the number of undiscovered species, indicating that these probably outnumber the species already known. He completed two shorter papers describing new Australian taxa of the little known families Pseudopomyzidae and Cypselosomatidae. Dr McAlpine wrote chapters on phylogeny of the dipterous families Coelopidae, Pseudopomyzidae, Cypselosomatidae, Micropezidae, Marginidae, and Neurochaetidae for a book on evolutionary relationships of the two-winged flies to be published by Entomological Society of America; also a chapter on kelp flies (Coelopidae) for the forthcoming Manual of European/Palaeartic Diptera (Hungarian Natural History Museum, Budapest).

Mike Gray has begun two cooperative projects this year. The North-east forests biodiversity study (with Dr Gerry Cassis of Entomology) is a collaborative project with the New South Wales National Parks and Wildlife Service, who also fund the project. It aims to assess arthropod diversity at 250 sites in the north-east forests of New South Wales. The results should provide a unique invertebrate perspective for conservation planning and management in the region. This project is also benefiting Dr Gray's A.B.R.S. funded work on stiphidiid and desid spiders through the provision of significant new data on generic distributions. The other collaborative project is a joint study of South American spiders of the family Filistatidae (a primitive group of circum-tropical web builders of uncertain affinities) with Dr N.I. Platnick of the American Museum of Natural History. This work is related to Mike Gray's recent revision of the Australian filistatid fauna.

Assisted by an Australian Biological Resources Study grant, Glenn Hunt has continued research on oribatid mites which are an important component of the soil fauna. A presentation was given to a symposium held at the NSW Biological and Chemical Research Institute, November 1992. A paper has been submitted for publication describing an unusual mite from rainforest soil in Queensland. In co-operation with Jon Kelly of Malacology, Dr Hunt has been developing a relational data base program suitable for cataloguing species and processing the data associated with them.

Max Moulds continues his research on the systematics and biogeography of the cicada genus

Abrieta, which more than doubles the number of known species. He has also completed papers on the Australian *Gudanga* and *Bunbunga* cicadas. A catalogue of the Australian hawk moths is nearing completion.

Gerry Cassis has continued his revision of Australian earwigs which is nearing completion. He has found many new species of flightless earwigs belonging to the genera *Gonolabis*, *Euborellia* and *Anisolabis*. Dr Cassis found the first Australian representative of the primitive *Esphalmeninae*, previously known only from South America and South Africa. He has also found a number of genera not previously recorded from Australia, including the genera *Epilabis*, *Tagalina*, *Acanthocordax* and *Sphingolabis*. He now has found a total of 45 genera and 144 species of earwigs from Australia (previous estimate 63 species). Dr Cassis has also commenced a study of the Australian *Miridae*, a group of plant-inhabiting bugs, with support of a grant from the Australian Biological Resources Study. Other projects include a collaborative project with the NSW National Parks and Wildlife Service (along with Mike Gray), surveying NSW arthropods, and a biological study of the fig psyllid which is causing extensive damage of historic Moreton Bay figs in the Sydney region, with staff from the Royal Botanical Gardens.

Shane McEvey is working with Drs David Ellis and Tania Pfeiffer from the Mycology Unit at Adelaide's Women's and Children's Hospital on mycophagous flies as possible vectors of fungal disease in humans. With colleagues at the CNRS (Paris) and the Zoologisches Museum, Universität Zürich-Irchel, Dr McEvey is the principal investigator in a series of joint taxonomic projects involving *Drosophilidae* from southern Africa, Madagascar and French Polynesia. With David Grimaldi at the AMNH in New York he is commencing a worldwide revision of the mycophagous genera *Zygothrica*, *Mycodrosophila* and *Hirtodrosophila*. Under contract to the NSW NPWS Dr McEvey has collected 65 species of *Drosophilidae* in the North East Forest Fauna Survey, including 5 new species; his report (in press) has, among other things, examined the importance of *Drosophilidae* as useful invertebrates for establishing sound rainforest conservation policy.

Courtenay Smithers (Research Associate) has continued his revisionary studies of the Psocoptera of Australia. Work is well advanced on a collection from Christmas Island; preliminary indications are that the fauna includes some endemic species. Dr

Smithers studied a remarkable, new, flattened species of psocid from Norfolk Island which lives in the heads of palms. Its flattened shape is probably an adaptation to living between the tightly bunched leaves of the palm buds. He also completed a study of the seasonal occurrence and flight times of skipper butterflies near Mount Royal. Emergence of adults can be associated with larval host plant growth cycles in a manner more complex than expected. His work on lacewings is also continuing and at present involves study of antlions.

Michael Ball (Research Associate) is undertaking research on mayflies from Hawkesbury Sandstone areas around Sydney suggests the presence of at least one new genus and several new species. He is currently studying the genus *Ulmerophlebia*.

Clarry Chadwick (Research Associate) has been investigating relationships between the cycad *Macrozamia communis* and insects. It appears that pollination is dependent upon a weevil. He is also interested in historical aspects of entomology in New South Wales and is currently preparing manuscripts on this subject.

Don Scambler (Research Associate) is continuing his taxonomic revision of the genera and species in the cerambycid beetle tribe *Stenoderini*.

Gunther Theischinger (Research Associate) has been revising the Australian species of the crane-fly genera *Gynoplistia* and *Dolichocheza*. He is also naming two new aeshnid dragonflies from north-eastern Queensland previously known only from larval skins first found in 1980. His other research involves describing and keying the larvae of the cordulephyne dragonflies.

Geoff Williams (Research Associate) is continuing his studies of the reproductive ecology of subtropical lowland rainforest remnants. This work has involved massive insect sampling and has led to the discovery of several new species from the rainforests of the Taree district of New South Wales.

Graeme Wishart (Museum Associate) has continued his work on the trapdoor spiders of the genus *Misgolas* and is currently examining this fauna in southern NSW.

Collections

The number of loans and visiting scientists using the collections continues to grow. A total of 65 loans and exchanges of insects were sent out (over 22,000

specimens) and 45 loans of arachnids (1,999 lots and 7,950 specimens). Over 45,000 insects were added to the collections while spider registrations totalled 3,200 specimen lots (12,800 specimens).

Large numbers of insects were added to the Museum collections as a result of collecting trips by Dan Bickel to northern Queensland and New South Wales.

Specialised collecting and curation of flies, earwigs, bugs, and cicadas resulted from the section's scientific programs.

David McAlpine has sorted many Diptera and Hymenoptera to family categories, making them easily available to research workers. Courtenay Smithers has identified accession material of Neuroptera, Psocoptera, and Mecoptera.

Sorting of material from an extensive pitfall sampling program in north-eastern NSW undertaken by Drs Gray and Cassis in conjunction with National Parks is well advanced and is expected to yield some 200,000 litter dwelling insects and arachnids, including many new or poorly represented groups. The field and logistical cooperation provided by NPWS personnel, led by Valda Corrigan of NPWS Northern Region, was invaluable during the sampling phase of this project. Initial sorting to target groups is being done by Christine Horseman, Judy Thompson and Sue Lindsay with assistance from student volunteers.

Curation of the Pacific Islands Coleoptera collection is now well under way providing improved access and improved storage conditions.

Sorting of priority arachnid collections has continued using both volunteers and staff. The opilione, pseudoscorpion, scorpion and acarine types have been localised to more stable storage behind the compactus units adjacent to the spider type collection. The Araneidae (Orb Weaving spiders) collections have been taxonomically updated using the recently published generic key of Dr V. Davies (approx. 3950 specimen lots). Updating of the gnaphosid spiders and accession of unregistered specimens has commenced.

Museum Activities

Dan Bickel was scientific advisor on the project team for "Gargantuans from the Garden". Mike Gray, Max Moulds and Dan Bickel lectured for TAMS as part of the Gargantuans Lecture Series on

arthropods.

The public program for Open Day was presented by Gerry Cassis, Clarrie Chadwick, Barry Day, Mike Gray, Christine Horseman, G. Knowles, David McAlpine, Max and B. Moulds, and Courtenay Smithers.

Community Activities and Conferences

The book entitled *Evolution and the Recognition Concept of Species: Collected Writings* by Hugh Paterson was edited by Shane McEvey and published by Johns Hopkins University Press, Baltimore at the end of 1992. The book brings together for the first time all of Paterson's works on species and speciation and provides an important reference for biologists interested in evolutionary theory.

Mike Gray has served as a committee member on the Non-indigenous Animals Advisory Committee; the N.S.W. Natural Environment Documentation Project; the Jenolan Caves Scientific Advisory Committee; the Council of the Linnean Society of N.S.W. He is involved in the supervision of four graduate students (2 MSc, 2 PhD), and has been involved in several public programs including the Earthworm awards. He has reviewed several manuscripts and grant applications and examined an MSc thesis. He was a joint author of a report to the Commonwealth Government on the world heritage significance of the Nullarbor karst region. He attended the 12th International Congress of Arachnology in Brisbane and presented a paper on his desid spider work.

Dan Bickel attended the first meeting of the "Southern Connection" group held from January 18-22, 1993 at the University of Tasmania, Hobart. "Southern Connection" is an international group formed to promote communication among biologists studying the flora and fauna of the southern hemisphere.

Max Moulds is currently Treasurer of the Council of Heads of Australian Entomological Collections and a member of Council and Editorial Committee of the Linnean Society of New South Wales. Mr Moulds was guest speaker at meetings of the Entomological Society of New South Wales, Linnean Society of NSW and Ku-ring-Guides. He has also reviewed several papers for publication in entomological journals.

David McAlpine gave two lectures to amateur groups. He has given advice and other assistance to

research workers in Israel, South Africa, the Czech Republic, and Australia regarding their projects on taxonomy of Diptera. He has reviewed several scientific manuscripts for Australian and overseas journals and refereed two research grant applications.

Field work and Travel

Mike Gray made several trips to northern N.S.W. associated with the organisation of the N.E. forests survey.

Dan Bickel and Museum Associate Michael Ball undertook fieldwork in northern New South Wales and Queensland. They visited many rainforest and aquatic sites which were most productive for their studies of insects.

David McAlpine, Shane McEvey, and Max Moulds undertook a trip to western Victoria and obtained many new records of flies and cicadas, including the first nobody flies (Aulacigastridae) known from that state.

As part of Dr McEvey's research into evolutionary theory and taxonomy he spent a week with Professor Paterson at the University of Queensland in July 1992 and several weeks in the CNRS in Paris in August. Field work was conducted in various rainforests throughout north-east NSW between January and April.

Commercialisation

Eren Turak and Dan Bickel prepared a major report for the N.S.W. Environmental Protection Authority on the use of biological indicators to assess freshwater ecosystem health. Sustainable management of water resources is possible only if a holistic, ecologically-based approach is adopted, and methods must be developed to assess biological conditions. Currently, Australian water quality criteria are based on physico-chemical assessment and do not adequately reflect ecosystem health. The report reviews the methodology and criteria used to estimate the health of freshwater systems. As well, it suggests directions to develop and apply biological indicators for the assessment of freshwater 'health' in New South Wales. It will provide a basis for a major policy initiative in the E.P.A.

As a follow up to the success of his spider colour poster Mike Gray, in association with Bayer Australia, has produced a spider identification booklet to be sold through the Museum Shop.

As well, about 43 visitors from various parts of Australia utilised the facilities of Arachnology and Entomology.

M A L A C O L O G Y

Research

A grant from ARC has enabled Winston Ponder's major program, an investigation of the phylogeny of gastropod molluscs (in collaboration with Dr. Don Colgan), to commence. This project seeks to test current hypotheses of gastropod phylogeny using molecular and morphological data. It is being done in cooperation with Dr D. Lindberg (University of California, Berkeley), Dr G. Haszprunar, University of Innsbruck, Austria and Dr. J. Healy, Queensland University.

Dr Ponder is also investigating the speciation patterns of a group of freshwater snails in a collaborative program with Dr Don Colgan of the Evolutionary Biology Unit. This program is in its final phase, and papers on the genetic structure of freshwater snail populations in streams at Wilsons Promontory, Victoria and in artesian springs near Lake Eyre, South Australia are well advanced and a paper on the genetics of hydrobiids from Dalhousie Springs, South Australia is being prepared.

Bill Rudman has continued his research into aspects of the ecology and evolution of opisthobranch molluscs (sea-slugs).

While in Europe in 1992 Dr Rudman was invited to participate in an international databasing program, based in Amsterdam and funded by UNESCO. The aim of the project is to prepare a computerised database of the world's fauna which could be accessed electronically from anywhere in the world. At present trial databases are being prepared and made available on compact disc (the first being one on the birds of Europe). In nudibranch (sea-slug) research and identification, a knowledge of colour patterns is essential. Electronic imaging is beginning to provide a relatively simple and cheap means of reproducing and distributing colour images. Dr Rudman is experimenting with means of computerising colour images and is testing Kodak's new PhotoCD technology, where images can be put onto Compact Discs and either viewed on a television screen or a computer monitor. He considers this technology will soon be an everyday tool both in research and the preparation of interactive exhibits.

Collections

New accessions of molluscs included 5,400 lots. There were 10 exchanges involving 40 lots and 74 specimens. There were 62 loans including 1,512 lots and 9,023 specimens. The specifications for molluscan database were further developed.

Community Activities and Conferences

Dr Ponder was elected President of the Malacological Society of Australia and the Society now has its headquarters in Sydney. He also featured on a segment of ABC TV's "A Question of Survival" dealing with the South Australian mound springs and on ABC radio's "Green and Practical".

Dr Ponder was invited to attend the annual meeting of the American Malacological Union in both 1992 and 1993 and presented papers at both meetings. He also attended the International Malacological Congress (UNITAS) in Siena, Italy and gave papers in symposia on molecular methods and conservation. He was elected to the Council of UNITAS, the first time anyone from outside Europe or the USA has held this office.

Dr Rudman has continued as Associate Editor of the Records of the Australian Museum and is a Councillor of the Malacological Society of Australia. Both he and Dr Ponder have reviewed manuscripts submitted for publication in other international scientific journals and reviewed grant applications submitted to the Australian Research Council, the Australian Biological Resources Study, the National Science Foundation (U.S.A.) and the Foundation for Research, Science & Technology (N.Z.) Dr Rudman was elected to the Council of the Malacological Society of Australia.

Ian Loch lectured to the Royal Zoological Society Conchological Section and the Cairns Shell Club. Mr Loch and Phil Colman continued as Editors of the quarterly Malacological Society of Australia Newsletter.

Mr Colman lectured to Coastal Environment Centre, Narrabeen and led W.E.A. and school tours of Long Reef. He also served as a committee member of the Sydney Northern Beaches Total Catchment Management Committee.

Fieldwork and Travel

Dr Rudman spent 6 weeks (Aug-Sept 1992) in Europe, attending the International Malacological

Congress (UNITAS) in Siena, Italy as an invited speaker, and visiting museums in London, Newcastle-upon-Tyne, and Paris. In England his main aim was to find old scientific paintings and fieldnotes of sea-slugs collected in India and Ceylon in the 1840s. This material relates to two major studies that named many common animals which probably also occur on the coast of New South Wales. Because many of the early descriptions were somewhat ambiguous, there has been confusion since that time as to the identity and correct names of many of these common animals. Bill Rudman hoped that he would be able to find collections of original paintings and fieldnotes which were last reported to be at the Hancock Museum in Newcastle-upon-Tyne 90 years ago. After searching through old cupboards in the Newcastle Museum he found a superb collection of accurate water colour paintings of the Indian collection and a week later discovered similar paintings from Ceylon in the British Museum, which have enabled him to clarify the identity of about 90 species relevant to the east Australian fauna.

In Paris he had discussions with ORSTOM, the French research agency which is sponsoring his book on the Nudibranchs of New Caledonia. He also visited the Paris Museum where he was able to examine original nudibranch and other molluscan material collected in Australia by the first major European biological expedition to the Pacific and Australia led by Nicolas Baudin in 1801-3, and the later *Astrolabe* expedition of Dumont d'Urville.

Mr Loch and Mr Colman collected land snails in south-western NSW in May. Mr Loch and Peter Egger collected selected marine molluscs at Heron Island, Queensland in June 1993. Mr Loch visited Queensland to pick up a large collection of figured bivalve molluscs donated by Mr K. Lamprell in June 1993.

M A R I N E
I N V E R T E B R A T E S

Research

Dr Pat Hutchings was awarded a Senior French Government Fellowship which allowed her to spend 3 months in France working at the Museum Nationale D'Histoire Naturelle in Paris and at the Centre d'Océanographie in Marseille. In Paris Dr Hutchings worked upon her major revision of antarctic terebellid worms, examining material collected during French antarctic expeditions at the beginning of this century. This study, which is aimed at completion in 1995, redescribes all available

named terebellid species together with many new species. In Marseille, she worked with French colleagues on a joint project to measure rates and agents of bioerosion in a variety of reefal environments in French Polynesia. These are subjected to varying levels of pollution and the results will be compared with those from similar studies on the Great Barrier Reef.

During the year a revision of the Australian sigalionid worms was completed and this completes a grant from the Australian Bureau of Fauna and Flora awarded in 1991-92 for a revision of this family and the Aphroditidae (sea mice).

Pat Hutchings, with Dr Harry Recher of the University of New England, completed a contract for the Water Board to review changes to the fauna and flora of the Hawkesbury and Nepean catchment during the past 200 years. This report is now being prepared for publication. She also continued her collaborative project with Drs Walker (University of Western Australia) and Wells (Western Australian Museum) funded by the Australian Research Grants Committee, to determine the effects of changes in density of seagrass beds on the rates of productivity of the seagrass communities. The densities of the seagrass beds have been artificially manipulated for the past 2 years. Productivity of the plants has been measured regularly while the benthic animal communities were sampled at the beginning and end of the density manipulations. These benthic samples are now being processed.

In early 1993 Jim Lowry began the scavengers of eastern Australian seas (SEAS) project, a major three year study of marine scavenging guilds funded by the Australian Research Council. These guilds are groups of species which clean up sea bottoms and range from sharks to tiny ostracode crustaceans (seed shrimps) less than 2 mm in length. Scavenging crustaceans can be extremely abundant and in areas where trap and longline fisheries occur they are the fisherman's bane. They go into traps in huge numbers and eat the bait set out to lure crayfish. In longline fisheries these scavengers eat the fish alive if the lines are on the bottom too long. The aims of this project are to describe the scavenging crustacean guilds of the continental shelf and slope between Cairns in northern Australia and Hobart in southern Australia. The scavengers are caught in a series of nested traps set across the shelf in depths from 50 to 1000 m. From the results we will be able to describe the guilds in detail and learn how they differ with latitude and depth. The first season of sampling has shown major differences in the kinds of scavengers along the coast.

The most spectacular guilds occur on the continental shelf off the Great Barrier Reef where scavenging isopod crustaceans (similar to pill bugs) up to 100 mm in length occur in huge numbers and seem to replace all other scavengers. The most spectacular isopod crustacean is an undescribed species from 1000 m depth which is 250 mm in length.

Since 1987 Jim Lowry and Helen Stoddart have worked on a project, funded by the Australian Research Council, to redefine the lysianassoid amphipod genera (about 170) of the world. These small crustaceans (related to beach hoppers) are one of the main scavengers in the world oceans, but lack of modern studies on their taxonomy has hindered other kinds of research on the group. The plates to illustrate their book are finished and the descriptive text is being generated from the taxonomic data base program DELTA. Much of the editing should be finished by the end of 1993.

Funding from the Australian Biological Resources Survey (ABRS) has increased the rate of description of the Australasian lysianassoid fauna (220+ species), by far the most diverse lysianassoid fauna yet studied. A number of studies on several families and genera within the lysianassoid amphipod group are nearing completion.

For several years Jim Lowry has been involved in a cooperative study of biodiversity in the Madang Lagoon, PNG, with scientists from Cork College, Ireland and the Smithsonian Institution, USA. The research is being conducted at the Christensen Research Institute near Madang in northern Papua New Guinea and concerns the diversity of the amphipod fauna of Madang Lagoon. The results for this high-tropical marine area are revealing the most diverse amphipod fauna yet studied. Jim is currently editing the first book reporting the results of this work.

Co-operative research with French scientists in the ORSTOM program is producing good results. A major paper on the lysianassoid amphipods of Philippine and Indonesian waters was published during 1993 and a larger study on lysianassoid species living in the south-western Pacific Ocean is nearing completion.

Jim Lowry continues to develop his use of the DELTA data base. The morphological data for all species of lysianassoid amphipods used in systematics studies are entered in an interpretive computer program called DELTA. Two of the main uses of this program are the production of highly consistent and

accurate descriptive text for taxonomic papers and the quick and accurate identification of any species represented in the data base using text and images. There are currently more than 300 lysianassoid species in this data base. This represents about one third of the known world fauna and one half of the Australasian fauna as represented by our collections.

A new genus of isopod crustacean, *Tainiopus*, described by George Wilson (with Dr. W. Ponder) is of particular interest. These rare, cave-dwelling relicts appear to represent both a new family and a new suborder of crustaceans derived from an ancient freshwater stock.

Dr George Wilson has prepared a phylogeny of all Crustacea using computerised cladistic techniques that was published under the auspices of the Swedish Royal Society, Lund. In addition, his research on biodiversity of deep-sea isopods and other invertebrates contributed a letter in *Nature* (with Dr Gary C.B. Poore). Their note emphasises the high species richness of southern hemisphere marine faunas.

George Wilson's major research project, a study of the phylogeny and classification of the isopod suborder Asellota, is funded by the Australian Research Council. His research was joined this year by Macquarie University Ph.D. student, Peter Serov, who is employed as a research assistant on this project.

With Geoff Avern of Evolutionary Biology, George Wilson investigated computer graphics methods for collecting and displaying microscopical images of invertebrate morphology. Their research was an "Innovative Science" project funded by the Australian Museum Trust.

George Wilson (with Penny Berents and Alan Jones) led a large investigation of the benthic fauna of Botany Bay, funded by contracts from the Federal Airports Corporation as part of their monitoring the impact of building a third airport runway. These commercial projects collected baseline data on the animals living on the floor of Botany Bay prior to dredging, and are continuing with new research on the rate of recolonisation at recently dredged sites. Other staff members contributed to this project, including Pat Hutchings, Jim Lowry, Anna Murray and Roger Springthorpe.

Professor Wim Vader, University of Tromso, Norway, is a Visiting Fellow in the Crustacean Section. Professor Vader is an expert on associations

between marine invertebrates. During his Australian visit he is studying the fauna associated with the common scavenging hermit crabs of south-eastern Australia.

There are currently three graduate students associated with the Scavengers of Eastern Australian Seas Project. Stephen Keable is studying the systematics of the most common cirrolanid isopods (related to pill bugs). Andrew Parker is studying the systematics of the cypridinid ostracodes (seed shrimps) and Carl Anvars is studying the role of sea bottom sediments in defining the composition of scavenging guilds.

Collections

Access to the coelenterate types for curation, disaster management and visitors was improved by the establishment a separate type collection.

The availability of crustacean types for research was improved by the completion of the Malacostraca catalogue, which covers a large part of the crustacean type collection. The catalogue has been submitted for publication by Roger Springthorpe and Jim Lowry, and the type collection reorganised accordingly. As a result access to the types for staff and visitors has been improved and the importance of the collections at the Australian Museum is promoted.

Important collections were made available for research by our ongoing sorting program. Priority collections from recent expeditions are sorted to family level by volunteers and staff. More than 1700 lots of marine invertebrates were registered and added to the collections. Many more were accessioned without registration. Forty-seven loans were sent to museums and other institutions around the world.

Data retrieval and management of the polychaete marine worm collection has been improved enormously by the completion of the polychaete database. All registered polychaetes have been entered onto the TITAN database.

Access to the hydrozoan collection was improved for visitors and staff by the use of shelf labels and the elimination of the old code system.

Museum activities

George Wilson is the scientific adviser on the

steering committee for the Marine Environments gallery, now in its planning phase.

Pat Hutchings has served on the Expert Review panel established by Property Services Group to ensure the maintenance and revitalisation of the remaining natural remnant communities in Homebush Bay the proposed site for the Olympics 2000.

Penny Berents and Pat Hutchings were involved in the preparation of the "Wetlands" exhibit, one of the Rapid Response Team Exhibitions which focussed on the urban wetlands of Homebush Bay.

Fieldwork and Travel

Pat Hutchings undertook a two week field trip to French Polynesia in November to continue her collaborative work with French colleagues from Marseille on the agents and rates of bioerosion of coral substrates. In May Dr Hutchings went to Heron and One Tree Island with Dr Kiene of the University of Frankfurt to establish a series of experiments to investigate the effects of increased nutrients on rates and agents of bioerosion. This project is being funded by The Great Barrier Reef Marine Park Authority.

The Crustacean Section has made 4 cruises during this year: out of Hobart, Tasmania; Wollongong, New South Wales; and Gladstone and Cairns in Queensland. Traps were set at 50, 100, 200, 300, 400 and 1000 m depth on each cruise to collect marine scavengers organisms. The main groups collected were crustaceans, but in some areas fish made up a significant part of the catch.

Pat Wilson led several field trips in New South Wales, including the Kosciusko Plateau and Kanangra-Boyd National Parks, to uncover numerous new records for "Friartucks" (isopod species of the suborder Phreatoicoidea). Dr Wilson successfully collected Friartucks from Blue Lake near Mt. Kosciusko, the type locality for the first phreatoicoidean described in Australia.

Pat Hutchings attended the 4th International Polychaete Conference in Anger, France in July and presented a paper on her work on the benthic communities of Jervis Bay especially in relationship to the polychaetes.

A successful field trip was conducted to northern NSW and Moreton Bay to collect polychaete worms and small crustaceans. The aim of this expedition was to collect specimens for priority research programs from localities which were not represented in our collections. The trip was a joint trip for collection

management (with Penny Berents), and terrestrial and marine isopod research (with George Wilson). More than 180 samples were collected using scuba, trawls and grabs in Moreton Bay, North Stradbroke Island and Cook Island. Many specimens of Asellote isopods and other invertebrates were obtained.

Commercialisation

Marine Invertebrate Collection Management staff were heavily involved with commercialisation projects. The first stage of the Botany Bay Benthic Survey for the Federal Airports Corporation has been completed and a report submitted. Staff identified marine invertebrates for the Fisheries Research Institute and The Ecology Lab. Teams led by Penny Berents carried out a study of Lake Tabourie for Sinclair Knight Consulting Engineers, and, for Property Services Group, a study of the animals living in the mangroves, salt marsh and benthos (bottom sediments) of Homebush Bay.

Future Plans

Research and collection management activities will be continued at a high level of excellence and greater efforts will be made to transmit the significance of these activities to a wide audience, both within and outside the museum. The Division will be associated with several major public programs including ScienceScape and Marine Environments.

It is hoped that computerisation of the insect type holdings can proceed this year. The molluscs DataEase database should become properly operational in late 1993. General data entry on DataEase for the mollusc collections is to start shortly.

Rehousing and consolidation of the Chloropid and Muscid fly collections is expected to be finished within the year. Identification, accession, labelling and incorporation of the north-eastern forests invertebrate survey will be a primary objective. This will be a massive project involving both Collection Management and Research staff. Opportunities for further cooperative projects with NSW NPWS will be investigated. Curation of the New Guinea/Pacific Island beetle collection remains another high priority.

Collections usage of the Old School Building space will be finalised, including solution of current access/hoist problems.

Commercial opportunities, especially in association with the Sydney Olympics bid and freshwater survey and monitoring, will be pursued.

Acknowledgments

The beetle collection of the late R. Mulder was bequeathed to the Museum. This extensive collection was his life's work and includes many important and valuable specimens.

A large collection of Australian and Asian Scarabaeidae (Christmas Beetles and Dung Beetles) was donated by Mr G. Hangay. Other major donations of beetles were received from Mr R. de Keyzer and Mr A. Sundholm. These four collections have added substantially to species representation of both Australian and exotic beetles.

Museum Research Associate Geoff Williams continued to provide many valuable voucher specimens and other material gathered during his pollination studies of rainforest trees in the Taree district.

Other insect donations were received from Messers M. Ball (Ephemeroptera), R. Lachlan (Diptera), G. Rushworth (Lepidoptera), F.G. Sattler (Phasmatodea), G. Theischinger (Diptera, Mecoptera), G.A. Williams (various Orders) and T. Woodger (Dermaptera).

Significant donations of molluscs were received from: O.L. Griffiths (R. Viader Collection, including types), K. Lamprell (Australian bivalves, figured specimens), P. Moody (*Architeuthis*, giant squid), A.K. Hipkins (NZ Shells), K.J. Graham (NSW cephalopods), V. Kessner (Indonesian land snails).

Mr Ken Graham of NSW Fisheries donated an important collection of mantis shrimps from NSW deepwater locations.

The entire natural history library of R. Mulder was bequeathed to the Museum and a valuable collection of scientific reprints was donated by Professor D.T. Anderson.

Visitors

Mr Shane Ahong, University of NSW
 Dr Barbara Baehr, Zoologische Staatssammlung, Munchen, Germany
 Dr H.C. Bennet-Clark, Oxford University, UK
 Dr D. Chandler, University of New Hampshire, USA
 Dr M. Coetlee, South African Institute of Medical Research, Johannesburg, South Africa
 Ms Melissa Hewitt, Western Australian Museum
 Dr J. Hofmann, University of Erlangen, Germany
 Dr F. Hübl, Artic Alpine Gardens, Chemnitz, Germany
 Dr R. Hunt, South African Institute of Medical Research, Johannesburg, South Africa
 Dr Seichii Irimura, Tokyo
 Dr M. Irwin, Illinois Natural History Survey, Champaign, USA
 Dr D. Lindberg, Museum of Palaeontology, University of California, Berkely, USA
 Dr Pat Mather, Queensland Museum
 Dr V.I. Ovtsharenko, Zoological Institute Academy of Sciences, St Petersburg, Russia
 Dr M. Randall, Honolulu, USA
 Dr Bertrand Richer de Forges, ORSTOM
 Dr A. Seraj, Massey University, NZ
 Dr A. Shankae, Defence Colony, New Delhi, India
 Dr C.K. Tarabaev, Institute of Zoology Academy of Sciences, Kazakhstan
 Dr M.E. Vogel, Texas Memorial Museum, USA
 Prof E. Vokes, Tulane University, New Orleans, USA
 Dr A. Warén, Swedish Museum of Natural History, Stockholm, Sweden.
 Dr Les Watling, University of Maine
 Dr J.D. Weintraub, Natural History Museum, London
 Dr N. Wong, Honolulu, USA
 Dr John Yaldwyn, Museum of New Zealand
 Dr Wolfgang Zeidler, South Australian Museum

MATERIALS CONSERVATION

The Materials Conservation Division aims to prevent damage to the collections, conserve items of special importance, undertake research to increase the immediate and long-term preservation of the collections, and disseminate information on conservation methods.

During the last twelve months there has been significant progress with improvements to the storage of fragile specimens in the Anthropology collections, particularly the Australian Aboriginal collection. Also, conservators continue making improvements to the storage of natural history specimens.

Conservation of new acquisitions to the Anthropology collections is on-going. Several major potential disasters to the collections have been averted emphasising the need to keep our disaster preparedness plan up to date. The exhibition "Beyond the Java Sea" was safely installed in the Australian Museum and then safely transported to the Queensland Museum.

The Conservation Outreach Program is providing much needed advice to remote Aboriginal communities on the care of artefacts held in Keeping Places.

Museum Pest Control

The Division has now completed all research into the use of low oxygen methods to control insect infestations in collections. This method is now part of our routine pest control program and provides an effective technique which is not only safe for staff but also does not damage any objects being treated.

Pest strips are no longer used in the Museum's display cases. These were used to prevent insect attack to valuable Museum objects and specimens. The pest strips were replaced with an insect growth regulator (Fenoxycarb) which is a much safer chemical for staff and Museum collections.

There has been a greatly reduced occurrence of insect infestation in the Anthropology collections over the last two years since the integrated pest management program was introduced. The Mammal and Ornithology collections are now included in the integrated pest management program.

Museum Disaster Preparedness Plan

A few major incidents occurred over the last twelve months and major damage to the collections was

avoided due to the rapid implementation of the Museum Disaster Preparedness Plan. Keeping the plan up to date continues to be carried out and a selection of new equipment, including a pump and dehumidifier, was purchased in response to the experience gained. Water damage from overflows, rain ingress and flooding is still the most common threat to the collections and records and continues to occur.

Outreach Conservation

Aboriginal arts centres have been visited at Nullumbuy, the Tiwi Islands and Katherine in the Northern Territory to assist in advising the communities on preservation methods for their collections.

The Division has run a number of preservation seminars for arts and crafts advisors, artists and conservators. The Division has been consistently available for a growing number of public enquiries on the preservation of Aboriginal cultural material, and has produced some brochures on the subject.

A paper on the preservation of cultural material in keeping place situations was given at the A.R.A.A.F.U. Paris, October 1992. A Conservation Preventive international preservation conference with follow up seminars in London and Washington.

Environmental monitoring

Electronic temperature and relative humidity sensors were installed in the Pacific store and outside the Museum. With the data collected from the computerised environmental monitoring system, faults in the air-conditioning system were identified and repaired before damage to the collections resulted. Improvements were also made to the sealing of the storage areas. Environmental monitoring of the mineral and palaeontology collection storage areas were included into the routine conservation monitoring program with areas for improvement outlined.

Improvements to Storage of the Museums Collections

Storage conditions in both the Aboriginal and Pacific collections continued to be improved resulting in major improvements to physical access of fragile specimens. Amongst the projects carried out in the Aboriginal collection was a major storage upgrade for about 20% of the collection. A storage system which allows easy access to large bark cloths was

designed, built and installed for the Pacific collections. Susceptible pyrite specimens in the Mineralogy Collections have new storage containers with controlled micro-climates, as a first step in reducing their deterioration.

Conservation of Collections

Analysis has been completed on the resinous material of unique Marind Anim cultural material from Irian Jaya. A paper is currently being written on the results as well as the techniques of preserving and restoring the colourful seeded, resinous ceremonial objects. Treatment has commenced on the 52 objects and is due to be finished over the next twelve months.

The new acquisition program has continued on a routine basis with inspection and documentation being carried out on all incoming objects upon their arrival to the Museum. Support systems have been manufactured for some of the items to prevent any further deterioration, as well as to improve access to the objects in storage.

A project involving the conservation of 192 Aboriginal string figures has been completed. The work involved the documentation of condition, interventive treatment and storage mounting for the figures. The conservation treatment has improved the condition of the objects and, together with the storage system, has increased access to the collection.

A summary of guidelines for photography, video and filming of Museum objects has been written. It outlines some of the measures to be taken to prevent damage caused by light and heat during photography. The guidelines are to be distributed by Community Relations and used by the press during publicity sessions at gallery openings and interviews.

Exhibitions

Objects for the "Beyond the Java Sea" exhibition belonging to the National Museum of Indonesia were packed and brought safely from Jakarta to Sydney. The remainder of the exhibits were brought safely from Leiden in the Netherlands to Sydney. Conservators played a major role in the installation and dismantling of this exhibition at the Museum.

Applied art exhibits and the Bornemissza collection (of Coleoptera) which form part of the 'Gargantuans from the Garden' exhibition were prepared for exhibition and for transport to subsequent venues.

The Division has been involved in the planning of the proposed Contemporary Australia gallery which is due to open in 1994. The conservation assessment outlines some of the more unusual conservation issues which will be encountered in the space, including the use of natural light in the gallery and the anticipated availability of food as part of the community input. Background information has been collected to enable the development of an inward loans policy for borrowing objects from individuals and various communities.

The exhibition maintenance program has continued: exhibits in the 'Rituals of the Human Life Cycle' and Indo-Pacific galleries were cleaned and maintained.

Research on Painted Artefacts

Research into the identification of traditional binders used in paints on Aboriginal objects will enable a better assessment of the treatment for stabilising deteriorated painted surfaces. Simple tests have been developed for the identification of lipid (fat and oil) binders. Using thin layer chromatography and fourier transform infra-red spectrophotometry the most quoted bark painting binder, orchid juice, has been analysed. These studies have shown that the primary component is a glucomannan which provides a gel-like substance when mixed with water.

Future Plans

Major improvements to the storage of artefacts from the Australian Aboriginal and Pacific Collections will continue. The Outreach Program will focus on providing preservation advice to Aboriginal Keeping Places in NSW and a preservation manual will be developed and circulated to all Keeping Places. The museum integrated pest control program will be implemented for all susceptible collections. The significant Marind Anim collection of artefacts from Irian Jaya will be available for research and exhibition. Research into new methods for conservation of natural history specimens will be undertaken and improvements to storage of fragile specimens will continue.

Visitors

Mr U Sein Myint Aung, assistant director from the National Museum of Burma.

Mr Chen, Yeh-i, Director of National Museum of Prehistory Planning Bureau, Taiwan.

Mr Jaap van der Burg, National Museum of Ethnology, Leiden, The Netherlands.

Ms Hennie Witteman, Royal Tropical Institute, Amsterdam, The Netherlands.

VERTEBRATE ZOOLOGY & SCIENTIFIC SERVICES

The aim of the Division of Vertebrate Zoology and Scientific Services is to conduct research and provide information on the systematics, ecology and behaviour of Australian vertebrates (fishes, amphibians, reptiles, birds and mammals) and their relatives from other areas. The Division is also responsible for maintaining and enhancing the collections of these animal groups and information about them. The Division also includes the Evolutionary Biology unit which conducts research and provides services to all other scientific Divisions in the Museum.

Biochemical research by Don Colgan and John Paxton using mitochondrial DNA has identified two separate breeding stocks of the commercially important gemfish, one in eastern Australia and one in Western Australia. The findings are particularly important in that it will allow separate management of the two stocks. In other biochemical areas, the DNA sequence data collection and analysis facilities are now fully operational.

Allen Greer finished the text for his book on "The Biology and Evolution of Australian Snakes".

The Fish Section organised field trips to the northern section of the Great Barrier Reef and Torres Strait and to the northern Kimberley region of Western Australia. Impressive collections were made on both trips, the Barrier Reef trip vastly expanding our knowledge of the fauna of this previously unsampled region. Many range extensions, new records for Australia and new species will become known as the specimens are examined by world experts.

Tim Flannery worked with the Papua New Guinea Department of Environment studying the only known population of Bulmer's Fruit Bat. The colony was found to be surviving well, but the species is still endangered. Tim has worked on two books, scheduled for completion next year: 'Mammals of the Southwest Pacific', and the second edition of 'Mammals of New Guinea'.

*Walter Boles, in conjunction with other scientists, studied the molecular systematics of the Night Parrot *Geopsittacus occidentalis*, establishing its relationships to other parrots.*

Images produced by the Scanning Electron Microscope lab won awards in Australian and international competitions.

The move of the mammal skin and skull collection continued with 80% of the Australian specimens now housed in the new mammal room. The inventory of the mammal collection has commenced and will continue along with completion of the move in the new financial year.

Staff in all sections were involved in commercialisation projects, media interviews and production of popular publications, and gave general talks to the community.

Tim Flannery was involved in production of two television documentaries "Islands In The Sky", on the ABC series 'Remarkable Planet' and "Fossil Fruit Bat Flies Again" on the ABC Series 'A Question of Survival'.

Staff published 26 research papers and 22 technical and popular articles during the year.

EVOLUTIONARY BIOLOGY

BIOCHEMISTRY LABORATORY

Research

Protein electrophoretic studies completed during the year include investigations of the freshwater snails of South Australian artesian springs (with Winston Ponder, Malacology) gemfish and ocean perch (with John Paxton, Ichthyology), the cuscus *Phalanger orientalis* (with Tim Flannery, Mammalogy) and cicadas (with Max Moulds, Entomology). Studies continue on giant cockroaches (with H. Rose of Sydney University) and a number of other projects. Protein electrophoresis will continue to be useful for many purposes, but will receive less emphasis now that the laboratory is fully operational in DNA manipulation.

A manuscript (with Tim Flannery, Mammalogy) has been submitted describing our large project on the molecular phylogeny of the fruit bats utilising rDNA. Molecular genetic studies (with John Paxton, Ichthyology) of the gemfish *Rexea solandri* have delineated two breeding stocks in Australian waters, allowing the exploitation of fish from southern and western waters without concern over the effect of this catch on the diminishing east coast stock. Molluscan DNA sequence data are being collected in support of an ARC-funded project on snail phylogeny (with Winston Ponder, Malacology).

Papers on two other completed molecular genetic studies are now in press. These studies are (1) a method for spectrophotometric quantitation of DNA and (2) an analysis of the effect of damaged DNA on the polymerase chain reaction (PCR). The results of the latter study are particularly important as PCR is now so widely employed and any frozen DNA which is input to the process is likely to be partly damaged. Perhaps fortunately, the results showed that the effects could be generally ignored and that the thousands of experiments conducted using the technique do not need to be repeated with fresh controls. Future subjects for molecular investigation include the use of nuclear gene DNA sequences to study marsupial phylogeny.

The rate of acquisition has been reduced this year to about 1000 specimens (primarily in ichthyology, herpetology and mammalogy). This reflects constraints on available space in the -80° C freezers and the difficulty and cost of transport of liquid nitrogen refrigerators to the field trip destinations where collections were made during the year.

Museum Activities

Don Colgan served on the following Museum committees: Visiting Fellowships (also acting as an assessor), Innovative Science Proposals, and an advisory committee on Research Scientist qualifications. He gave tours of the laboratory on Open Day and to The Australian Museum Society groups. He prepared the Museum's case for registration with the Australian Quarantine and Inspection Service as a facility permitted to receive imported biochemicals. Three work experience students were supervised in the laboratory.

Community Activities and Conferences

Don Colgan prepared a Museum submission to Standards Australia regarding a Draft Environmental Management Systems Standard and wrote the biological section of the Museum's commentary on the Draft Environmental Impact Statements for the F2 tollway.

Commercialisation

The biochemistry laboratory is considering a number of projects for development with potential commercial collaborators under the 150% tax concession afforded to such expenditures through the Museum's status as a Registered Research Agency.

ELECTRON MICROSCOPY LABORATORY

Research

The electron microscope continued to be used heavily in research on micromolluscs (Dr Winston Ponder) and mites (Dr Glen Hunt), and was used on a number of other research projects, including those of visiting scientists Dr K.A. Rodgers (Univ. Auckland), Dr N. Ananjeva (Zool.Inst.Russian Acad.Sci.) and Dr A. Waren (Natural History Museum, Stockholm). The lab's photomicrography facilities have frequent use by Mineralogy and Entomology, with less frequent use by other sections.

Museum Activities

Another staff training course in electron microscopy was run this year. Geoff Avern displayed the SEM laboratory to Open Day audiences, TAMS tours and to school groups. He was on the steering committee for the Investigation Centre and served on the Project Team for ScienceScope. Our contributions to *Gargantuans from the Garden* were completed. We have continued to investigate Computer Imaging and live in eternal hope that the laboratory may acquire a computer suitable for imaging, and network access in the coming year. Investigations into computerised 3D reconstructions in conjunction with Dr George Wilson (Crustacea), funded by an Innovative Science Grant from the Australian Museum Trust, were brought to a successful conclusion. We have also had encouraging results in our first foray into video animation sequences from the SEM, a commercialisation opportunity with considerable potential.

Community activities and Conferences

Scanning electron images were presented at the Third International Symposium on Electronic Art. Electronmicrographs by Sue Lindsay (Arachnology), Cassandra Rose (Worms) and Geoff Avern (SEM lab) won and placed in two competitions (Australian and international). Geoff Avern attended 1993 International Conference on Confocal Microscopy and 3D Image Processing (Sydney). We also continue to assist fine arts students in sourcing images for their projects. In the past year images from the SEM lab have appeared in many scientific and popular publications around the world including The New York Times Science Supplement and GEO (German and Korean editions).

HERPETOLOGY

Research

Allen Greer finished the text for his book on "The Biology and Evolution of Australian Snakes". He also completed a preliminary study of the phylogenetic relationships of Australian dragon lizards.

Collections

A total of 2400 specimens were registered. Major acquisitions include approximately 300 specimens from National Parks and Wildlife Service rainforest survey in northern New South Wales and about 800 specimens from north western Australia. A total of 36 loans of specimens were processed in 1992-93.

Museum Activities

Allen Greer served as a subeditor for the "Records of the Australian Museum"; participated in two Rapid Response Exhibitions: "Cat Attitudes" and "Battered Fish"; lectured on Sydney snakes and feral cats on the Museum's Open Day; chaired the Committee for the Peter Rankin Trust Fund for Herpetology; managed the Museum's contaminated waste disposal; lectured to Education Division volunteers on reptiles; was the Section's representative on the Museum's Animal Care and Ethics Committee; reviewed 15 manuscripts for six journals.

Ross Sadlier supervised work experience student Bronwyn Bowskill and conducted lab tours of the Herpetology Section on Open Day.

Community Activities and Conferences

Allen Greer gave seven radio/newspaper interviews on feral cats and one on venomous snakes; sat on the Councils of both the "Australian Journal of Zoology" and the Royal Zoological Society of New South Wales; attended the annual meeting of the Australian Society of Herpetologists and gave a paper on "The Phylogenetic Relationships of Australian Dragons"; gave editorial assistance to "Australian Geographic"; lectured to students in Sydney Technical University's "Applied Herpetology".

Ross Sadlier was invited to become a panel member of the Australian Heritage Commissions New South Wales Natural Environment Documentation Project which focuses on western New South Wales over the next 3 years.

Fieldwork and Travel

Ross Sadlier participated in the much celebrated combined ichthyology and herpetology Western Australia and Northern Kimberley field trip in September and October of 1992. Substantial collections of specimens and frozen tissue samples of northwest Australian species were made including a number of taxa not previously represented in the sections collection.

Commercialisation

Allen Greer identified endangered species and other fauna for Australian Customs; did a faunal survey of part of the Newington Armaments Site for Property Services Group; did a site inspection of a locality for the Blue Mountains Skink *Eulamprus leuraensis* for the NSW National Parks and Wildlife Service, and began an assessment of the Green and Golden Bell Frog *Litoria aurea* on the State Government Homebush Bay Olympic site.

ICHTHYOLOGY

Research

Jeff Leis' research concentrated on larval fish ecology, particularly on coral reef species and the Agulhas Current (South Africa) study, and on larval fish taxonomy, particularly the commercially important family Lutjanidae (tropical snappers). The latter is supported by a three-year grant from ARC. A proposal for a major new larval fish ecology project was submitted to ARC for funding in 1994. John Paxton, with Don Colgan of our Evolutionary Biology Unit, completed a two year study of the biochemical genetics of gemfish, *Rexea solandri*, and ocean perch, *Helicolenus percoides*, funded by the Fisheries Research and Development Corporation. The study successfully identified two separate breeding stocks of common gemfish in Australian waters, providing a sound biological basis for fisheries managers to set separate quotas for gemfish caught east and west of northwest Tasmania. While success was also obtained in sequencing mitochondrial DNA from both eastern Australian and New Zealand gemfish, lack of any difference indicates that movement of fish, either as larvae or adults, is likely between the two areas. Further research is required to determine the level of mixing, and whether the two stocks should continue to be managed separately. The commercial ocean perch is represented by a complex of populations/species that require further study. John Paxton and Mark McGrouther completed a

manuscript on the history of the fish collection. A paper on shark conservation was completed with John Stevens of CSIRO Fisheries. Work continued on the second fish volume for the Zoological Catalogue of Australia, with funding from the Bureau of Flora and Fauna, and on the taxonomy, larvae and reproductive biology of deep sea whalefishes.

Doug Hoese completed a study of the relationships of a large group of fishes found in freshwater and estuaries. Other work concentrated on the second fish volume of the Zoological Catalogue funded by the Australian Biological Research Study. Progress was made with other studies of Australian weedfishes and various groups of small fishes.

Collections

A total of 86 loans and exchanges (1311 lots and 6245 specimens) were sent to researchers in other institutions. A total of 7997 lots (45192 specimens) were registered. The collection now contains 117,654 lots and over 450,000 specimens. The backlog of unregistered specimens continues to be markedly reduced. Relabelling of the drum collection is nearly complete for the Spirit House collections.

The Section transferred all its collection databases from Xenix to Unix on a new 486 computer. Problems experienced during the year were resolved through purchase of a new hard disk. A new gazetteer database of over 250000 records has been installed which allows us to quickly retrieve the latitudes and longitudes of Australian localities. The computer field registration system (Pip) was used on several field trips and resulted in enormous time savings on data entry upon return to the Museum. A new computerised collection management system was written using Wordperfect. A program was written to facilitate the printing of alcohol proof labels to send with specimens that are leaving the Museum on exchange with other institutions.

Museum Activities

Jeff Leis continued serving on the Lizard Island management committee, and chairing the Lizard Island Fellowship committee and a committee developing a brochure to publicise science at the Museum. He participated in Museum Open Day.

Mark McGrouther co-formed the Square Pegs group and spent 2 months part time, reviewing collection management in the Mammal Section. He spent one day every week on computer assistance for

collection machines, ran 2 one day Mapinfo training courses for staff (with Alison Miller) and is a member of the Communication R&D group. He was interviewed on the childrens' television program "It Goes" about preservation, ran a collection tour for Australian Museum staff, participated in Open Day, and performed at the Dinosaur Picnic. He partook in work on the Cultural Heritage Register.

John Paxton served as Assistant Editor of the Records, on the shark exhibit project team, was involved in Open Day including a lecture on sharks, presented two Museum talks on fieldwork in the Kimberley, established a discussion group on computing in museum science, and commented on a number of documents.

Sally Reader participated in Open Day, Seaweek, the scientific illustrating course held at the Museum.

Tom Trnski was the scientific consultant for the "Battered Fish" rapid response exhibit, he coordinated a scientific illustrating course held at the Museum, was the SEP committee chairperson and sat on the Animal ethics committee. He participated in Open Day.

Tina Goh assisted with "Save Eric Appeal" data entry voluntarily; helped out at Mineral Section field work; assisted Terrestrial Ecology field work (bird-banding at North Head and bird-nesting at Brisbane Waters National Park); assisted with the stocktake at the Museum book shop; participated in "Battered Fish" survey; relieved as the Deputy Director secretary and also relieved Anthropology Secretary.

Tina Goh completed a Basic Scientific Illustrating course at University of New South Wales and Advanced Scientific Illustrating course held at the Museum. She is currently attending a Museum Technique course at TAFE.

Tina Goh helped out at the "Dinosaur Picnic" in Hyde Park.

Doug Hoese continued to serve on the Museum Joint Consultative Committee and continued to serve as Head of the Division. He also chaired a committee, which examined setting priorities for determining future directions in Science within the Museum.

Jeff Leis, Mark McGrouther, Sally Reader and Tom Trnski attended St John senior first aid and Diver first Aid courses.

Community Activities and Conferences

Mark McGrouther gave a talk on computerisation in Australian museums at a workshop at the Royal Botanic Gardens. He ran collection tours and/or talks to student groups from Maningrida Community Education Centre, University of Technology, WEA students (2 groups), Sydney University and a pre-school. He attended a Lateral Thinking seminar conducted by Edward DeBono.

John Paxton had more than a dozen media contacts, including two television appearances discussing shark attacks and conservation. He presented five lectures during the year to fishing clubs, conferences and workshops. John Paxton and Sally Reader met with the New South Wales Minister for Fisheries to discuss the problems of translocation/introduction of freshwater fishes in coastal drainages. For the scientific community John Paxton reviewed manuscripts and grant proposals and continues on the editorial boards of *Indo-Pacific Fishes* and *Cybiium* (journal of the Ichthyological Society of France). John Paxton took part in a workshop on deepsea fishes of the Red Sea in Eilat and presented a paper on deepsea commercial fisheries in Australia.

John Paxton and Tom Trnski attended the annual conference of the Australian Society for Fish Biology in Victor Harbour, South Australia, where John Paxton presented two papers on gemfish and deepsea commercial fisheries and Tom Trnski chaired one of the sessions.

Tom Trnski gave a talk on Australia's freshwater fish fauna to the Indigenous Flora and Fauna Association. He was interviewed by 2BL about crises in Australian fisheries and by the Sydney Morning Herald on the Section's beach seining research project.

Fieldwork and Travel

Jeff Leis, Mark McGrouther, Sally Reader, Tom Trnski, Steve Keable (Crustacea) and representatives from the Northern Territory Museum and Field Museum, Chicago, spent 3 and a half weeks collecting fishes along the northern section of the Great Barrier Reef and Torres Strait. Much of the funding was obtained from private foundations. Over 11000 fishes (the vast majority of which were under 40 mm in length) were collected from this previously unsampled region. Many range extensions, new records for Australia and new species may be found as the specimens are examined

by world experts. Knowledge of the region will be much increased as a result of this trip.

John Paxton and Sally Reader took part in a six week field trip to the Kimberley region of Western Australia with three museum herpetologists. Some 2000 fishes were collected and frozen tissues from many freshwater species were added to the archival frozen collection for future biochemical studies.

Jeff Leis visited the Lizard Island Research Station in April 1993 for Lizard Island Research Station Management Committee meeting, then spent a week in Townsville working with researchers at James Cook University and the Australian Institute of Marine Science on larval fish ecology and taxonomy. Dr Leis attended the Australian Marine Science Association meetings in Perth (July 1992) and participated in an invitation-only symposium on recruitment on coral reef fishes. He presented a paper on his work on the larval ecology of atoll lagoons.

Jeff Leis travelled to South Africa supported by a Foundation for Research and Development Fellowship. He spent 5 weeks (September and October, 1992) working primarily with Dr Lynnath Beckley of the Oceanographic Research Institute, Durban on the spawning migrations and larval dispersal of commercial fishes in the Agulhas Current on the South African east coast. This is a similar oceanographic system to that off the east coast of New South Wales, and many of the commercial species are the same or closely related, so much insight was gained through a comparison of the two systems. In addition, several universities were visited (Zululand University, Rhodes University, JLB Smith Institute of Ichthyology, University of Capetown) where Dr Leis presented seminars and obtained important fish specimens for Museum collection when available and worked with South African researchers on problems of mutual interest.

As part of a workshop on deepsea fishes of the Red Sea, John Paxton spent a week collecting in the Gulf of Aqaba, with both whole specimens and frozen tissues brought back for our collections.

Dianne Bray, Mark McGrouther, Sally Reader, Tom Trnski and B. Ewart spent 3 days collecting freshwater localities along the New South Wales central coast. These localities were very poorly collected previously and data were required for inclusion in W. Ponder's Pleistocene Extinctions Project.

Tom Trnski spent 23 July droplining for gemfish off Sydney; 7-20 October at Cato and Wreck Reefs, Coral Sea on RV Franklin working with Dr Iain Suthers of the University of New South Wales and 12 May sampling rockpools on the NSW south coast with Dr Ron Fricke of the Stuttgart Museum.

Doug Hoese travelled to the Northern Territory Museum and Art Gallery (Darwin), the Queensland Museum (Brisbane) and the CSIRO Division of Fisheries (Hobart) to assist with preparation of the second fish volume of the Zoological Catalogue of Australia.

Commercialisation

The Section raised approx \$1950 in commercial funds primarily for database searches and for fish identifications. In addition Doug Hoese, Tom Trnski and Sally Reader participated in a study of fishes of Botany Bay for the proposed new runway site.

M A M M A L O G Y

Research

Research continued on four broad fronts; a faunal survey in Melanesia, documentation of Australasian mammals held in European Museums, research into the conservation status of Bulmer's Fruit Bat (*Aproteles bulmerae*), and research into factors shaping the evolution of the Australasian biota.

Three major expeditions were mounted resulting in the collection of much valuable ecological and zoogeographic information. In July-August 1992 Pavel German spent 6 weeks surveying the mammal faunas of southeast New Guinea and the D'Entrecasteaux Islands. He obtained the first record in nearly 60 years of Tate's Triok (*Dactylopsila tatei*), an endangered striped possum known only from Fergusson Island. The first ecological information on the species was obtained. In October-November Dr Tim Flannery, Alexandra Szalay and Boeadi (Zoology Museum Bogor) carried out extensive survey in the Vogelkop area, Irian Jaya, which has been virtually closed to researchers for many years. Major finds included the discovery that the Reclusive Ringtail Possum (*Pseudochirops paradoxus* Thomas, 1897) is a valid species. Great additions to the known faunas of Salawatti, Biak, Numfoor and Batanta Islands were made. For Batanta the list of known mammals was increased from two to 17. In May-June 1993 Pavel German, Elizabeth Tasker and Ucok (Zoology Museum

Bogor) undertook an expedition to Seram, Buru and the Kei Islands in the Moluccas, Indonesia. The faunal lists for all of these islands was expanded, in some cases considerably, and information was obtained on some extremely rare and little-known murids.

The results of this survey work are currently being compiled, along with other data, for inclusion in the books 'Mammals of the Southwest Pacific', and the 2nd edition of 'Mammals of New Guinea'.

In June 1993 Tim Flannery travelled to European Museums, and examined major collections of Australasian mammals in Leiden, Amsterdam, Copenhagen, Berlin, Genoa, Paris and London. His researches resulted in the collection of records of mammals from 10 islands where no previous record existed, and in additions to the mammalian faunas of nearly 70 Australasian islands. In addition he unearthed collections of Australasian mammals made last century but never reported upon. These collections will be invaluable for unravelling the timing and causes of extinctions in Australian mammals.

In April 1993 Tim Flannery accompanied Lester Seri of the Papua New Guinea Department of Environment to the Star Mountains to re-census the only known population of Bulmer's Fruit Bat. A small increase (from around 140 to around 160 individuals) was observed, and evidence suggests that predation levels on the bats are still high. The colony is therefore still far from being out of danger.

Tim Flannery continued to research the factors shaping the evolution of the Australasian Biota. Important articles were published in Australian Natural History Magazine, and major papers were delivered at the International Theriological Congress in July 1993 and the INTER INQUA conference in May 1993.

Harry Parnaby's conservation oriented bat research continued with analyses of high frequency recordings of bat calls for the National Parks Service's north east fauna survey, and continued documentation of species recognition from calls. This work is essential for management plans of these poorly known animals. Recognising species by their navigational calls is a new approach which is revolutionising bat research. He was also a consultant to the National Parks Service advising on survey design and methodologies, and is formulating guidelines for faunal impact statements of our bat fauna.

Collections

The move of the skin and skull collection continued with 80% of the Australian specimens now housed in the new mammal room. The inventory of the collection has commenced and will continue along with completion of the move in the new financial year.

Survey activity by private companies and the New South Wales National Parks and Wildlife Service in the northern region resulted in significant collections being received from the forest areas of northern New South Wales.

A collection of 25 Antarctic fur seal skulls were received from researchers working on Heard Island. These are the first mammal specimens we have received since the 1950s from this locality.

Other seal specimens were received from Macquarie Island and Tasmania.

Research by Tim Flannery and others employed under the Scott Grant resulted in the collection of approximately 1,500 mammal specimens from Melanesia. An extremely valuable collection of around 200 African bats and rodents was donated to the Museum by Johnathon Kingdon of Oxford University. These specimens formed part of the basis of his six volume work 'Mammals of East Africa' and thus are a particularly important collection. A few specimens were also collected during commercialisation work.

Additions of a number of uncommon and poorly represented species of insectivorous bats were obtained by Harry Parnaby in surveys throughout NSW.

Community Activities and Conferences

Tim Flannery was involved in production of two television documentaries, "Islands In The Sky" and "Fossil Fruit Bat Flies Again". A 50 minute documentary "Islands In The Sky" aired on the ABC 'Remarkable Planet' series shown in October 1992, documenting efforts by Tim Flannery to study the ecology of Tree-kangaroos and to conserve them. A 15 minute documentary, "Fossil Fruit Bat Flies Again" shown on the ABC Series 'A Question of Survival' in July 1993, documenting research into Bulmer's Fruit Bat in Papua New Guinea.

Talks and lectures were given by Linda Gibson to various community groups and associations. These

included talks on marine mammals given to Oatley Lions Club, National Parks Association, Gymea and WIRES groups in east Sydney, Sutherland, Blacktown and Wollongong. A public lecture was also given on whales and dolphins at the Newcastle Museum in November 1992. Assistance was again given to the training program for Museum guides.

Linda Gibson continued to attend monthly meetings of the Landscape Conservation Committee of the National Trust.

Three "on air" radio interviews were given by Linda Gibson on the subject of whale migration and strandings plus a number of newspaper interviews on quolls and marine mammals generally.

The University of New South Wales hosted the 6th International Theriological Congress in July 1993. Over 700 mammalogists from around the world attended. Tim Flannery gave 4 major spoken presentations, and co-authored another spoken presentation as well as a poster session. His presentations covered 1) zoogeography of Meganesian mammals, 2) conservation of Melanesian mammals, 3) elevational aspects of mammalian diversity and 4) the fossil record of New Guinea. Co-authored presentations covered DNH phylogenies of bats and the digestive physiology of possums. Dr Flannery also attended the INTER INQUA (World Quaternary Climates) conference in Canberra in May 1993. He gave a keynote address concerning the influence of soil fertility and ENSO on the evolution of the Australasian biota.

Linda Gibson attended a number of conferences particularly relevant to mammal conservation, including the Australian Mammal Society Conference held in Melbourne in July, 1992; the meeting of the Australasian Wildlife Management Society held in Brisbane in December 1992, including a special session on conservation of marine mammals; and a conference on Conservation of Biodiversity held at Sydney University in June 1993.

Fieldwork and Travel

Linda Gibson participated in two field trips into western New South Wales. In October, the mammal fauna of the flood plains of the Culgoa and Birri River systems and the Narran Lakes area were surveyed. Results included a range extension of approximately 100 kms for a species of bat and the first confirmed sighting of koalas in the area.

In March 1993, Linda Gibson assisted with a vertebrate survey of spinifex country north of Bourke, New South Wales. An important series of bat specimens were obtained in an area and habitat not previously surveyed. This project was carried out jointly with the western region staff of the National Parks and Wildlife Service and Department of Conservation and Land Management. Further work will be carried out in the coming year.

Commercialisation

Commercial use of the mammal data base has dramatically increased in the past year. This, along with requests for interpretation of data has required greatly increased staff input into this area.

Over the year the Section has undertaken commercialisation projects that have grossed around \$50,000. The most important was a mammal survey of R.A.N.A.D. Newington, later extended to other parts of the Homebush Bay Development site, for the NSW Property Services Group. Faunal surveys were also undertaken in the planned Ingleside-Warriewood land release and the Arlington Prospect near Mt. Isa, Queensland.

Recent legislative changes have required a great increase in preparation of faunal impact assessments involving bats but there is a shortage of bat specialists. Fortunately, Harry Parnaby was at hand to undertake several impact studies for a range of developments on endangered species of bats for the Museum.

ORNITHOLOGY

Research

Walter Boles' research on Australia's Tertiary bird fauna continues. He has taken leave on a half-time basis to aid his completion of these studies.

Most of his efforts have been directed to specimens coming from the Riversleigh deposits, northwestern Queensland. One of the accumulating agents were the predatory ghost bats. Mr Boles is looking at the method of feeding by the living Ghost Bat *Macroderma gigas* and type of damage it causes to prey to better interpret some of the cave deposits. He is also describing a new small kingfisher. This work involves reviewing the generic level taxonomy of some of the living kingfishers before an identification can be made, and should also resolve some long-standing questions concerning the classification of Australian kingfishers.

Mr Boles has also taken under his wing avian remains from Murgon, southeastern Queensland, an early Eocene site. This site has yielded the earliest modern, non-marine birds known from Australia. Several very exciting specimens have been recovered. A preliminary announcement has been submitted for publication.

Mr Boles was invited by Mr Brian Mackness, University of New South Wales, into a joint project reviewing the birds from the Pliocene Bluff Downs deposits, northeastern Queensland. This waterbird assemblage has yielded several unusual aspects. The first paper, describing the general avifauna, was presented at the Conference on Australasian Vertebrate Evolution, Palaeontology and Systematics in Adelaide, and will appear in the proceedings of the conference. Several other papers will follow, dealing with particular elements of the bird community.

Mr Boles joined Dr Les Christidis, Museum of Victoria, in the compilation of an updated species-list of Australian birds on behalf of the Royal Australasian Ornithologists Union. This list will incorporate new findings from taxonomic studies, expand coverage to Australia's island territories, and include newly described species and new records of vagrant species. The list will be based on published studies, and will be annotated to provide references for the classification adopted. This project is nearing completion, and the list should be published by the end of 1993.

A study was carried out jointly with Drs Peter Leeton and Mike Westerman (LaTrobe University) and Dr Les Christidis on the molecular systematics of the Night Parrot *Geopsittacus occidentalis*. Its relationships within the Australasian parrot radiation were established, and its position relative to the Ground Parrot *Pezoporus wallicus* and Kakapo *Strigops haprotilus* (New Zealand) was determined. This manuscript has been submitted.

Four manuscripts were published during the year. Three of these presented findings on Riversleigh fossils, describing a logrunner, a cockatoo with further discussion of the value of the rostrum to parrot systematics, and peculiar bird of prey with a hyperflexible ankle joint. The other was a note on observations of a Laughing Kookaburra attacking and attempting to kill a toy Koala.

Three manuscripts are in press: a preliminary analysis of songbird fossils recovered from the Riversleigh deposits, including the description of a new lyrebird; a preliminary announcement of

Australia's earliest known modern, non-marine birds from the Murgon deposits, coauthored with H. Godthelp, S. Hand and M. Archer; and the detailed results of examination of the Night Parrot specimen found in late 1990, coauthored with W. Longmore and M. Thompson.

Two other manuscripts have been submitted: molecular systematics of the Night Parrot, coauthored with P. Leeton, L. Christidis and M. Westermann; and a preliminary analysis of the avifauna of the Bluff Downs deposits, coauthored with B. Mackness.

Collections

Significant gains in collection management projects were only achieved with the help of technical assistance. This was made possible by temporary assistance funds and savings on Mr Boles' salary while he was on half-time employment. Mr Peter Rowland and Ms Tessa Ivison were instrumental in carrying out the curatorial gains during the year.

Reordering of the skin collection continued and was nearly completed. The rearrangement made more space available, necessitating the purchase of additional trays. The specimens still require more space, but the collection is much less cramped and much easier to access. Most of the cabinet labels are in place and the compilation of a collection guide underway.

The skeleton collection was reboxed and relabelled with computer-generated labels. Rehousing the specimens has facilitated access to the collection and made much better use of the available space.

The spirit collection remains one of the premier holdings of Australo-Papuan birds. Other than the preparation and acquisition of new specimens, however, nothing was done with the spirit collection, due to inadequate available space.

Reorganisation of the egg collection has been almost completed following its pseudorandomisation in the two previous moves. Reorganisation and inventory of the foreign mounted collection was started.

During the year, 379 specimens were registered. Emphasis was placed on the preparation of skeletons. This was done primarily through maceration. An area away from the collection area was renovated to accommodate a dermestid colony for skeleton cleaning. This should greatly facilitate the preparation of specimens. A number of carcasses were defleshed and are now awaiting

further processing.

As in previous years, newly prepared spirit collections included a significant number donated by the Pacific fieldwork of Dr Tim Flannery and his associates. Several previously unrepresented taxa for the collection and other important specimens were obtained during the year. Of particular note was a mounted specimen of the Paradise Parrot *Psephotus pulcherrimus*, donated by Mr W.H. Yates.

Although only limited fieldwork was carried out, the acquisition rate of unprepared specimens continued to increase. Despite donating specimens to other institutions and an initial culling program, the backlog is still growing. Detailed lists of the collections holdings and needs have been compiled, thereby permitting a more intensive culling program to be undertaken.

Museum activities

Mr Boles took over as chairman of the Museum's Animal Care and Ethics Committee. He also serves on the Taxonomic Advisory Committee of the Royal Australasian Ornithologists Union and the committee of the Australian Bird Study Association. He participated in an Australian Museum Society trip to Japan. He continues to review books and articles for Australian Natural History and other scientific journals.

Community Activities and Conferences

Mr Boles attended the Conference on Australasian Vertebrate Evolution, Palaeontology and Systematics in Adelaide, where he presented the results of a joint study with Mr B. Mackness of the Pliocene waterbird assemblage from the Bluff Downs deposits.

Mr Boles was invited to participate in a symposium jointly organised by Royal Society of Victoria and the Royal Australasian Ornithologists Union in Melbourne on the implications of recent molecular studies on Australian bird systematics. He presented an overview of the fossil record of Australian birds and how this related to the findings of the molecular work.

He spoke twice to the New South Wales Field Ornithologists Club, once giving an update on his fossil work, and once as part of a program on the value of field notes for ornithologists. He spoke to the Sydney Technical College's Zoo Keepers Course

on vertebrate capture techniques (twice). He refereed manuscripts for scientific and popular journals and for the Fauna of Australia, produced by the Australian Biological Resource Study.

Mr Boles identified birds and bird bits on behalf of Customs, National Parks and Wildlife Service and Quarantine in relation to smuggling and other criminal cases.

Fieldwork and Travel

As in the previous year, fieldwork was limited. A trip was made to the forests of Coolah Tops in conjunction with the Forestry Commission's Forest Ecology section (21-28 February 1993). Two trips were made to northeastern New South Wales to pick up specimens donated by New South Wales National Parks and Wildlife Service (6-9 September 1992; 26-29 June 1993). Visits were made to the collections of the Museum of Victoria and the Australian National Wildlife Collection to work with specimens as part of the ongoing fossil research.

Commercialisation

The section was extensively involved in commercialisation projects, including data searches, on-site surveys, specialist reports on proposed construction projects and expert testimony in court cases.

Future Plans

A major goal is to continue and build on the great progress which has been made through the Evolutionary Biology Unit in the introduction of modern biochemical technology to the Australian Museum. It is also planned to attempt to establish a computer imaging system, in the Scanning Electron Microscope laboratory, thus allowing instrument use to approach 100% of available time.

In research programs, Allen Greer plans to work on the phylogenetic relationships of dragon lizards and elapid snakes. Ross Sadler's research activities will centre around a Masters degree project on the taxonomy and systematics of gekkonid lizards. Tim Flannery will continue to research into the fauna of the southwest Pacific, culminating in the publication of two major works 'Mammals of the southwest Pacific', and the 2nd edition of 'Mammals of New Guinea', in late 1994. Research will also continue into the evolutionary constraints that environment places on the Australasian biota. Doug Hoesel and John Paxton will complete the second fish volume of

the Zoological Catalogue of Australia. All three scientists within the Fish section will continue their studies into the systematics and ecology of Australasian fishes. The section also will conduct a biodiversity study of the Shoalwater Bay region of the Queensland coast using external funding.

Walter Boles will continue studies of Australia's Tertiary avifauna. Some of the next projects include in detailed study some of the exciting finds from Murgon, a flightless rail from Riversleigh and some of the poorly known early Miocene mihirung birds (Dromornithidae).

In collection management, several reorganisations and moves are to be carried out to improve access to the collections and improve storage conditions. These activities include completion of the mammal move, reorganisation of the bird spirit material, including relabelling of the bird skin collection and inventory and reorganisation of off-site storage.

Other collection management plans include maintaining and further improving the standard of the herpetology collection and its database, testing of a new system of modularised collection storage, being tested within the fish collection and updating of guides to collection and procedure manuals for collection management.

It is also hoped that it will be possible to improve the standard of working areas by renovating offices within the bird section, collection areas and laboratory areas in all sections, particularly the Evolutionary Biology Unit.

VISITORS

Herpetology

- Dr Natalia Ananjeva, Russian Academy of Sciences
- Mr Peter Harlow, University of Sydney
- Mr P. Dougherty, University of Sydney
- Mr David Hauser, University of Pennsylvania USA
- Mr H. Jenkins, Australian National Parks and Wildlife Service
- Mr Carl Qualls, University of Sydney
- Mr Scott Keo, University of Sydney
- Mr David Pearson of CALM in Perth
- Dr A. Rasmussen, Zoological Museum, Copenhagen
- Dr M. Thompson, Sydney University
- Mr T. Ward, University of Townsville

Ichthyology

Dr T. Iwamoto, California Academy of Sciences
 Dr P. Castle, Victoria University of Wellington
 Dr R. Fricke, Stuttgart Museum
 Dr D. Greenfield, University of Hawaii
 Ms M. Hale, Field Museum of Natural History USA
 Dr T. Klose, Germany
 Dr B. Richards, National Marine Fisheries Service
 Dr D. Stein, National Oceanographic and Atmospheric Administration
 Dr M. Westneat, Field Museum of Natural History USA

Mammalogy

Boeadi, Curator, Zoology Museum Bogor, Indonesia
 S. Antico, Department of Environment, Papua New Guinea
 Professor J. Diamond, University of California at Los Angeles
 Burnum Burnum, Celtic/Aboriginal Foundation
 Dr P. Woolley, La Trobe University
 Dr C. Groves, Australian National University
 Dr P. Lockett, Costa Rica
 J. Sumner, Biological Sciences, University of Sydney
 D. Whitelaw, British Council.

Ornithology

Mr Marco Pavia, University of Turin, Italy

Acknowledgments

It was with great regret that the Australian community learnt of the death of Mr Ken Myer and Mrs Yasuko Myer. This regret was deeply felt at the Australian Museum to which Mr and Mrs Myer had been so generous. Their endowment of the

Evolutionary Biology Unit permitted many facilities to be established which would not otherwise have been possible. The staff of the Unit wish to record their appreciation of Ken and Yasuko's generosity, and the informed and intelligent interest in the working of the laboratory which accompanied it.

Individuals from New South Wales Fisheries (especially Ken Graham), CSIRO Fisheries (Alastair Graham), Victorian Fisheries (David Smith), Tasmanian Fisheries (Pascale Baelde) and New Zealand Fisheries (Jeremy McKenzie and Neil Bagley), as well as individual fishermen, were most helpful in the supply of specimens especially fresh/frozen gemfish and ocean perch for research purposes. Western Australian National Parks and Wildlife personnel at Millstream National Park aided our collecting activities. Drs Hartwick and Milward of James Cook University donated an important collection of fish larvae from the inner continental shelf off Townsville. Mr N. Halliwell donated a collection of aquarium fishes and Mr I. Graham from Oceanworld Manly donated a set of great white shark jaws. Mr M. Ellis of National Parks supplied a grid conversion program to the Museum.

Valuable bird specimens were received from Mr W. Yates (mounted Paradise Parrot), New South Wales National Parks and Wildlife Service, Wildlife Information and Rescue Service and the Taronga Zoological Park.

Valuable mammal specimens continued to be received from several institutions and government agencies. These include National Parks and Wildlife Service, Forestry Commission, Taronga Zoo, WIRES and CSIRO. Other assistance was also provided by the New South Wales National Parks and Wildlife Service and the New South Wales Forestry Commission.

LIZARD ISLAND RESEARCH STATION

The Lizard Island Research Station was established by the Museum in 1973. It now has an international reputation as being one of the world's most important coral reef Research Stations. The Station is situated in the pristine waters of the northern Great Barrier Reef. It provides housing and research facilities for scientists and educational groups. The Station's mission is to increase understanding of the Great Barrier Reef by fostering high quality scientific research. Providing superior research facilities is central to the achievement of the mission.

The station had its busiest year ever with 3,664 user days, yielding an average occupancy of 10 people per day throughout the year. A total of 52 research projects was undertaken by sixty principal scientists and many research assistants. In addition, five educational groups with a total of 77 participants stayed at the Station and undertook reef studies. The station was also popular with tourists, with about 1300 people given guided tours or viewing its educational displays.

Major donations were given by the James N. Kirby Foundation for increasing accommodation at Kirby House and by the Federal Republic of Germany which greatly improved the diving facilities through the donation of a dive compressor. Boat safety was improved by the acquisition of several new radios and the office was made more efficient with a substantial upgrade in computer hardware and software.

Research remains the Station's prime focus and recent studies have discovered the world's oldest living animal and largest bacterium. Dr Joachim Reitner and PhD student Friedhelm Grothe of the Freie University in Berlin have been studying the fauna of underwater caves at Lizard Island for several years. Their main interest is the sclerosponges, or stony sponges, which live on the ceilings of caves. Using carbon 14 and electron resonance spinning techniques, one stony sponge was aged at 3,000 years which is thought to be a record for animal longevity. While researching at the Station, Dr Kendall Clements (now at Sydney University) found a species of bacterium in the gut of surgeonfishes which is thousands of times larger than any other known bacteria. Scientists are fascinated by the find because it dispels long-held notions that bacteria must be much smaller as they have no nucleus to organise intracellular functions.

The Station continues to support promising young scientists through the Lizard Island Doctoral Fellowship scheme. This year, Fellowships were awarded to two James Cook University students, Dirk

Zeller and Lexa Grutter. Dirk is using ultrasonic telemetry to determine both large and small-scale movement patterns of large reef fishes and Lexa is studying the biology and ecology of cleaner wrasse.

The Research Vessel "RV Sunbird" was sold in early 1993 after ten years of service to the research community in the northern Great Barrier Reef and Torres Strait. The 14 metre sailing catamaran was originally intended as a supply vessel for the station as well as for research charters. The former usage waned in importance as other means of supplying the station developed but she was well used with research charters throughout her career.

Future Plans

Extensions which will increase accommodation in two of the visitor's houses are the major developments planned for next year.

Visitors

Special guests of the Station were His Excellency Bill Hayden, Governor-General of Australia, and Her Excellency Mrs Hayden, and Lizard Island Reef Research Foundation Trustees Mr John Barraclough AM and Dr Mal Eutick.

Acknowledgments

The following donors have contributed over \$10,000 to the Station:

Henry and Jacqueline Loomis
The James N Kirby Foundation
Sir John Proud
Mr Charles Warman
The Queensland Government
Madingly Victorian Charitable Trust
Dick and Phillipa Smith
Raymond E Purves Foundation
Suntory Ltd
The Japan Foundation
Esso Australia
Readers Digest Services
Mr Brian Wiesener
The Government of the Federal Republic of Germany
Westpac Banking Corporation
Lord Catto of Cairncatto
NQE Australia
Alcan Australia Ltd
Apollo Sports Company Ltd

THE AUSTRALIAN MUSEUM SOCIETY

The Australian Museum Society encourages a greater awareness of the Museum's role in the community, increasing understanding of our natural environment and cultural heritage, and also assists the Museum financially.

This year marked the Society's twentieth anniversary, in which membership remained stable, with 7,000 members in both the standard and corporate categories.

Attendance at all functions continued to grow, with particular success in lecture series, both The Wealth and Wonder of the Insect World, and The Geo-Globe fully-subscribed, with 100 people in each series. The Society also devised a diverse and informative range of activities to highlight the 1993 International Year for the World's Indigenous People.

Overseas tours last year were the Antarctic tour led by mountaineer and geologist Greg Mortimer, and Japan, led by the Museum's ornithologist Walter Boles. Speakers in this year's highly successful Science Super Series were Professor Jared Diamond, Professor of Physiology at the University of California, and Dr. Susan George, well-known author and expert on Third World debt. Aside from these overseas speakers, the lecture program included eminent Australian speakers, such as the outstanding lecture given by Professor Adrienne Clarke, Chairman of CSIRO.

The best 'performance' of the year was the virtuoso theatrical piece The Life, Times and Science of Galileo, presented to an audience of 800 by the Director of Questacon, Dr. Michael Gore. Finally, bushwalks continue to provide some of the most sought after events on the activities program.

One of the most interesting initiatives of the year was 'Talking Science', a regular radio program on 2 SER.FM, produced and directed for TAMS by Wilson da Silva, TAMS councillor and Reuter correspondent.

A major annual donor campaign was launched in May 1993, to co-incide with International Museums Day. 40,000 people were approached by direct mail. Response has been disappointing, with a gross profit to date of \$10,000. The project will be evaluated to determine whether it should be continued in future years.

The 120 volunteers who work in many different departments of the Museum were once again managed by the Society.

The Society contributed its second installment of \$ 50,000 (bringing the total to date to \$ 100,000) towards its sponsorship of the proposed new Investigation Centre. The Centre will provide users with access to a wide range of information, collections, objects and services, including printed, computer and multimedia resources, and staff expertise.

OFFICE OF THE DEPUTY DIRECTOR

Dr Cogger sat on two external committees of review during the year, one with the Director (Dr Griffin), for the Northern Territory Museum of Arts and Sciences and the other for the diverse museums and collections of the University of Sydney.

As a member of the Federal Government's Biological Diversity Advisory Committee, he delivered seminars on the philosophy behind the draft National Strategy for the Conservation of Biological Diversity, to the NSW Environment Protection Authority and to staff of the Australian Museum.

Dr Cogger took up his position as new Chairman of the Australian Biological Resources Study Advisory Committee. Amongst the responsibilities of this Committee is the disbursement of grants to taxonomists and ecologists researching Australia's rich biological diversity.

He continued to serve as the Australian Editor of the international journal, *Biodiversity and Conservation*.

In Adelaide in October Dr Cogger attended two consecutive meetings. He participated in a forum "A hidden Australian cultural resource - the parallel education system", convened by Susan Marsden and chaired by Donald Horne, for the Ideas for Australia Program. The following day he presented a paper entitled "Ethics Committees Outside the Laboratory Setting: Animal Research in Museums" to a conference of the Australian Council for the Care of Animals in Research and Teaching (ACCART).

Later in 1992 he attended two herpetological meetings - a one-day workshop on the conservation of frogs at the Australian Reptile Park in Gosford, and the annual conference of the Australian Society of Herpetologists (ASH) in Camden where he reviewed the processes leading to the production of the Action Plan for Australian Reptiles.

The final draft of the Action Plan for Australian Reptiles, undertaken as a contract to the Endangered Species Unit of the Australian Nature Conservation Agency (ANCA), was submitted during the year.

The Deputy Director's Office also oversees a program of Visiting Fellowships, in which senior scientists from overseas visit the Museum to undertake research on Australian issues, together with a Postgraduate Grants Scheme which offers small grants for research by postgraduate students in Australian universities.

Dr Cogger again had responsibility for conducting the Eureka Prizes - a program of science prizes awarded annually by the Museum, the ABC, Pol Publishing, Department of Environment, Sport and Territories and the New South Wales University Press. These prizes are valued at \$40,000 annually.

A review of Earth Science collection management policies and procedures was conducted during the year, leading to recommendations for improved storage conditions, curation and documentation for the Museum's large and valuable holdings of gemstones, other minerals, rocks and fossils.

Dr Cogger sat on the selection committee for the Caltex National Scholarship for Women.

With financial assistance from Comalco Mineral Products (which also funded the original research), Dr Cogger and Elizabeth Cameron published a report on a survey of reptiles and frogs in the Weipa area (see Publications: Vertebrate Zoology: Cameron and Cogger, 1992). With increasing concern for conservation issues in northern Australia, especially Cape York Peninsula and the Wet Tropics, and for the impact of Cane Toads on native fauna, this publication should greatly assist planners and land managers in the region.

S P O N S O R S H I P A C T I V I T I E S

The Australian Museum welcomed a number of companies as new sponsors this year. At a time when private financial support has been difficult to secure, the enthusiastic companies willing to commit themselves to sponsorship and support for the Museum deserve special mention.

Gargantuans from the Garden, the enormously successful exhibition on insects currently travelling around Australia, attracted three companies new to Museum sponsorship. SC Johnson & Son (brand name sponsorship: RAID), TNT Freight Services and CS First Boston are currently enjoying their status as national sponsors of this blockbuster exhibition. Their sponsorship association will continue for the long life of this exhibition.

The Australian Museum will always seek to align itself with companies that reinforce the policies and philosophy of the Museum. One of the policies considered important by the Museum is a commitment to high quality of service. It was with pleasure then, that the Museum formed a partnership with two companies that are likewise proponents of this ethic. Hilton Hotels and Qantas Airways became corporate partners of the Museum for the exhibition *Beyond the Java Sea*.

The largest sponsorship of the Museum this year was not related to a public program but was inspired by a public appeal to save an opalised skeleton of the pliosaur, "Eric". The television science program, *Quantum*, broadcast the appeal which saw donations from the public flood into the Museum. The Museum's partnership with Akubra Hats was thus initiated. Support from Akubra has not only ensured that "Eric" remains in Australia on public display but has meant that "Eric" will also tour Australia and be housed as the "celebrity" in a totally refurbished fossil and dinosaur gallery of the Museum.

One of the Museum's programs to support the International Year for the World's Indigenous Peoples was *Black Art*. This art competition for Aboriginal and Torres Strait Islander youth and subsequent exhibition saw the Museum continue a long association with Westpac Banking Corporation as major sponsor.

The Museum places a high value on all of its corporate supporters and is proceeding to establish partnerships and associations with organisations that will ultimately make major contributions to the achievement of the Museum's mission in the area of public programs as well as scientific research.



BOX 12 GPO
SYDNEY NSW 2001

AUDITOR-GENERAL'S OPINION

AUSTRALIAN MUSEUM TRUST

To Members of the New South Wales Parliament and Members of the Australian Museum Trust

Scope

I have audited the accounts of the Australian Museum Trust for the year ended 30 June 1993. The preparation and presentation of the financial statements, consisting of the accompanying statement of financial position, operating statement and statements of cash flows, together with the notes thereto, and the information contained therein is the responsibility of the Trust. My responsibility is to express an opinion on these statements to Members of the New South Wales Parliament and Trust based on my audit as required by Sections 34 and 41C(1) of the Public Finance and Audit Act 1983. My responsibility does not extend here to an assessment of the assumptions used in formulating budget figures disclosed in the financial statements.

My audit has been conducted in accordance with the provisions of the Act and Australian Auditing Standards to provide reasonable assurance as to whether the financial statements are free of material misstatement. My procedures included examination, on a test basis, of evidence supporting the amounts and other disclosures in the financial statements, and the evaluation of accounting policies and significant accounting estimates. These procedures have been undertaken to form an opinion as to whether, in all material respects, the financial statements are presented fairly in accordance with the requirements of the Public Finance and Audit Act 1983, and Australian accounting concepts and standards so as to present a view which is consistent with my understanding of the Trust's financial position and the results of its operations and its cash flows.

This audit opinion has been formed on the above basis.

Audit Opinion

In my opinion, the financial statements of the Australian Museum Trust comply with Section 41B of the Act and present fairly in accordance with Statements of Accounting Concepts and applicable Accounting Standards the financial position of the Trust as at 30 June 1993 and the results of its operations and its cash flows for the year then ended.

R.C. HENDERSON, FCA
DIRECTOR OF AUDIT

(duly authorised by the Auditor-General of New South Wales
under Section 41C(1A) of the Act)

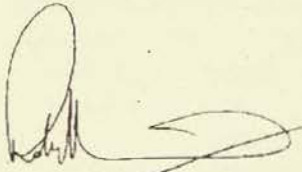
SYDNEY
20 October 1993

A U S T R A L I A N M U S E U M T R U S T
F I N A N C I A L R E P O R T 3 0 J U N E , 1 9 9 3


A U S T R A L I A N M U S E U M T R U S T
S T A T E M E N T I N A C C O R D A N C E W I T H S E C T I O N 4 1 C (1 B) a n d (1 C)
O F P U B L I C F I N A N C E A N D A U D I T A C T , 1 9 8 3

In accordance with a resolution of the Australian Museum Trust we state that:

- (a) The financial statements and notes thereon exhibit a true and fair view of the financial position and transactions for the year ended 30 June 1993
- (b) The financial statements have been prepared in accordance with Statements of Accounting Concepts, applicable Australian Accounting Standards, the requirements of the Public Finance & Audit Act 1983, the Annual Reports Act and Public Finance and Audit (Statutory Bodies) Regulations 1985, and the Financial Reporting Directives published in the Financial Reporting Code Under Accrual Accounting for Inner Budget Sector Entities. ("the Code")
- (c) There are no circumstances which would render any particulars included in the financial statements to be misleading or inaccurate.



PRESIDENT OF THE TRUST



SECRETARY OF THE TRUST

FINANCIAL REPORT

OPERATING STATEMENT FOR THE YEAR ENDING 30 JUNE 1993

	Notes	Actual 1993 \$'000	Budget 1993 \$'000	Actual 1992 \$'000
Expenses				
Operating Expenses				
Employee related	4.1	10,052	9,865	9,459
Other Operating expenses	4.2	6,427	6,597	5,843
Depreciation	4.3	928	480	643
Grants & subsidies	4.4	3,243	2,799	1,885
Other	8.4	330	263	92
		-----	-----	-----
Total Expenses		20,980	20,004	17,922
		-----	-----	-----
Revenues				
User Charges	5.1,5.2,5.3	2,415	2,773	1,806
Donations and Industry Contributions	6.1,6.2	4,358	3,350	2,376
Other		116	58	149
		-----	-----	-----
Total Revenue		6,889	6,181	4,331
		-----	-----	-----
NET COST OF SERVICES		14,091	13,823	13,591
		-----	-----	-----
Consolidated Fund recurrent appropriation		11,878	11,974	11,955
Consolidated Fund capital appropriation		710	710	833
Acceptance by State of Liability for		1,001	968	980
Superannuation and Extended leave	2.3,2.5			
		-----	-----	-----
Surplus/(deficit) for the year		(502)	(171)	177
		-----	-----	-----
Accumulated surplus/(deficit) at beginning of the year		2,397	2,397	220
		-----	-----	-----
Transfers (to)/from reserves		-	-	2,000
		-----	-----	-----
Accumulated surplus/deficit at the end of the year		1,895	2,226	2,397
		=====	=====	=====

The accompanying notes form part of these statements.

FINANCIAL REPORT

STATEMENT OF FINANCIAL POSITION AS AT 30 JUNE 1993

	Notes	Actual 1993 \$'000	Actual 1992 \$'000
Current Assets			
Cash	7.1	31	297
Investments	7.2	416	305
Receivable	7.3	293	239
Inventories	7.4	135	159
		-----	-----
Total Current Assets		875	1,000
		-----	-----
Non-Current Assets			
Property, Plant & Equipment	8.1,8.2	125,310	1,576
Exhibitions	8.3	2,114	2,069
Collections	8.4	-	-
		-----	-----
Total Non-Current Assets		127,424	3,645
		-----	-----
TOTAL ASSETS		128,299	4,645
		-----	-----
Current Liabilities			
Bank overdraft		179	-
Creditors	9.1	681	423
Provisions	9.2	931	789
		-----	-----
Total Current Liabilities		1,791	1,212
		-----	-----
Non Current Liabilities			
Treasury Loan	10.1	300	640
Ministry for the Arts Loan	10.2	100	-
		-----	-----
Total Non-Current Liabilities		400	640
		-----	-----
TOTAL LIABILITIES		2,191	1,852
		-----	-----
NET ASSETS		126,108	2,793
		=====	=====
Equity			
Accumulated surplus/(deficit)	11.1	1,895	2,397
Reserves	11.2	124,213	396
		-----	-----
TOTAL EQUITY		126,108	2,793
		=====	=====

The accompanying notes form part of these statements.

FINANCIAL REPORT

CASH FLOW STATEMENT for the year ended 30 June 1993

	Notes	Actual 1993 \$'000	Actual 1992 \$'000
Cash Flow from Operating Activities			
Payments			
Employee related	4.1	(8,822)	(8,253)
Other Operating Expenses	4.2	(6,015)	(5,186)
Grants and subsidies	4.4	(3,243)	(1,885)
Other	8.4	(330)	(92)
		-----	-----
		(18,410)	(15,416)
		-----	-----
Receipts			
User Charges	5.1,5.2,5.3,6.1	6,162	2,407
Donations and Industry Contribution	6.2	322	816
Other		116	149
		-----	-----
		6,600	3,372
		-----	-----
Total Net Cash Used on Operating Activity	18	(11,810)	(12,044)
Cash Flow from Investing Activities			
Purchases of property, plant & equipment	8.2	(227)	(434)
Purchase of investments	7.2	(112)	(134)
Proceeds from Inventory	7.4	24	25
Purchase of Exhibitions	8.3	(668)	(1,061)
		-----	-----
Total Net Cash Outflow on Investing Activities		(983)	(1,604)
		-----	-----
Net Cash Outflow from Operating & Investing Activities		(12,793)	(13,648)
		-----	-----
Government Funding Activities			
Return to State on State Treasurer's Advance		-	(17)
Consolidated Fund Recurrent Appropriation		11,878	11,955
Consolidated Fund Capital Appropriation		710	833
Loans from Treasury	10.1	(340)	640
Loans from Ministry for the Arts	10.2	100	-
		-----	-----
Total Net Cash provided by Government		12,348	13,411
		-----	-----
Net Increase\Decrease) in Cash		(445)	(237)
Opening Cash Balance		297	534
		-----	-----
CLOSING CASH BALANCE		(148)	297
		=====	=====
Closing Cash balance is made up of:			
Cash on Hand and at Bank		31	297
Bank Overdraft		(179)	-
		-----	-----
		(148)	297
		=====	=====

The accompanying notes form part of these statements.

FINANCIAL REPORT

AUSTRALIAN MUSEUM TRUST

Supplementary Information

CASH FLOW STATEMENT for reconciliation with Operating Statement

For the year ended 30 June 1993

	Notes	Actual 1993 \$'000	Actual 1992 \$'000
Cash Flow from Operating Activities			
NET COST OF SERVICES		(14,091)	(13,591)
Adjustments for items not involving cash :			
Depreciation	4.3	928	643
Provision for Recreation Leave		142	89
Provision for doubtful debts	7.3	4	5
Acceptance by the State of Liabilities	2.3,2.5	1,001	980
(Increase)/decrease in receivables	7.3	(52)	(85)
Increase/(decrease) in payables		258	(85)
Net Cash Used on operating Activities		<u>(11,810)</u>	<u>(12,044)</u>
Funded by:			
Consolidated Fund recurrent appropriation		11,878	11,955
Loan from Ministry for the Arts	10.2	100	-
Net Increase/(Decrease) in Cash from operating Activities (A)		<u>168</u>	<u>(89)</u>
Cash Flow from Investing Activities			
Purchases of property, plant & equipment		(227)	(434)
Purchase of investments		(112)	(134)
Purchase of Exhibitions		(668)	(1,061)
Advances received from/(repaid) to other organisations		200	(17)
Proceeds from sale of inventory		24	25
Net Cash Used on Investing Activities		<u>(783)</u>	<u>(1,621)</u>
Funded by:			
Consolidated Fund capital appropriation		710	833
Loan from Treasury		(540)	640
Net Increase/(Decrease) in Cash from Investing Activities (B)		<u>(613)</u>	<u>(148)</u>
Net Increase/(Decrease) in Cash (A+B)		(445)	(237)
Opening Cash Balance		<u>297</u>	<u>534</u>
CLOSING CASH BALANCE		<u>(148)</u>	<u>297</u>
		=====	=====

This statement links cash flows with the Operating Statement via the Net Cost of Services and reconciles between Net Cost of Services, which is an accrual concept, and Consolidated Fund support, which is a cash concept.

The accompanying notes form part of these statements.

FINANCIAL REPORT

1. THE MUSEUM TRUST REPORTING ENTITY

The Australian Museum Trust comprises all the operating activities and entities under its control. It also encompasses funds which are restricted for specified purposes by the grantor or donor, but are nevertheless controlled by the Trust.

All transactions and balances between the funds and entities comprising the Australian Museum Trust have been eliminated in the process of preparing the financial statements.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICY

2.1 Basis of Presentation

The financial report of the Australian Museum Trust is in accordance with the Statements of Accounting Concepts, the applicable Accounting Standards, industry practices, the requirements of the Public Finance and Audit Act 1983 and Public Finance and Audit Act (Statutory Bodies) Regulations, 1985 and the Financial Reporting Code under accrual accounting for Inner Budget Sector Entities. Except for land and buildings which are recorded at valuation, the financial report is prepared in accordance with historical cost convention.

2.1.1 Changes in Accounting Policy

This year there have been a number of changes in the presentation of the financial statements.

The Museum has changed its policy regarding depreciation method from a written down to straight line method and amended the percentage rates accordingly. This was done to gain improved record keeping and productivity in processing with the current computer system. The effect of this change was the value of plant and equipment as at the 1/7/92 was reduced by \$193,596. An adjustment has been made against depreciation expense.

Advice has been received from the Treasury and a special report in Volume One of the NSW Auditor-General's Report regarding the valuation of heritage assets, makes it clear that last years method of valuation of the buildings needed to be changed. The Treasury advised that written down replacement cost of the functional service potential of the buildings is the appropriate basis of valuation. The Museum Land and Building Complex in Sydney is stated at replacement cost of \$123,960,000 instead of \$1 shown in previous year.

2.2 Insurance

As at 1 July 1989, Government policy changed in respect of insurance practices for inner budget sector organisations when the Treasury managed Fund came into effect. This fund provides coverage for liability by the Museum in respect of personal accident, workers compensation, fire, theft and damage, etc, previously covered under specific policies with the Government Insurance Office.

2.3 Annual and Extended Leave

A calculation has been made of the total liability for both accrued extended leave for all employees with an entitlement based on five (5) or more years service and accrued annual leave at their rate of pay at balance date. (See note 9.2.)

The NSW Treasury, from 1 July 1991, has accepted the liability in respect of extended leave as an obligation of the State. The amount of this liability is \$1,448,228 (\$1,327,200 in 1991/92) and is not included in the Museum's Statement of Financial Position. The increase in extended leave liability for 1992/93 was \$121,028 and has been charged as an operating expense within the category Employee Related Costs and an offset corresponding amount included as a funding component - State Acceptance of Liability.

FINANCIAL REPORT

The accrued annual leave is a liability of the Museum funded from future recurrent allocations. The cost of this year's liability in respect of 1992/93 was \$131,474 and this amount has been charged as an increase in operating expense within the category Employee Related Costs.

2.4 Depreciation and Amortisation

The buildings on Lizard Island are depreciated on a straight-line basis over their remaining estimated life of up to 30 years on the assumption that the Museum's lease of land on the Island will be renewed in 1998. The Museum believes that the life of the Museum Complex in Sydney is indeterminate and it is inappropriate to depreciate a valuation of service potential of a building that doesn't in fact exist. Depreciation of Plant and Equipment is now calculated on a straight line basis for Plant and Equipment. (see note 2.1.1)

Depreciation is provided based on the following asset categories: -

Audio Visual	20%
Photography	10%
Science	10%
General	10%
Computers	20%
Vehicles	15%

Individual assets acquired for less than \$500 are expended in full in the year of acquisition and therefore not depreciated.

Exhibitions are amortised on a straight-line basis based on their expected useful life. (See note 8.3)

2.5 Employee Superannuation Entitlements

As from the 1 July 1991 the Treasury has accepted liability superannuation liability in respect of Museum employees as an obligation of the State.

The cost of Superannuation benefits is calculated by using the accrued benefit calculation method. The gross liability is \$7,611,923. These figures are not included in the Museum's Statement of Financial Position. It has been agreed that where the Superannuation liability of budget sector agencies has been assumed by the State, any changes in the liability from past service should only affect the State's Statement of Financial Position. Therefore, in order to reflect the employer superannuation expense in the Net Cost of Services, a simpler arrangement has been adopted.

The annual cost of the employer superannuation expense for 1992/93 is \$879,866 and has been charged as an operating expense within the category Employee Related Costs and an offset corresponding amount included as a funding component - State Acceptance of Liability.

3. BUDGET REVIEW

The net costs of services was higher than budget by \$268,000.

Operation revenues was higher than budget by \$708,000. This was mainly caused by the increased grant funding activity, mainly one off activity related to such things as the Eric (Pliosaur), Aboriginal Employment Program, Beyond the Java Sea.

Operational expenditure was greater than budget by \$976,000 and also reflected the increased grant activity (\$443,000), the effects of depreciation (\$391,000) mainly because of the Exhibit - Gargantuans of the Garden which came on line this year and the change in depreciation method on previous years Plant and Equipment (\$194,000). The amount of leave entitlement also increased (\$142,000).

FINANCIAL REPORT

4. OPERATING EXPENSES

1992/93 1991/92
\$'000 \$'000

4.1 Employee related expenses

Comprised the following specific items:

Salaries and wages	8,029	7,758
Superannuation	880	739
Payroll tax and fringe benefit tax	640	532
Long service leave	121	241
Annual Leave	299	89
Workers compensation insurance	75	81
Other	<u>8</u>	<u>19</u>
	<u>10,052</u>	<u>9,459</u>

4.2 Other Operating expenses

Comprised the following specific items:

Rent	422	317
Building Maintenance	1,344	1,273
Travel	118	139
Freight	42	38
Motor Vehicles	73	89
Advertising & Promotional	411	313
Fees	418	302
Consultancy	135	114
Electricity	549	564
Insurance	253	365
Postal & Telephone	421	412
Stores & Equipment	1,541	1,190
Printing	516	487
Maintenance Contracts	114	120
Other	<u>70</u>	<u>120</u>
	<u>6,427</u>	<u>5,843</u>

The Museum received a capital allocation from the NSW Government for 1992/93. Works funded from this source were of a maintenance nature and the expenditure was therefore treated as operational expense for the year.

4.3 Depreciation and Amortisation

Are charged as follows:

Buildings	11	11
Exhibitions	480	427
Plant and Equipment	243	205
Plant and Equipment - result of change of Method	<u>194</u>	<u>-</u>
	<u>928</u>	<u>643</u>

FINANCIAL REPORT

4.4 Grants and Subsidies		1992/93	1991/92
Comprised the following specific items:		\$'000	\$'000
Scientific Research - Government Funds		526	489
Scientific Research - Other		970	851
Education Programs		6	12
Exhibitions Programs		1175	117
Commercial Ventures		556	338
Other		<u>10</u>	<u>78</u>
		<u>3243</u>	<u>1,885</u>

5. TRADING OPERATIONS

5.1 Shop Trading Operations

		1992/93	1991/92
	\$	\$	\$
Sales		730,965	657,414
Less: Cost of Sales	158,799		
Opening Stock	373,139		
Purchases			
Less: Closing Stock	<u>135,275</u>	<u>396,663</u>	<u>377,889</u>
Gross Profit		<u>334,302</u>	<u>279,525</u>

Closing Stock has been valued at the lower of average cost price or net realisable value.

Direct salaries and wages of \$165,613 (\$185,982 in 1991/92) and measurable overheads of \$17,930 (\$27,271 in 1991/92) were also identified against Shop Trading Operations. It is not the Museum's policy to consider and charge against the Shop Trading Account indirect costs. All expenditure mentioned above are included in the appropriate Expenses item in the Operating Statement.

5.2 The Australian Museum Society (TAMS)

The Society was established for the purpose of promoting a greater knowledge of and concern for the environment and to encourage community support for the work of the Museum.

	1992/93	1991/92
	\$	\$
REVENUE		
Subscriptions	236,468	211,999
Functions	33,096	27,914
Donations	4,142	3,426
Other	<u>7,033</u>	<u>33,661</u>
	<u>280,739</u>	<u>277,000</u>
EXPENDITURE		
Salaries	106,037	115,108
Working Expenses	<u>164,237</u>	<u>129,019</u>
	<u>270,274</u>	<u>244,127</u>
NET REVENUE	<u>10,465</u>	<u>32,873</u>

All expenditure mentioned above are included in the appropriate Expenses item in the Operating Statement.

FINANCIAL REPORT

5.3 Trading Operations - Other

	1992/93	1991/92
	\$	\$
Revenue from other Trading operations comprised:		
Australian Natural History	525,586	357,883
Gallery Revenue	586,708	218,331
Commercialisation Projects	133,591	136,022
Restaurant Activities	108,259	45,000
Mail Order Program	43,810	73,703
Sale of Brochures/Guides	4,389	40,551
Miscellaneous	<u>507</u>	<u>878</u>
	<u>1,402,850</u>	<u>872,368</u>

6. OTHER REVENUE

6.1 Grants

	1992/93	1991/92
	\$	\$
Revenue from Grants comprised:		
Scientific Research - Government funds	528,258	614,470
Scientific Research - Other	969,444	939,722
Education Programs	4,620	23,931
Exhibition Programs	1,415,362	95,164
Commercial Ventures	562,576	412,473
Other	<u>555,145</u>	<u>24,321</u>
	<u>4,035,405</u>	<u>2,110,081</u>

The treatment of Grants in Advance in the Financial Reporting Code under accrual accounting for Inner Budget Sector Entities recognises Grants in Advance as revenue when the cash is received. The Museum whilst following the code is not in agreement with this part of the code as we believe this is a cash accounting principle and should not apply in accounts prepared under accrual accounting. Grant funding are such that the use of these funds is generally restricted to the purpose specified by the granting body. The Museum is therefore only officially entitled to these funds when expenditure is incurred on the project specified.

6.2 Australian Museum Foundation

The Foundation was established for the purpose of raising funds from the business sector to assist in the work carried out by the Trust.

	1992/93	1991/92
	\$	\$
REVENUE		
Donations	307,500	242,500
Interest	<u>14,744</u>	<u>23,224</u>
	322,244	265,724
EXPENDITURE		
Government Charges	321	196
	<u>321</u>	<u>196</u>
NET REVENUE	<u>321,923</u>	<u>265,528</u>

FINANCIAL REPORT

7. CURRENT ASSETS

7.1 Cash

	1992/93	1991/92
	\$	\$
Cash at Bank	24,955	291,054
Cash on Hand	<u>6,400</u>	<u>5,900</u>
	<u>31,355</u>	<u>296,954</u>

7.2 Investments

Investments recorded at cost comprised:

	\$	\$
Bank Term Deposit	416,389	304,531

Investments are brought to account at cost. (Face value \$417,012 as at 30 June 1993)

7.3 Receivables

At an aggregate value of \$292,691 recorded at balance date these comprised:

	1992/93	1991/92
	\$	\$
Debtors	136,209	77,155
Less Provision for Doubtful Debts	<u>4,284</u>	<u>5,531</u>
	131,925	71,624
Accrued Revenue and Prepayments	<u>160,766</u>	<u>167,597</u>
	<u>292,691</u>	<u>239,221</u>

The Debtors are aged:

	\$	\$
Less than 30 days	84,578	37,731
30 to 59 days	31,341	9,991
60 to 89 days	3,763	7,523
90 to 120 days	1,741	14,626
120 days and Over	<u>14,786</u>	<u>7,284</u>
	<u>136,209</u>	<u>77,155</u>

Bad Debts to the value of \$4,517 (\$739 in 1991/92) have been written off this year. These bad debts related to trading operations.

7.4 Inventories

The value recorded at 30 June 1993 of \$135,275 (\$158,799 in 1991/92) represented stock in trade held by the Museum's shop outlets. Stocks were brought to account at the lower of average cost price or net realisable value.

FINANCIAL REPORT

8. NON-CURRENT ASSETS

8.1 Property

The value recorded in the Statement of Financial Position covers the following Trust Property:

		<u>Land</u>	<u>Buildings</u>
	\$	\$	\$
Museum Property - College and William St. Sydney (at valuation)		17,000,000	
Museum Property - Yurong and William St. Sydney (at valuation)		1,960,000	105,000,000
Museum Buildings - At above listed properties			
Lizard Island Research Station Buildings			
Costs	391,200		
less Accumulated Depreciation	<u>79,835</u>		311,365
Written Down Valuation		<u>18,960,000</u>	<u>105,311,365</u>

The Lizard Island Research Station site is occupied by the Trust as lessee from the Queensland Government for a twenty five year period terminating in 1998 at an annual rental of \$25. A depreciation charge of \$10,736 against operations was brought to account in 1992/93, based on the assumption that the lease will be extended.

The Museum valued its Museum Buildings in Sydney at replacement cost. This valuation is for a replacement modern building that has the same service capacity. It does not represent the replacement, historic and intrinsic value of the existing building. See Note 2.1.1 regarding change in Accounting Policy.

The Museum has followed the Financial Reporting Code in all matters with the exception of Sydney Museum Buildings valuation. Advice has been received from the Treasury and a special report in Volume One of the NSW Auditor-General's Report regarding the valuation of heritage assets. These documents makes it clear that last years method of valuation needs to be changed, The Treasury advised that written-down replacement cost of the functional service potential of the buildings is the appropriate basis of valuation. However there are no guidelines on how to determine write-downs of a building that in fact does not exist. It is also Treasury policy that depreciation is not applicable for non-current assets which have an expected life in excess of 200 years. Some of the current buildings are over 145 years old and there is a clear expectancy that with a effective building maintenance program it is not unrealistic to expect the existing building to have a life of over 200 years. This policy is stated in Policy Guidelines for Valuation of Physical Non-Current Assets in the NSW Public Sector. It is therefore inappropriate to depreciate such a building. The Museum has now adopted this approach but this is inconsistent with the Financial reporting code.

FINANCIAL REPORT

8.2 Plant & Equipment

The book values are summarised as follows:

	1992/93	1991/92
	\$	\$
Book value at 1 July 1992	1,253,927	1,080,659
Effect of change in depreciation method on previous year Plant & Equipment	<u>193,596</u>	<u>-</u>
Adjusted Capital Value Brought to Account at 1 July 1992	1,054,515	1,080,659
Movements for 1992/93	<u>227,012</u>	<u>378,039</u>
	1,281,527	1,458,698
Less Depreciation	<u>242,459</u>	<u>204,771</u>
Book Value at 30 June 1993	<u>1,039,068</u>	<u>1,253,927</u>

Items costing less than \$500, were fully expended in the year of acquisition as indicated in the accounting policy referred to in note 2.6.

The method of depreciation this year has been changed from a written down method to a straight line method. See notes 2.1.1 & 2.4. The effect of this adjustment to the capital value bought to account as at 1 July 1992 is recorded in the operating statement as depreciation (\$193,596).

8.3 Exhibitions

The value of Exhibitions represents capitalisation of the development and establishment costs of exhibitions that will continue to generate revenue or provide a community service beyond the financial year or years in which these costs were incurred.

Development and establishment costs as capitalised include material and construction expenditure but do not include an assessment of the intrinsic value of collection items incorporated in an exhibition unless specifically purchased (and thus costed) for the purpose. Labour costs for permanent staff inputs to the development of exhibitions have not been brought to account.

The accounting transactions for 1992/93 are summarised as follows:

	1992/93	1991/92
	\$	\$
Book value of Exhibitions operational at 1 July 1992	2,069,488	1,673,652
Capitalisation of Exhibitions developed in 1992/93	<u>668,433</u>	<u>1,061,907</u>
	2,737,921	2,735,559
Less Amortisation to Operating Statement	480,691	427,005
Less Amortisation against reserves*	<u>143,756</u>	<u>239,066</u>
Book value of Exhibitions at 30 June 1993	<u>2,113,474</u>	<u>2,069,488</u>

* This relates to exhibition assets brought to account for the first time in 1988/89 but fully expended against operations in years prior to that date. Accordingly, this component of exhibition assets are written down annually by amortisation against reserves.

FINANCIAL REPORT

8.4 Collections, Works of Art, Specimens and Other Acquisitions

In accordance with the Policy Guidelines for Valuation of Physical Non-Current Assets in the NSW Public Sector the Museum's Collections are classified as category C assets and are recognised at the nominal value of \$1. For presentation purposes this item is shown in the Statement of Financial Position. Acquisitions are expended against operations in the relevant year of purchase.

Acquisition costs do not normally feature as a major component of operating costs. This year, however, there has been a one off exception with the purchase by tender of "Eric" the opalised pliosaur. Funds for this purchase were provided by the Public and recorded in the Grants other Revenue (see notes 6.1).

By way of example, the costs so expended over the past 5 years were:

	\$'000
1987/88	- 69
1988/89	- 65
1989/90	- 50
1990/91	- 40
1991/92	- 35
1992/93	- 330

All expenditure mentioned above are included in the Other operating Expenses item in the Operating Statement. See also comment under note 8.3 concerning Exhibitions and note 2.2 regarding Insurance.

8.5 Property, Plant & Equipment, Exhibitions and Collections

	Land & Buildings (Note 8.1) \$'000	Plant & Equipment (Note 8.2) \$'000	Exhibitions (Note 8.3) \$'000	Collections (Note 8.4)	Total \$'000
At Cost or Valuation					
Balance as at 1 July 1992	391	1260	5160	-	6,811
Movements	-	227	668	-	895
Adjustments against Equity	<u>123,960</u>	-	-	-	<u>123,960</u>
Balance as at 30 June 1993	<u>124,351</u>	<u>1,487</u>	<u>5,828</u>	-	<u>131,666</u>
Accumulated Depreciation					
Balance as at 1 July 1992	69	205	3,091	-	3,365
Depreciation for Year	11	243	480	-	734
Amortisation against Reserves	-	-	143	-	143
Balance as at 30 June 1993	<u>80</u>	<u>448</u>	<u>3,714</u>	-	<u>4,242</u>
Written Down Value					
at 1 July 1992	322	1,254	2,069	-	3,645
at 30 June 1993	<u>124,271</u>	<u>1,039</u>	<u>2,114</u>	-	<u>127,424</u>

FINANCIAL REPORT

9. CURRENT LIABILITIES

9.1 Creditors	1992/93	1991/92
	\$	\$
Operating Activities		
Employee Related	228,940	42,709
Other operating expenses	<u>452,276</u>	<u>380,514</u>
	<u>681,216</u>	<u>423,223</u>
9.2 Provision for Employee Annual Leave Entitlements		
Accrued Annual Leave	<u>930,752</u>	<u>788,778</u>

10. LIABILITIES

10.1 Treasury Loan

During the year, construction of a new travelling exhibition "Gargantuan from the Garden" was completed. This exhibit is a commercial venture, which required short term venture working capital to proceed. The Premier and Treasurer approved the provision of an advance (up to \$1.1 million) from the Treasury Special Deposit Account, with interest payable from date of drawdown to date of repayment, at the State bank reference rate determined at the commencement of each calendar month. As at 30 June 1993, \$300,000 was outstanding. Interest of \$73,418 has also not been paid and is included in the Creditors figure.

10.2 Ministry Loan

During the year, a touring exhibition called "Beyond the Java Sea" was exhibited. In order to assist funding of this important cultural event a loan of \$100,000 was obtained from the Ministry for the Arts. This was an interest free loan repayable over 4 years.

11. EQUITY

11.1 Accumulated Funds	1992/93	1991/92
	\$	\$
Balance at 30 June 1992	2,396,742	219,983
Operating Result for Year	(501,361)	177,250
Conversion of The Australian Museum Society to Accrual accounting	-	51,448
Assets Acquired Free of Liability in in prior periods.	-	1,947,973
	<hr/>	<hr/>
Balance at 30 June 1993	<u>1,895,381</u>	<u>2,396,654</u>

(See note 6.1 & 16) The use of some of these funds is restricted to the purpose specified by the granting body.

11.2 Reserves	1992/93	1991/92
	\$	\$
Net reserves at 30 June 1992	396,279	126,583,316
Revaluation of Property	123,959,998	(123,999,998)
Assets Acquired Free of Liability in in prior periods.	-	(1,947,973)
	<hr/>	<hr/>
Amortisation of Exhibitions	<u>(143,756)</u>	<u>(239,066)</u>
Balance as at 30 June 1993	<u>124,212,521</u>	<u>396,279</u>

FINANCIAL REPORT

12 COMMITMENTS FOR EXPENDITURE

12.1 Commitments for Goods and Services

Purchase orders for goods and services contracted for at 30 June 1993 not otherwise accounted for in the Statement of Financial Position totalled \$641,205 (\$880,539 at 30 June 1992). Given the nature of Capital Expenditure (see note 4.2) all amounts committed are included in the above figure.

12.2 Commitments for Leases

The Trust has forward commitments for lease rentals with respect to three properties it occupies as lessee. The aggregate lease expenditure contracted for at 30 June 1993 (subject to adjustments) comprises:

\$	
Not later than 1 year	372,863
Later than 1 year & not later than 2 years	72,025
Later than 2 years & not later than 5 years	108,075
Later than 5 years	25

13. MATERIAL ASSISTANCE PROVIDED AT NO COST TO THE TRUST

Material assistance provided to the Museum for which payment was not made, (figures are not available as to the cost of these services) included:

Volunteer Services, Legal Assistance, Industrial Relations & Collections.

14. AUDIT FEE

The fee for the audit of the Museum's accounts and records, by the New South Wales Auditor-General's Office was \$26,000. They received no other benefits.

15. MEMBERS FEES OR BENEFITS, ETC.

Trust members do not receive emoluments or other benefits of office. There were no loans made to members or employees of the Trust.

16. RESTRICTED ASSETS

The Museum receives grants for specific purposes. If the expenditure is not incurred in the manner specified or in terms of the conditions of the grants then the Museum has an obligation to return the funds advanced. The cash received in this manner as Grants in Advance is therefore restricted in its application.

17. CONTINGENT LIABILITIES

The trust was not aware of any contingent liability relevant to its functions at 30 June 1993.

18. RECONCILIATION OF NET CASH USED IN OPERATING ACTIVITY TO OPERATING RESULT

	1992/93	1991/92
	\$'000	\$'000
Surplus/(deficit) for the year	(502)	177
Depreciation	928	643
Increase in Creditors	258	173
Increase in Leave Entitlements	142	89
Increase in Sundry Debtors	(52)	(85)
Provision for Doubtful Debts	4	5
Decrease in Current Liabilities	-	(258)
Government Revenue	<u>(12,588)</u>	<u>(12,788)</u>
Net Cash used in operating activity	<u>(11,810)</u>	<u>(12,044)</u>

FINANCIAL REPORT

19. PROGRAM INFORMATION

Program 1 Administration and General

Program 2 Community Relations

Program 3 Education

Program 4 Exhibitions

Program 5 Scientific Research and Collections

	Program 1 \$'000	Program 2 \$'000	Program 3 \$'000	Program 4 \$'000	Program 5 \$'000	Total \$'000
Operating						
Employee related	(3175)	(730)	(1031)	(1211)	(3905)	(10052)
Other Operating	(3738)	(1388)	(196)	(241)	(864)	(6427)
Depreciation	(265)	(6)	(6)	(506)	(145)	(928)
Grants and subsidies	(1020)	(508)	(103)	(538)	(1074)	(3243)
Other	(2)	(320)	-	-	(8)	(330)
Total Operating Expense	(8200)	(2952)	(1336)	(2496)	(5996)	(20980)
Operating Revenue						
User Charges	765	1650	-	-	-	2415
Donations & Industry						
Contributions	1026	563	26	1435	1308	4358
Other	59	18	39	-	-	116
Total Operating Revenues	1850	2231	65	1435	1308	6889
NET COST OF SERVICES	(6350)	(721)	(1271)	(1061)	(4688)	(14091)
Government Appropriations	5945	354	808	1047	4434	12588
Acceptance by State	316	73	103	120	389	1001
Operating result after Government Allocations	(89)	(294)	(360)	106	135	(502)

END OF AUDITED FINANCIAL STATEMENTS

S T A F F

* Denotes position no longer occupied by this person
 ** Denotes part-time employment
 (T) Denotes temporary position

DIRECTOR'S OFFICE

D.J.G. Griffin AM MSc PhD
 Director
 L. Falkingham BSc(Hons) Corporate Promotions Manager
 G. McCarthy Asst to Director's Assistant
 S. Wyer Director's Assistant*

DEPUTY DIRECTOR'S OFFICE

H.G. Cogger MSc PhD Deputy Director
 E.E. Cameron BSc (Hons) MSc
 Scientific Officer
 S. Lynch Asst to Head of Scientific Div.
 S. Zantiotis Asst to Deputy Director

ANTHROPOLOGY

V.L. Attenbrow BA(Hons) PhD
 Scientific Officer
 (Aboriginal prehistory)
 E. Bonshek BA(Hons) MA(Qual) Dip.Mus.Studies
 Acting Senior Technical Officer
 (Pacific collection manager)
 D. Donlon MA PhD
 Research Fellow
 (Aboriginal skeletal remains) (T)
 S. Florek MA
 Technical Officer
 (Aboriginal projects)
 R.L.K. Fullagar BA(Hons) PhD
 Research Fellow
 (Pacific prehistory)
 N. Goodsell BA
 Technical Officer
 (Pacific documentation)
 P. Gordon
 Senior Technical Officer
 (Aboriginal heritage)
 J. Graham BA
 Technical Officer
 (Aboriginal collection manager)*
 B. Hise BA(Hons)
 Technical Officer (African
 and American projects) (T)*
 K. Khan BA(Hons) Dip Anthrop
 Senior Technical Officer
 (Aboriginal projects)**
 L.A. Kreller BA(Hons)
 Technical Officer
 (Pacific prehistory) (T)*
 S. Lynch
 Divisional Secretary *
 J. de Mestre BA(Hons) Dip. Mus Studies
 Technical Officer
 (Pacific projects) (T)*
 K. Patrick
 Divisional Secretary (T)
 B. Pulvertaft BA(Hons)
 Technical Officer (African
 and American projects) (T)**
 C. Sadlier BA
 Technical Officer
 (Aboriginal projects) (T)*
 J. Specht MA PhD
 Senior Research Scientist
 (Pacific prehistory) and
 Head of Division

D. Steele BA (Hons) Technical Officer
 (Aboriginal prehistory) (T)*
 P. Tacon BA (Hons) MA PhD
 Scientific Officer
 (Aboriginal Anthropology)
 S. Thomsett BA (Hons) Dip. Mus. Studies
 Acting Senior Technical Officer*
 R. Torrence MA PhD
 Research Fellow
 (Pacific prehistory)
 Z. Wakelin-King BA(Hons)
 Senior Technical Officer
 (Asia, Africa, Americas
 collection manager)**
 K. Wilkinson
 Museum Assistant
 (Aboriginal prehistory) (T)*

Aboriginal Advisory Committee to the Australian Museum
 Trust: A. Ridgeway (chairperson), G. Andrews, D. Henry,
 R. Lester

Volunteers

Volunteers who assisted in Port Jackson Archaeological
 Project: C. Baker, K. Barnes, M. Barry, I. Berger, S. Bard,
 W. Bluff, S. Bonny, M. Booth, S. Brady, D. Brown,
 K. Burgin, I. Chapman, S. Colley, T. Corkill, M. Cotter,
 J. Disher, J. Drew, B. Foster, J. Furby, S. Garling, M.
 Hartman, M-N. Harris, C. Hodgkiss, S. Huys, L-A. Kreller,
 J. Leahy, L. McGettigan, B. McKellar, S. McPhillips, B. May,
 J. Meadows, R. Mills, K. Murray, A. Nightingale,
 J. O'Leary, K. Palmer, T. Pemberton, L. Petrie,
 C. Porterman, G. Power, R. Quarry, C. Ramirez, M. Sarenas,
 F. Sinn, E. Stenning, M. Stephens, K. Seretis, K. Stockhausen,
 E. Stone, C. Szpak, S. Thomas, L. Victor, J. Wallace,
 P. Webb, K. Wilkinson, S. Wylie.

Other volunteers:

Dr S. Bard, D. Bell, G. Britten, S. Browning, M. Bryant,
 M. Clack, M. Clarke, M. Clutterbuck, S. Emde, L. Hill,
 G. Hughes, M. Keating, M. Kim, M. Maddison, D. Moore,
 M. B. Nolan, G. North, L. Petrie, C. Polladore, S. Torezani,
 J. Vandersteegen, L. Victor, Xuan Linh Nguyen

COMMUNITY RELATIONS

K. Annetts BA
 Shop Supervisor*
 J. Barnett
 Marketing Manager*
 Head of Division
 T. Devery
 Shop Assistant
 M. Dingle
 Head of Division*
 F. Doig BA(Comm)
 Editor, ANH*
 M. Field BSc (Hons)
 Marketing & Sales Manager,
 ANH
 J. Gates BA
 Production Editor, Scientific
 Publications
 T. Gibson
 Public Relations Manager
 G. Hickey BSc
 Scientific Editor, ANH**
 A. Jelbart
 Shop Assistant**
 S. Järvenpää
 Acting Assistant to Head,
 Community Relations(T)

S T A F F

A. Lee BA Shop Assistant**
 K. Lowe Photo Researcher, ANH**
 W. Matthews Venue Manager
 S. Meadows BA Assistant Shop Manager
 C. Milne BA Public Relations Assistant(T)
 B. Pegram Shop Assistant
 M. Pollinger BA (Hons) Marketing Assistant, ANH
 S. Procter BA Public Relations Assistant
 P. Russell Shop Assistant**
 C. Sadlier BA Shop Assistant
 K. Sassine Assistant to Marketing Manager*
 J. Saunders BSc Editorial Co-ordinator, ANH
 L. Saunders Cultural Diversity
 Co-ordinator
 P. Stevens BA Shop Assistant
 A. Taylor BDes Shop Assistant**
 J. Taylor Shop Manager
 A. Youssef BA Clerical Assistant
 M. Tracanelli-Millikan Publicity Officer*

Volunteers in Community Relations

O. Armstrong, G. Farrow, C. Gallagher, N. Kosh,
 S. Kwan, M. Lalas, S. McKeon, C. Milne, T. Nickerson,
 L. Potter, K. Robinson, B. Silver,
 D. Smuts, J. Yeoman

Volunteers who assisted with the "Save Eric Appeal"

C O R P O R A T E S E R V I C E S

R. Bolzan BA Special Projects *
 L. Kelly BA GradDip Emp Rel
 Special Projects
 P. Klobe Assistant
 C. MacLulich BEd(Hons)Dip Mus Stud
 Special Projects *
 G. McKenzie CPA Assistant Director,
 Corporate Services
 V. Priestley Assistant (T)

Australian Museum Business Services

S. Fereday BAppSc Business Development Manager
 N. Godfrey-Smith BAppSc(Hons)
 Projects Coordinator (T)
 J. McCauley Assistant (T)**

Finance Section

M. Behlevanas Clerk
 D. Childs Stores Officer *
 D. Cooper Accounts Payable Clerk
 D. Cox Accounts Payable Clerk
 T. Ireland Stores Officer
 K. May Clerk
 W. May Assistant Finance Officer
 J. Pritchard Clerk
 J. Rusten Stores Officer
 D. Schizas Senior Accounts Clerk
 S. Wright BBus Finance Manager

House Services Section

J. Beames Gallery Officer
 S. Bender Gallery Officer
 R. Berry Gallery Officer
 K. Bilbie Cleaning Officer
 K. Bow Information Support Officer
 H. Butler Gallery Officer
 N. Calavrias Cleaning Officer
 E. Cosmo Cleaning Officer
 B. Dearing Information Support Team Leader
 E. Drakoulaki Cleaning Officer
 J. Elias Cleaning Officer
 P. Fletcher Cleaning Officer
 N. Gregoire Cleaning Officer
 A. Griffiths Information Support Officer
 G. Hastie Cleaning Officer *
 K. Hawkey Reception Officer
 R. Hayllar-Davis Security Officer
 H. Henne Cleaning Officer
 J. Le Hung Cleaning Officer
 T. Jones Cleaning Officer
 M. Kent Information Support Officer
 N. Koulouris Cleaning Officer
 C. Lamond Information Support Officer
 J. Lane Gallery Officer
 U. Ledermann Security Officer
 J. McElwee Cleaning Officer
 J. McGinlay Gallery Officer
 I. McIntosh Gallery Officer
 J. McKinnie Security Officer
 S. Mellish Cleaning Officer
 R. Milroy Security Officer
 W. Murphy Security Officer
 T. Pananwala BA(Hons) PSC
 Assistant House
 Services Manager
 L. Pearson Security Officer
 H. Pierson Gallery Officer
 K. Randall Security Officer
 T. Rapley Gallery Officer
 D. Read Gallery Officer
 R. Sampson Security Officer
 B. Sears Information Support
 Team Leader
 D. Shallis Assistant House Services Manager
 I. Shepherd House Services Manager
 A. Sommer Reception Officer
 B. Walsh Cleaning Officer

Human Resource Services

J. Disher A/Recruitment/Staff Clerk
 D. Grubb Human Resource Manager
 E. Hurley BSW Training and Development Officer
 P. Klobe A/Assistant Staff/Salaries Clerk
 G. Korting Assistant Staff/Salaries Clerk
 B. McKellar BA Recruitment/Staff Clerk
 A. Youssef A/Assistant Staff/Salaries Clerk (T)*

S T A F F

National Photographic Index of Australian Wildlife

S. Bird Collection Manager (T)
 D. Greig Assistant Collection Manager (T)**
 N. Johnson Assistant Collection Manager (T)*
 R. Strahan MSc FIBiol. Editor-in-Chief (T)**
 FAIBiol FRZS FANSAAS

Photographic Services

R. Bolzan BA Manager, Photographic Services
 C. Bento Photographer
 H. Pinelli Photographer
 M. Ortega Photographer
 S. Humphreys Photographer (T)
 K. Lowe Photographer (T)*
 S. Eddy Photographer (T)
 D. Fraser Museum Assistant (T)*
 A. Paynter Museum Assistant (T)
 S. Eddy Museum Assistant (T)*

Property Services

B. Earl Maintenance Officer (T)
 R. Hewitt Technical Services Manager
 K. Joseph Property Officer
 K. Mulvey Property Officer
 J. Strand Property Services Manager
 A. Youssef Property Officer (T)*

Volunteers

A. Brown, C. Bowen, E. Carthew, G. Crisostomo, D. Cousins,
 H.J. deS. Disney, R. Leung, S. O'Rear, A. Paynter, P. Swieca,
 J. Waterhouse, S. Watson

E A R T H A N D E N V I R O N M E N T A L S C I E N C E S

Marine Ecology

A.R. Jones MSc PhD Research Scientist, Division Head
 A. Murray BSc Technical Officer
 V. Tzioumis BSc Technical Officer (T)

Volunteer

R. Marsh

Mineralogy and Petrology

B.J. Barron PhD Scientific Officer (T)
 S.M. Folwell BA Museum Assistant **
 R. E. Pogson BAppSc(Hons) MAusIMM
 Senior Technical Officer
 Mineralogy Collection Manager
 F. L. Sutherland MSc PhD FAIG
 Principal Research Scientist
 Section Head

G. B. Webb BA FGAA DipDT

Technical Officer, Gemmologist

Mineralogy Volunteers

W. Alliston, B. Armitage, P. Bayliss PhD, T. Bruzzoni,
 J. Edwards, B. Ekers, E. Hepburn, A. Hughes, A. Justo,
 C. Lomaca BSc, M. Navarro, A. Spadaro, B. Speechley

Palaeontology

R. K. Jones MSc Scientific Officer
 (Collection Manager)
 J. L. Nancarrow Clerical Officer (T)
 A. Ritchie BSc PhD Senior Research Scientist,
 Section Head

Palaeontology volunteers

W. Boogaart, J. Hodgson, G. Foldvary BSc, J. Nancarrow,
 K. Page, S. Salisbury, M. Thair, P. Willis BSc

Terrestrial Ecology

M. Christy BSc Dip Nat Res
 Technical Officer (T)
 G. Gowing BSc(Hons) Senior Technical Officer
 R. Hill **
 R.E. Major BSc(Hons) PhD Research Fellow
 M. Smith **
 G.H. Pyke BSc(Hons) PhD Senior Research Scientist
 C. Wang **

Terrestrial Ecology Volunteers

R. Bruckert, B. Drew, S. Fairbairn, I. Glass, R. Hill, C. Kan,
 C. Kendal, J. Macquarie, M. Mills, J. Moore, M. Pyke,
 D. Shaw, M. Smith, R. Sullivan, C. Wang

E D U C A T I O N

C. Bengston BAppSc DipEd CertScComm
 Education Officer*
 W. Bishop BA HDLS DipMusStud
 Museum Assistant**(T)
 M. Chapman BA DipEd Volunteer Co-ordinator
 P. Chatenay BA Interpretive Officer
 S. Connors BEd(VA) Aboriginal Education Officer
 J. Dawson BA CertEd MACE
 Head of Division
 R. Dent BSc(Eng)(Hons) Computer Education Officer
 G. Ebeling BSc DipEd Resource Services Manager
 O. Evans BSc Clerical Officer**(T)
 L. Ferguson BA(Comm) Project Officer (T)
 F. Fletcher Clerical Officer
 S. Gower BSc(Hons) Scientific Officer*
 A. Harris Senior Explainer**(T)
 J. Hatherly BSc DipEd Education Services Manager
 N. Hazenveld BArtEd Senior Explainer**(T)
 A. Kagis Senior Explainer**(T)
 M. Khun BSc BEd Senior Explainer**(T)
 P. Macinnis BSc DipEd MEd MACE
 Education Officer(T)

S T A F F

C. MacLulich BEd(Hons) DipMusStud
Acting Head of Division

S. Main BA DipEd Education Officer**

T. Mansour Explainer Co-ordinator(T)

M. Martin BA DipEd Visitor Services Manager

P. McDonald BSc(Hons) DipEd
Education Officer(T)

D. Millar Cert Animal Tech Preparator

M. Robinson BAppSc Preparator

H. Samios Clerical Officer**

A. Skates DipTeach BA Education Officer

H. Slarke BA Interpretive Officer

K. Smith Assistant Volunteer
Co-ordinator**(T)

W. Steele Assistant Preparator

D. Timbery AEA Aboriginal Education
Assistant**(T)

A. Watterson BSc(Hons) DipEd
Education Officer

M. Widders BA DipEd Education Officer**(T)

Volunteers

J. Anderson, J. Atkins, S. Barnes, W. Bennetts, R. Biddle,
S. Boele, V. Bower, J. Cole, M. Copp, N. Curran, I. Erbe,
C. Feamley, R. Freeman, E. Geering, G. Geering, I. Gorman,
R. Gottaas, B. Griffin, R. Grayson, E. Guinan, F. Hashizaki,
J. Henwood, R. Heywood, G. Hughes, J. Irani, C. Johnston,
J. Kinsela, M. Lalas, N. Lalchandani, J. Lane, R. Langsworth,
M. Lawrie, D. Lucas, J. McDonald, W. Macallister,
B. McEwin, R. McGeorge, L. McHale, D. MacPherson,
P. Newey, G. Oldfield, S. Pels, T. Perrin, L. Pollard,
M. Raynor, G. Reid, A. Roa, J. Routh, P. Sanderson, J. Smith,
J. Steenson, M. Tapia, R. Waks, M. Watson, C. Wood.

Explainers

R. Abel, L. Addley, B. Ainsworth, C. Borg, N. Borg,
H. Campbell, J. Cologon, M. Cox, N. Cox, P. Destefanis,
B. Doherty, P. Donnell, R. Eggins, N. Ehlers, O. Evans,
H. Floriani, E. Gatchalian, R. Gatchalian, J. Goetz, E. Gray,
C. Gregg, H. Handley, T. Harris, N. Hawkey, V. Hazenveld,
K. Heins, E. Hennins, D. Houssarini, S. Jenkins, S. Josey,
J. Kabanoff, S. Lorusso, A. Macinnis, C. Macinnis,
D. Mezaaber, L. Moore, A. Mross, C. Nancarrow, M. Peredi,
M. Petrovska, D. Raghavan, M. Van-Schellebeck,
R. Van-Schellebeck, J. Smith, M. Thomson, S. Tran, W.
Thomson, A. Wong, E. Yim, K. Young, S. Young, V. Young.

EXHIBITIONS

L. Barnett Project Officer (T)

L. Bernard Project Officer

M. Bray Project Officer

A. Brown Project Officer (T)

R. Clendinning B Ed Project Manager (T)

E. Cowell BA Dip Int Project Manager (T)

M. Dingley Project Officer

G. Ferguson Dip App Art Project Manager

A. Gregg BA (Vis Art) Project Officer

K. Gregg Project Officer

G. Hangay Grad Dip Vis Art MCA
Project Manager

G. Hardiman Project Officer

J. Hood Project Officer

B. Horn Project Officer

C. Johnston Project Officer

R. Joyner ADIA Head of Division

O. Keywan Project Officer

E. MacLeod Dip Art Project Officer

H. Magor Project Officer

J. Mastrogiannis Dip Art BA (Vis Art) Grad Dip Vis Art
Project Officer

B. Matzick Project Manager

R. Moloney Project Officer

T. Ralph Grad Dip Gal Man MCA
Project Officer

A. Richards Dip Vis Art Project Manager

R. Scott-Child Project Officer

G. Sommer BA (Ind Des) Project Officer

D. Sweet Project Officer

Y. Wakim Assistant to Head of Division

A. Wang Project Officer (T)

R. Weakley Project Officer

R. Wirth Project Manager *

Volunteers

I. Docking, J. Giffen, J. Hughes, F. Ignacz, J. King, B.
Speechley, K. Silverthorne, M. Smith, R. Jakovljevic.

INFORMATION SCIENCE

N. Bain Senior Library Technician **

G. Baker BA(LibSc) ALAA Head of Division

J. Brazier BA(Hons) GradDipIM
Archivist/Records Manager,
Co-Manager Research Library (T)

J. Burgess BA Records Assistant *(T)

C. Cantrell Library Technician

K. Fox Assistant Library Technician *

E. Gray Assistant Library Technician (T)

J. Howie MA Dip Lib Librarian, Co-Manager Research
Library (T)

M. Kumvaj BA Dip Lib Manager, Research Library *
[on leave]

A. McConochie BA(LibInfoSc) Senior Library Technician**

B. McKellar BA Grad Dip HR
Assistant to Head of Division

C. Milne Assistant Library Technician *(T)

G. Ortega Montiel Assistant Library Technician (T)

B. Pearson BA GradDipIM Librarian *(T)

C. Pyne Clerical Assistant

R. Ratajczak Assistant Library Technician (T)

C. Spzak Assistant Library Technician *(T)

INVERTEBRATE ZOOLOGY

Entomology and Arachnology

D. Bickel PhD Research Scientist

S T A F F

G. Cassis PhD Visiting Scientist
 S. Cowan Divisional Clerical Officer
 B. Day Technical Officer
 M. Gray MSc PhD Scientific Officer
 (Head of Division)
 R. Harris BSc Technical Assistant (T)*
 G. Hunt BSc PhD DipEd Visiting Scientist
 C. Horseman Technical Officer
 K. Ikeda DSc Visiting Scientist
 A. Leask BAgricSc Technical Officer (T)**
 S. Lindsay BSc Technical Officer (T)**
 J. Manning BSc(Hons) Technical Officer (T)**
 D. N McAlpine MSc PhD DIC

Principle Research Scientist
 S. McEvey BSc(Hons) PhD MAIBiol
 Visiting Scientist
 M. Moulds TchC Scientific Officer
 (Collection Manager)
 J. Thompson AssocDipEnvirStud
 Technical Officer (T)**
 E. Turak MSc Scientific Consultant (T)**

Volunteers

B. Balmer, P. Bradney, G. Copp, D. Cropp, L. Enoch, A. Gilling, R. Harris, G. Knowles, S. Lindsay, B. Lormer, C. McMertry, E. Murray, J. Russell, B. Speechley, A. Jones

Malacology

C. Allen BSc Technical Officer **(T)
 G. Clark B App Sc Technical Officer (T)
 P. Colman Technical Officer
 P. Egger BSc(Hons) Technical Officer (T)
 J. Kelly BSc DipEd Technical Officer **(T)
 I. Loch Senior Technical Officer
 A. Miller BSc(Hons) Technical Officer (T) **
 W. Ponder MSc PhD DSc Principal Research Scientist
 W. Rudman MSc PhD DSc Principal Research Scientist
 J. Waterhouse BSc(Hons) Technical Officer **

Volunteers

F. Ashdown, J. Beck, F. Brown, P. Burton, D. Drake, J. Fisher, T. Ireland, A. Leroi, M. McKellar, C. Neild, D. Pearson, H. Ronay, R. Simmons, J. Wise.

Marine Invertebrates

K. Attwood RN Technical Officer (T)
 P. Berents MSc PhD Scientific Officer
 (Collection Manager)
 K. Dempsey BSc BA GradDipArt
 Technical Officer (T)
 P. Freewater BSc (Hons) Technical Officer *
 L. Ho BSc GradDipArt Technical Officer
 A. Humpherys BSc(Hons) Technical Officer *
 P. Hutchings PhD DSc Principal Research Scientist
 T. Hutton BA Data Entry Operator (T) **
 S. Joseph BSc Technical Officer *
 S. Keable BSc Technical Officer *
 J. Lowry MA PhD Principal Research Scientist
 J. McRae Technical Officer (T)

A. Murray BSc Technical Officer
 A. Parker BSc(Hons) Technical Officer ** (T)
 C. Rose BSc Technical Officer **
 P. Serov BSc(Hons) Technical Officer (T)
 R. Springthorpe BSc Technical Officer
 H. Stoddart BSc(Hons) Scientific Officer
 G. Wilson PhD Senior Research Scientist

Volunteers

N. Anandasabapathy, P. Blackwood, C. Brown, M. D'Lauro, R. Johnson, B. Oldmeadow, A. Sinclair, E. Silk, S. Taylor, H. Ward

L I Z A R D I S L A N D R E S E A R C H S T A T I O N

T. Ford Master, RV "Sunbird"*
 A.K. Hoggett BSc (Hons) PhD
 Co-Director
 M. Hood Relief Maintenance Engineer (T)
 R. Hood Relief Accommodation Officer (T)
 L. Pearce Maintenance Engineer
 M. Pearce Accommodation Officer
 L. Vail MSc PhD Co-Director
 L. Wilson Crew/Relief Master of RV
 "Sunbird"*

Volunteers

G. Avern, M. Cuhra, E. Fraser, M. Hoggett, K. Hoppe, A. Katter, C. & Y. Locquet, C. Lunow, L. Marcus, R. Markel, M. Molinari, G. Pearce, J-L. Solandt, J. Spencer, A. & J. Stap, S. Uthicke, B. White, S. Winspear

M A T E R I A L S C O N S E R V A T I O N

K. Coote BA BSc(Hons) ArchCons
 Senior Conservator**
 S. Gatenby BSc Conservator**
 D. Horton-James BSc Head of Division
 M. Kelly Dip Fine Arts Assistant Conservator
 C. Macgregor BSc DipArchCons
 Conservator
 M. Pacheco Clerical Officer
 A. Roach Assistant Conservator
 G. Scott BSc SocScConsCerts
 Conservator
 S. Valis BA BAppSc Conservator

Volunteers

G. Denes, H. Joynes, J. Powers, N. Turner

T H E A U S T R A L I A N M U S E U M S O C I E T Y

S. Bridie Executive Officer
 C. Corrie BSc(Hons) Administration Officer
 S. Gregory BA(Hons) Manager Corporate
 Membership **

S T A F F

F. Shinn Bookkeeper **
W. Wilkins MA Project Officer

Volunteers

M. Jones, J. Miller, M. Spatz, H. Verge

A U S T R A L I A N M U S E U M S O C I E T Y C O U N C I L

R. Williams BSc Dip Ed President
B. Orme Vice President*
L. Stockdale Treasurer

B. Wilson

Councillors

C. Greaves Underwood BA*
D. Havercroft BE
J. Irani *
M. Jones
P. Macinnis BSc DipEd MEd MACE
R. Saunders
W. da Silva
P. White MA PhD

Museum Staff Councillors

J. Barnett
M. Dingle *
D. Griffin MSc PhD AM
M. McGrouther BSc Dip Ed

V E R T E B R A T E Z O O L O G Y & S C I E N T I F I C S E R V I C E S

T. Goh Divisional Secretary and
 Assistant

Evolutionary Biology

P. Albertella Clerical Assistant (T)**
G. Avern BSc MSc Dip Ed Senior Technical Officer
D. Colgan BSc BEc PhD Research Scientist
P. Egger BSc Technical Officer (T)
M. Humphrey BSc Research Assistant(T)**
G. Serkowski Technical Officer
A. Buckman BSc Technical Officer (T)

Herpetology

A.E. Greer PhD Principal Research Scientist
R.A. Sadlier BSc. Technical Officer

Ichthyology

Z. Alam BSc (Hons) Technical Officer (T)
P. Beck Technical Officer *(T)
D. Bray BA MSc Dip Ed Technical Officer (T)
D. Brown BA Technical Officer
K. Dempsey BA BSc Post Grad Dip Art (Sci. Illust.)
 Technical Officer (T)
D. Hoese BA PhD Senior Research Scientist,
 Head of Vertebrate Division
S. Joseph *(T)
K. Lee BSc Technical Officer (T)
J. Leis BSc PhD Senior Research Scientist
M. McGrouther BSc (Hons) Collection Manager
J. Paxton MSc PhD Senior Research Scientist
S. Reader BSc Technical Officer
L. Tasker BSc Technical Officer *(T)
T. Trnski BSc Technical Officer

Mammalogy

T. Flannery B.A. M.Sc.Ph.D.
 Senior Research Scientist
P. Ennis Technical Assistant **
P. German Technical Assistant (T)**
L. Gibson Technical Officer
S. Ingleby** B.Sc. Ph.D. Scientific Officer (T)**
H. Parnaby BSc (Hons) PhD
 Scientific Officer (T)**
A. Szalay B.A. M.A. (prelim.)
 Technical Officer (T)
E. Tasker** B.Sc. Technical Officer (T)**

Ornithology

W.E. Boles BSE(Hons) Scientific Officer, Collection
 Manager (Terrestrial
 Vertebrates)
T.J. Ivison Technical Assistant (T)**
P. Rowland Technical Assistant (T)**

Volunteers

P. Albertella, L. Barry, D. Brown, M. Crother, A. Daniel,
L. Davis, M. Dean, M. Driver, D. Emery, R. Evans, B.
Ewart, G. McKea, D. Kroger, T. Lee, T. Lois, E. Lovering,
M. Marsden, S. Parks, L. Skillen, K. Swarbrick, S. Tzanes,
J. Walsh,

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APPENDICES

APPENDIX A: COMMITTEES

ABORIGINAL ADVISORY COMMITTEE

The Australian Museum's Aboriginal Advisory Committee, formed in early 1991, was established to provide advice concerning Aboriginal culture and heritage matters, particularly Aboriginal collections and skeletal remains. Committee members were Robert Lester, Dick Henry and Gavin Andrews,

Chairperson was Mr Aden Ridgeway and Secretary was Mr Phillip Gordon. During 1992/93 the Committee was involved in various Museum activities.

ANIMAL CARE & ETHICS COMMITTEE

The Animal Care and Ethics Committee consisted of Museum staff and representatives from outside the Museum. Museum staff serving on the Committee during 1992/93 were Allen Greer (Herpetology), Tim Flannery (Mammalogy), Tom Trnski (Ichthyology), Walter Boles (Ornithology) and Anne Skates (Education). Members from outside the Museum were Glen Shea (University of Sydney/veterinarian), David Butcher (former head, RSPCA), and Surrey Jacobs and Joy Everett (Royal Botanic Gardens). Walter Boles succeeded Allen Greer as chairperson.

The Committee met four times during the year (31 August 1992, 14 December 1992, 8 January 1993

and 7 April 1993) and approved a total of eleven projects. These, and the principal investigators, were four standing protocols on specimen acquisition (fish, Mark McGrouther; reptiles and amphibians, Allen Greer; birds, Walter Boles; mammals, Tim Flannery); ecology of honeyeaters (Graham Pyke); Frog Watch (Martyn Robinson); live animals in Education Section (David Millar); live display of hopping mice *Notomys* (George Hangay); invertebrate trapping where vertebrates may be inadvertently captured (Mike Gray); biology of the Mallee Dragon *Ctenophorus fordi* (Hal Cogger), and biology of blue tongues *Tiliqua* (Glen Shea).

OCCUPATIONAL HEALTH & SAFETY

The Australian Museum's Occupational Health and Safety Committee has membership across all divisions and is comprised of the following staff: Robert Jones (Chair), Ian Shepherd, Carrie Bengston, Dennis Shallis, Tilak Pananwala, Sue Valis, Liz Bonshek, Richard Ratajczak, Rod Moloney.

The Committee regularly carries out risk inspections of the Museum's various work areas and generally acts as a review of measures taken to protect the health and safety of Museum staff.

RISK COMMITTEE

There has been a continued involvement with The Public Sector Risk Managers Association. During the year Risk Surveys have been applied to a number of activities of the Museum with claims against the

NSW Treasury managed Fund for the year significantly lower than comparable institutions.

APPENDICES

TRUST COMMITTEES

Finance/Commercialisation

Dr Mal Eutick (Chairperson)
Ms Patricia Watson
Dr Des Griffin
Mr Geoff McKenzie

Marketing/Sponsorship

Ms Patricia Watson (Chairperson)
Mr Chris Puplick
Ms Robyn Holt
Dr Des Griffin
Ms Jan Barnett
Ms Leah Falkingham

Indigenous People & Cultural Diversity

Mr Aden Ridgeway (Chairperson)
Mr Chris Puplick
Dr Des Griffin

External Relations/Science

Mr Chris Puplick (Chairperson)
Dr Robyn Williams
Dr Telford Conlon
Dr Hal Cogger
Dr Alan Jones

Public Programs

Professor Brian Low
Ms Robyn Holt
Ms Jan Barnett
Mr Rob Joyner
Ms Carolyn MacLulich

Site Development

Dr Mal Eutick (Chairperson)
Mr Geoff McKenzie

APPENDIX B: COMPLAINTS PROCEDURE

Visitors may record comments on Museum programs and facilities in a Comments Book at the Information desk in the College Street foyer. All comments receive a reply in writing, where adequate address detail is provided. Many respondents offer helpful suggestions which are given to the appropriate Division for consideration and action.

As stated in our Mission, the Museum seeks to be a catalyst in changing public attitudes and actions, and

so it is inevitable that some programs will attract complaints from visitors with differing viewpoints.

All complaints are investigated and a reply provided by mail, telephone, or in person by Museum staff. Complaints about Museum programs and services are few, averaging no more than three per month. The vast majority of comments recorded in the Museum's Comment Book indicate a very high level of satisfaction.

APPENDIX C: CONSULTANTS

The following consultants were engaged in 1992/93:

Corporate Services

Human Resource Services

Judith Bowler
Dr Rhonda McIver

Property Services

A. D'Ambrosio (Structural Engineer)
Australian Balance Company
(Air Conditioning Engineer)
Australian Construction Services (Lifts)
Colwell, Larcombe & Rein (Surveyors)
Gamkerlidze & Partners (Architects)
National Safety Council Australia
Public Works Department (Engineering)
Public Works Department (Architectural)

Public Works Department (Interior Design)
Stevens-Wallman & Associates
(Landscape Architects)
Winton Environmental Testing

Earth and Environmental Sciences

B. Junge (software development).

Lizard Island Research Station

Great Barrier Reef Marine Park Authority (Water Sampling).

Materials Conservation

Dr M. Gilberg, Conservation Scientist.

APPENDICES

APPENDIX D: EQUAL EMPLOYMENT OPPORTUNITY

The Australian Museum is fully committed to Equal Employment Opportunity (EEO) and has in place a management Plan which outlines the Museum's objectives and strategies for achievement in this regard. This plan is produced annually. Below are listed the key redistributive indicators, in tabular form.

Table 1. Representation of Target EEO groups within levels

Level	1992/93			1991/92		
	Total Staff	Women	NESB (1)	Total Staff	Women	NESB
Below CO 1 (2)	5	4 80%	3 60%	11	8 72.7%	3 27.3%
CO 1 - Gd 1(3)	74	32 43.2%	13 17.6%	74	32 43.2%	12 16.2%
A&C Gds 1 - 2	36	27 75%	4 11.1%	47	34 72.3%	7 14.9%
A&C Gds 3 - 5	81	42 51.9%	12 14.8%	77	37 48.1%	12 15.6%
A&C Gds 6 - 9	53	23 43.4%	3 5.7%	44	22 50.0%	2 4.5%
A&C Gds 10 - 12	19	4 21.1%	1 0.5%	18	3 16.7%	0 0.0%
Above A&C Gd 12	10	1 10%	0 0%	8	1 12.5%	0 0.0%
Total	278	133 47.8%	36 12.9%	279	137 49.1%	36 12.9%

Legend:
 (1) Non-English speaking background
 (2) Employees on salaries below Clerical Officer Scale Grade 1, 21 year old rate
 (3) Employees on salaries from Clerical Officer Scale Grade 1, 21 year old rate to below minimum Administrative and Clerical Scale Grade 1
 (4) People with a physical disability

Table 2. Representation and Recruitment of Aboriginal Employees and Employees with a Physical Disability

	Total Staff	Aboriginal People	PWPD (4)	Total Staff	Aboriginal People	PWPD
TOTAL EMPLOYEES	278	2 0.7%	17 6.1%	279	3 1.1%	2 0.7%
Recruited in the year	13	0 0.0%	0 0.0%	32	2 6.2%	0 0.0%

There has been very little change with regard to the representation and recruitment of most EEO target groups, due to the relatively stable nature of the Museum population over the last year: only 13 new staff were recruited.

With regard to people with a physical disability, it would appear from the figures above that there has been over a 5% increase in the representation of staff with a physical disability, with a total now up to 6.1% of the Museum population. However, we believe this "increase" to be the result of improved information gathering and recording procedures, thus giving us more accurate information.

However, with regard to Aboriginal representation and opportunities, funding was obtained by the Museum for the creation of eight Aboriginal traineeships. We believe this to be a major step in affirmative action / increased representation for Aboriginals.

The duration of the traineeships varies; 4 are for 3 years and 4 for 1 year. The occupants of these positions will be selected and commence in late 1993. The Traineeships cover the following areas: Education, Anthropology, Information Management, Publicity, Photography and Science.

APPENDICES

APPENDIX E: FREEDOM OF INFORMATION

The Australian Museum is committed to the concepts embodied in the *Freedom of Information Act* 1989.

For the reporting period, 1 July 1992 - 30 June 1993, the Australian Museum received nil requests for information under the FOI Act, nor did it carry over any requests from the previous year.

The Australian Museum publishes, as required, both a Freedom of Information *Statement of Affairs* and also a *Summary of Affairs*, the later as follows:

Freedom of Information

Section 14(1)(b) and (3)

Summary of affairs of the Australian Museum

(F.O.I. Agency N^o. 377)

Section 1 - Policy Documents

The Planning and Policy documents of the Australian Museum are as follows:

Corporate Strategic Plan
Strategic Plans for Divisions
Equal Employment Opportunity Management Plan
Ethnic Affairs Policy

Draft Aboriginal Policy and Procedures Manual
CAMA Policies on Aboriginal and Torres Strait Islander Peoples
Code of Conduct Policy
Commercial Publications by Museum Staff
Commercialisation activities
Conflict of Interest
Corporate Sponsorship Guidelines
Enterprise Bargaining Policy
Environmental Submissions Policy
Environmental Survey Policy
Guarantee of Service Policy
Grievance and Dispute Handling Procedures
Image and Media Policy
Legal Contracts
Media Policy
Occupational Health and Safety Policy
Overseas Travel
Public Programs Policy

Sex-based Harassment Policy
Sick Leave Policy
Smoking in the Museum
Software Policy
Staff Development Policy
Study Time Policy
TAMS excursions - Leave Provisions for Staff Leaders
Temporary Science Staff Appointments
Checklist for Museum Trustees
Access to Trust Minutes Policy
Motor Vehicle Policy
Who is an employee?

Section 2 - Statement of Affairs

This document summarises the Museum's structure and functions, the kinds of documents the Museum holds, and how they may be accessed. The latest edition of this document was published in June 1993. It is available free of charge from the Australian Museum Library.

Section 3 - Contact Arrangements

Documents published by the Australian Museum: All of the Museum's published books, serials, reports and documents may be accessed through the Australian Museum Library, Monday to Friday, 9 am - 12.30 pm, 1.30 pm - 5 pm.

Personnel Files: Staff do not need to use FOI to access their personnel files. A request to access one's file should be directed to the Human Resources Branch.

Planning and Policy Documents: These documents are all available through the Australian Museum Library, at the times listed above.

Archives: These may be accessed through the Australian Museum Library at the times listed above.

All other documents: To access all other records, applications in writing must be made to the FOI Coordinator, Australian Museum Library, 6 - 8 College St., Sydney, 2000. Applications may be made in person at the Australian Museum Library.

APPENDIX F: FUNDRAISING ACTIVITIES

108 The Museum has continued to seek funding from the private sector.

Sponsorship activities have raised almost \$350,000 for exhibitions, research and programs.

APPENDICES

APPENDIX G: HUMAN RESOURCES

The Australian Museum negotiated and signed the Exhibition Project Officer's Enterprise Agreement in November 1992. A comprehensive skill audit of exhibition project officers was conducted in late 1992 to identify present skill levels and training needs. The skill audit assisted management in determining salary levels for Exhibition Project Officers.

Enterprise Bargaining is being implemented at the Museum. An Enterprise Bargaining Advisory Committee has been established and information sessions will be conducted for all staff in July 1993.

Industrial action within the Museum has been low with minor matters negotiated with employees and the unions involved.

Two morale surveys have been conducted - one in November 1992 and one in June 1993. The aim of these surveys is to assist management in identifying areas which are considered by staff as effecting their morale. Staff are encouraged to relate problems that they are experiencing and suggest solutions to those problems. A report is given to Senior Management who then analyse the survey results, discuss and

implement possible solutions.

The Australian Museum implemented a formal staff appraisal system in 1989. This appraisal system is compulsory and combines an appraisal of the employee and the supervisor. The system is used as a tool for staff to comment on their work and the work of their Section and Supervisor. The Supervisor is given the opportunity to appraise the work of their staff. An action plan is devised by the supervisor and the appraisee for goals to be achieved in the next 12 months.

The Museum has been successful in securing funding for 9 Aboriginal and Torres Strait Islander traineeships. The traineeships will be available in the areas of Anthropology, Materials Conservation, Information Science, Photographic Services, Exhibitions, Education and Public Relations. The program is designed to assist Aboriginal and Torres Strait Islander people in securing permanent employment and developing career prospects. The Museum will benefit from the traineeships through gaining an understanding of Aboriginal and Torres Strait Islander culture and service delivery needs. The traineeships will commence in late 1993.

APPENDIX H: OVERSEAS TRAVEL

Details of overseas travel undertaken by members of the Anthropology, Corporate Services, Exhibitions, Invertebrates, Materials Conservation and

Vertebrates Divisions for educational and research purposes are to be found in the divisional reports.

APPENDIX I: PERFORMANCE MANAGEMENT

Payment Performance Indicators

1. Schedule of accounts payable at 30 June 1993.

	\$
Current	347,895
Less than 30 days overdue	25,508
30 to 60 days overdue	1,705
60 to 90 days overdue	2,738
over 90 days overdue	<u>438</u>
TOTAL	<u>378,284</u>

2. Accounts Paid on time for the year ended 30 June 1993

Percentage of accounts paid on time	82%
Total amount of accounts paid on time	\$5,503,509
Total amount of accounts paid	\$7,186,614

3. Commentary on Action taken

The problems affecting the prompt processing of payments this year have been :

- a) Invoices not received on time.
- b) Goods received advice not being given to Finance section when goods are received.

This year there was a considerable increase in volume of payments for processing than in previous year's. This increased volume was processed without any extra resources being used. Whilst the percentage of accounts paid on time reduced a number of efficiency gains and other administrative adjustments were made that made it possible to reach this performance level.

APPENDICES

A number of future gains are under consideration that will improve customer focus, provide for better cash management and reduce administrative

procedure. This will improve payment performance when implemented.

APPENDIX J: RECYCLING AT THE MUSEUM

The Museum continues to increase the volume and variety of goods for recycling with enthusiastic

support from staff. New recycling contractors have recently been engaged.

APPENDIX K: RESEARCH & DEVELOPMENT

Total income from grants \$1,189,651
Total Museum expenditure \$4,769,551 =
 Salaries \$3,905,216
 B Items (travel, stores, etc) \$703,678
 F Items (major equipment) \$160,657

Total Museum expenditure on research and development minus salaries was \$864,335
Research fields in which projects were undertaken this year:

<i>Dr Val Attenbrow</i>	Australian prehistory and archaeology
<i>Dr Penny Berents</i>	Ceraphodine amphipod research
<i>Dr Dan Bickel</i>	Insect systematics and behaviour; rainforest insects
<i>Mr Walter Boles</i>	Taxonomy and biology of birds
<i>Dr Gerry Cassis</i>	Insect systematics & co-evolution studies
<i>Dr Hal Cogger</i>	Herpetological studies
<i>Dr Don Colgan</i>	Protein electrophoretic and molecular systematics
<i>Dr Tim Flannery</i>	Systematics of present and fossil Australian mammals; Human Geology
<i>Dr Richard Fullagar</i>	Archaeology in Australian & PNG
<i>Dr Mike Gray</i>	Systematics, zoogeography and behaviour of Australian spiders
<i>Dr Doug Hoese</i>	Systematics and ecology of shorefishes and freshwater fishes
<i>Dr Glenn Hunt</i>	Taxonomy of mites
<i>Dr Pat Hutchings</i>	Taxonomy and ecology of polychaete worms; bioerosion of coral reefs; ecology and management of estuarine wetlands
<i>Dr Alan Jones</i>	Marine-estuarine invertebrate biology and ecology
<i>Dr Jeff Leis</i>	Taxonomy and ecology of larval fishes; use of larval ontogeny in assessing relationships of fishes
<i>Dr Jim Lowry</i>	Taxonomy, phylogeny and reproductive biology of amphipods
<i>Dr Richard Major</i>	Breeding ecology of birds
<i>Dr David McAlpine</i>	Systematics, behaviour and adaptations of Diptera
<i>Dr Shane McEvey</i>	Drosophilid research
<i>Mr Max Moulds</i>	Cicada systematics
<i>Dr Harry Parnaby</i>	Bat systematics
<i>Dr John Paxton</i>	Taxonomy, phylogeny and ecology of deep sea fishes
<i>Dr Winston Ponder</i>	Evolution, biogeography and taxonomy of molluscs; functional morphology and anatomy of molluscs
<i>Dr Graham Pyke</i>	Ecology of birds and bees; pollination biology; behavioural ecology, especially optimal foraging theory
<i>Dr Alex Ritchie</i>	Fossil vertebrates
<i>Dr Bill Rudman</i>	Biology and ecology of opisthobranch molluscs
<i>Mr Ross Sadlier</i>	Lizard and amphibian research
<i>Dr Jim Specht</i>	Prehistory and material culture of the Pacific region
<i>Dr Lin Sutherland</i>	Mineralogy, petrology and volcanic rocks of eastern Australia
<i>Dr Paul Tacon</i>	Australian Aboriginal rock art and material culture
<i>Dr Robin Torrence</i>	Archaeology in PNG
<i>Dr George Wilson</i>	Phylogenetic systematics and biogeography of Isopods and crustaceans.

APPENDIX L: RESEARCH ASSOCIATES & ASSOCIATES

Research Associates

His Majesty the Emperor Akihito
 M. Archer BA PhD
 I.I. Bennett AO MSc
 J.B. Burch PhD
 C.E. Chadwick BSc
 R.O. Chalmers ASTC
 W. Dawbin DSc
 H.J. de S. Disney MA
 B. Egloff MA PhD
 B.M. England BSc DipGemmology FGAA
 F. Evans MSc
 H.O. Fletcher MSc
 J.M. Forshaw
 B. Goldman BSc PhD
 J.D. Hollis PhD
 K.W. Huffman BA DipEthnol
 W. Ivantsoff PhD
 P. Kailola BSc(Hons)
 K.C. Khoo BSc(Hons)
 R.J. Lampert PhD FAHA
 J.E. Marlow BSc(Hons)
 F.D. McCarthy DipAnthrop Hon DSc FAHA
 P.M. McDonald BSc MEd
 G.A. Mengden BSc PhD
 T.R. New BSc PhD ARCS DIC
 R.A.L. Osborne DipEd MSc PhD
 H. Paxton PhD
 J. Pickett MSc DPhilNat
 E.C. Pope MSc CMZS

S.F. Rainer BSc MSc PhD
 K.A. Rodgers PhD
 D.J. Scambler BSc
 G.M. Shea BVSc(Hons) PhD
 R. Shine BSc PhD DSc
 C.N. Smithers MSc PhD
 W. Starck PhD
 N.N. Tait PhD
 F.H. Talbot MSc PhD FLS FRZS FRSA
 G. Theischinger
 A.G. Thorne BA MA(Hons) PhD
 I.W.B. Thornton BSc PhD DSc
 M.R. Walter PhD
 J.P. White MA PhD
 M.E. White MSc
 M.J. Whitten BSc(Hons) BA PhD FTS
 G.A. Williams BSc
 R.V.S. Wright MA
 J.C. Yaldwyn MSc PhD FMANZ

Associates

K. Atkinson
 M.E. Ball
 B. Bertram
 K. Carnaby
 E.L. Carthew
 D. Clyne FRPS FRES
 T.S. Coldham BA FGAA
 N. Coleman
 L. Courtney-Haines
 G. Daniels

D. Donlon MA PhD
 J.A. Frazier FRPS ACS
 H. Goodall
 O. Griffiths BSc
 A. Healy
 J. Henley BAppSc FGAA
 B.N. Hise BA(Hons)
 Tjokorde Raka Kerthyasa
 V. Kessner
 R. Kuiter
 R.B. Lachlan BEd, DipTeach, FRES
 J.A. Lindsay MA PhD
 T.R. Lindsey
 N.W. Longmore
 D.F. McMichael CBE MA PhD
 W. McReaddie
 K. Meguro
 D.R. Moore MA DipAnthrop
 R. Morrison
 N.W. Rodd BSc
 A.B. Rose
 P. Schouten
 E.J. Slater BEM
 R. Steene
 W.E. Summerville MSc
 G.A.J. Swan
 M. Tuckson DipGemmology
 S. Tuckwell
 A. Vickers MA PhD
 S. Walston DipCons (Lond)
 G. Watson MA
 L. Wilson
 G.F.C. Wishart

APPENDIX M: RISK MANAGEMENT

There has been a continued involvement with The Public Sector Risk Managers Association. During the year Risk Surveys have been applied to a number

of activities of the Museum with claims against the NSW Treasury managed Fund for the year significantly lower than comparable institutions.

APPENDIX N: SENIOR EXECUTIVE SERVICE STAFF PERFORMANCE PLANNING & REVIEW SYSTEM

A Performance Planning and Review System was developed by the Ministry for the Arts in 1991/92, to be used in the performance measurement of the Museum's Senior Executive staff. This program has been continued this year.

agreement is integrated with the Museum's Corporate Strategic Plan.

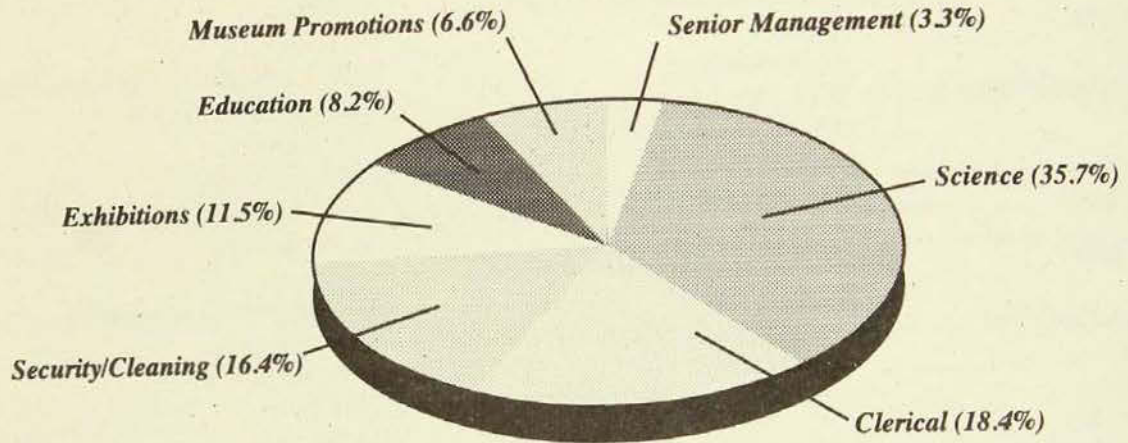
There are three SES positions at the Museum - Director, Deputy Director and Assistant Director, Corporate Services. The Secretary of the Ministry, Evan Williams, is responsible for the performance review of the Director, which is undertaken half-yearly and yearly. The Director's performance

The Director is responsible for the performance agreements and review of the Deputy Director and Assistant Director, Corporate Services. Performance Agreement discussions are undertaken twice yearly - performance measures are related to the implementation of objectives under the Museum's Corporate Strategic Plan, as well as the relevant Divisional Plans, and are consistent with the Museum's aims and objectives.

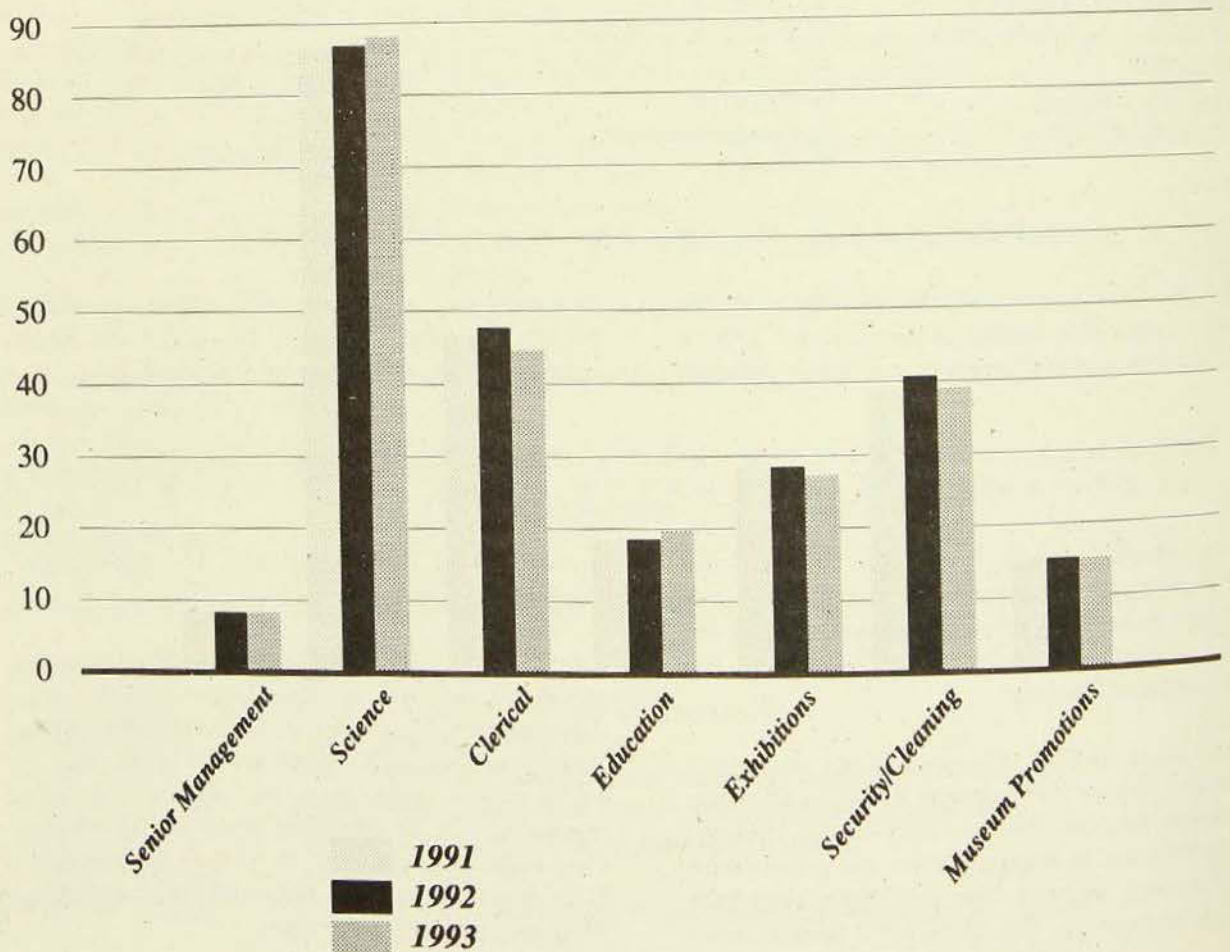
APPENDICES

APPENDIX O: STAFFING PROFILES

STAFFING PERCENTAGES 1993



STAFFING LEVELS 1991 - 1993



APPENDICES

APPENDIX P: COMMITMENT TO SERVICE

The Australian Museum has developed a commitment to service statement in response to the Premier's Customer Service project. This statement reflects the Museum's commitment to and focus on visitors and other customers of the Museum. The document will be available to all visitors, customers, and staff of the Museum, and will be on display at the College and William street desks.

The Museum's commitment to service includes the following statements:

"We want the information we gather and communicate to be accurate and our activities and services to be of high quality, supportive of our mission and relevant to the community.

We will ensure that the Museum's public environment is comfortable and that our staff are friendly, reliable, and respectful of the interests and needs of visitors and other Museum customers.

We will provide visitors and the wider audience with a fair and reasonable opportunity to be heard regarding any aspect of the running of this Museum.

We are committed to providing innovative Public Programs using a variety of media to give entertaining, stimulating and educational experiences.

We value comments on our performance. These help us to provide superior levels of service to our customers.

Your comments can be written in our visitors' book: we will reply promptly to any relevant complaints accompanied by a name and address."

The Australian Museum provides open access 7 days a week, 364 days a year to all public programs including exhibitions, interpretive programs, education programs, extension services. General customer services, scientific enquiry services and Research Library facilities are available Monday to Friday during normal business hours. These services are detailed in the Museum's statement.

APPENDIX Q: VISITOR STATISTICS

In the 1992/3 year, the total number of visitors to the Museum was 412,066. Of these, 46,079 were school

students and accompanying adults.

I N D E X

<i>address</i>	1	<i>management structure</i>	11
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<i>Anthropology</i>	17	<i>Minister's message</i>	2
<i>Associates</i>	111	<i>Mission</i>	4
<i>Australian Museum Trust</i>	12	<i>overseas travel</i>	109
<i>frequency of meetings</i>	13		
<i>Trustee profiles</i>	12	<i>performance management</i>	109
		<i>enterprise agreement</i>	30,109
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<i>commercialisation</i>	29	<i>morale surveys</i>	109
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