ANNUAL REPORT

OF THE

SOUTH AUSTRALIAN MUSEUM BOARD

2015–2016

September 2016
South Australian Museum

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Government of South Australia

ARTS SOUTH AUSTRALIA

South Australian Museum

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1 SUMMARY

The South Australian Museum has continued to thrive in 2015-16, the first full year under the *South Australian Museum Strategic Plan 2014-2020*. The Museum has begun delivering on its key focus areas that underpin the plan's objectives and strategies:

- Present a modern and visitor-focused museum.
- Demonstrate excellence in our collections, research and science.
- Secure our long-term financial future through multiple strategies.
- Deliver vibrant and engaging programs linking collections and research.

The Museum welcomed over 730 000 people during the year, with 713 541 attending the Museum on North Terrace and 16 682 visiting the Science Centre. Since April 2015, visitor surveys have helped to create more detailed profiles of different visitor groups to the Museum, the nature of their Museum experience, and their other leisure habits. This information will be used to inform future exhibitions, develop more targeted marketing campaigns and provide an enhanced experience for Museum visitors. In 2015-16, a total of 1296 randomly intercepted visitors responded to the general visitor survey, with 164 visitors (13%) completing the more detailed follow up survey. Of these, 62% resided in South Australia, 20% were visiting from interstate and 18% from overseas. Visitors from Asia represented 30% of all international visitors to the Museum.

A strong exhibition program attracted high levels of awareness and visitation to the Museum, with 232 789 people visiting an exhibition this year, a figure which has more than doubled over two years. The Museum placed a deliberate emphasis on creating exhibitions based on its own collections and research – five of the seven major exhibitions this year drew on Museum collections and research expertise.

The *Opals* exhibition, celebrating the centenary of the opal mining industry in South Australia, is an excellent example of this strategy in action. *Opals* gave visitors the chance to see the finest collection of opals ever assembled in one place, including many pieces from private collections never before shown to the public. The world's most valuable single piece of opal, the Virgin Rainbow, a recent addition to the Museum's collection, was displayed for the first time along with the world's first known opalised pearls. *Opals* broke Museum records for ticketed exhibition attendance, philanthropic support, revenue and, most significantly, donations to the Museum's collection. By the end of the year it was expected that over $2.9 million worth of privately owned material will be donated to the Museum as a result of the *Opals* exhibition. The increased link between public engagement and Museum research and collections, delivered significant improvement in the Museum's ability to provide engaging, enjoyable and educational experiences for the public.

The Museum's public engagement activities continued to increase the vibrancy of the North Terrace Cultural Precinct, reaffirming it as a premier destination for local, interstate and international tourists. This year, the Museum offered more programs, for more diverse audiences with a richer scientific content. Over 126 000 people participated in a Museum public program, a 48% increase on the previous year, with Museum experts increasingly involved in programs (up 34%). The Schools Education program saw a 12% increase in student visitation, with up to 37 645 students having enriched learning experiences from Museum resources.

The Museum continued to be the State's federal partner in Inspiring South Australian (ISA) – (section 5.2.5). During the year the Museum led the implementation of the Inspiring Australia

Strategy which involved a diverse range of actions and initiatives within each state and territory that contributed towards common objectives. Two new regional hubs for science engagement were created through the ISA program, bringing the total to six across the State. This continued leadership by the Museum will lead growth in STEM skills development and reinforced the Museum's critical role in STEM engagement until 2019.

The Museum also supported students through twelve outreach programs, including four education roadshows to regional and remote communities at no charge to the participants. In 2015-16, a total of 20 685 children and their families also participated in the Museum's school holiday programs: *NAIDOC Week* (July 2015), *Opals from the Outback* (October 2015), *Under the Eromanga Sea* (January 2016) and *Shields* (April 2016).

Overall, the Museum was more visible in the media, with double the media impact. Twenty-five general media releases (40% science or collections related; 60% promoting exhibitions or programs) were distributed in 2015-16, compared to 21 in last period. At least 38 tailored stories were created for, and covered by, media outlets.

A public campaign to choose a State Fossil Emblem from the Ediacaran biota was led by the Museum, working with a number of partners, including state agencies and the paleontological community. The campaign outcome will be announced in late 2016.

Museum research outcomes remained outstanding during the year. Museum personnel won 11 competitive, external research grants, worth $3 458 017, during the 2015-16 year. Three of these were Discovery grants from the Australian Research Council (ARC). The Museum continued to establish strong collaborative research partnerships, with 226 partnerships in total. Internationally, Museum scientists and Honorary Research Associates have established or sustained, 89 productive research collaborations with 31 nations.

The Museum also welcomed two new senior staff: Professor John Carty was appointed to the new joint position of Head of Anthropology at the Museum and Professor of Anthropology at the University of Adelaide, and Dr Benjamin Grguric was appointed as the Chief Researcher and Head of Earth Sciences.

Throughout the year, Museum staff and Honorary Research Associates contributed to the next generation of science leaders with approximately 2600 hours of teaching and student supervision, directly supervising 49 PhD students and 21 Honours students. The Museum is committed to encouraging the best research students to study at the Museum and thanks to the generosity of Museum donors, has initiated new support schemes for research students. This year, PhD student Lily Reid became the first recipient of the Museum's Postgraduate Researcher Scholarship, providing a salary top-up and research spending over three years.

Museum researchers, both staff and Honorary Research Associates (HRA), shared their research extensively on the world stage and in our local community. Three books, 18 book chapters, 183 journal articles and 70 conference papers were published and presented during the year. Museum staff and HRAs also drastically increased the number of public talks and tours to schools, societies and organised events.

The Museum's Collections continued to develop through donations, field collections and acquisitions. In 2015-16, the Museum accessioned more than 25 548 new items into its collections, which represents a 26% increase compared to the previous year (20 238). Over the course of the year, 396 loans (representing 4609 objects or specimens) were shared with 62 institutions in 18 countries.

Increasing the accessibility of the Museum's collections remained a priority and 482 181 records are now available on the Atlas of Living Australia, with 27 544 data downloads from

the website during the year. The number of annual acquisitions and their value, researchers who visited the collections, loans, and the number of Museum data downloads from the Atlas of Living Australia (ALA) confirms the significance of the Museum's Collections at the state, national and international levels.

The Museum was again supported by the generous participation of 257 volunteers, 54 Honorary Research Associates and 4 Honorary Associates who regularly and voluntarily contribute to all aspects of the Museum. The Museum's volunteers conduct ground-breaking research on the Museum's collections and are major contributors to its impressive annual publications record.

As with previous years, the Museum estimated that each volunteer and Honorary Research Associate contributed an average of 30 hours per month of their time to the Museum. This equates to approximately 113 400 hours volunteered freely, without expectation of reward, and was valued at $2.7 million (2013-14).

The Museum's Development Department had its most successful fundraising year, with over $1.481 million raised through donations, benefaction, sponsorship and grants for the benefit of the South Australian Museum in 2015-16. Donors were highly receptive to new opportunities created for students and early career researchers at the Museum, particularly those for Aboriginal applicants. A new Museum Membership program was also launched through the generous support of the South Australian Museum Foundation which will enhance the Museum's audience base and raise awareness of the critical need for support.

The Museum Shop, Museum Café and venue hire continued to be important sources of income, with all proceeds returned to the Museum to support its research, collections and public engagement priorities. A total of 107 private events were hosted by the Museum in the 2015-16 period, representing approximately 10% growth on the previous year. The Museum Café significantly expanded its catering services for corporate and private events and the Museum Shop expanded its range of opal jewellery to coincide with the *Opals* exhibition, with great success.

The Museum has clearly begun to deliver on its new Strategic Plan, with an increased focus on meeting visitor needs, compelling programming and financial sustainability. These initiatives combined with our world class collections and record of research excellence augurs well for the future of the Museum.

2 ROLE, LEGISLATION, STRUCTURE

2.1 ROLE

The Museum's role is to increase knowledge and understanding of natural and cultural heritage; to serve the community by acquiring, preserving, interpreting and presenting material evidence concerning people and nature; and to provide opportunities for study, education and enjoyment.

2.2 LEGISLATION

Management of the Museum is prescribed under the *South Australian Museum Act 1976*. The Museum is a Division of Arts South Australia within the Department of State Development. The Museum Board comprises eight people appointed by the Governor, the board functions as a body corporate.

Board members during 2015–16:

Chair:

The Hon Dr Jane Lomax-Smith AM

Members:

Professor David Adelson

Ms Juliet Brown OAM

Ms Noelene Buddle (term ended 13 December 2015)

Ms Helen Carreker

Mr Peter Hanlon

Mr Alan Noble

Mr David Rathman AM PSM

Throughout the year the Museum Board received advice from, and maintained oversight of, the following committees.

Investment Committee

Chair:

Ms Noelene Buddle (term ended December 2015)

Ms Juliet Brown OAM (appointed as Chair in December 2015)

Members:

Mr Andrew Bradley

Mr Andrew McEwin

Collections Committee

Chair:

The Hon Dr Jane Lomax-Smith AM

Members:

Professor David Adelson

Aboriginal Advisory Committee

Chair:

Mr David Rathman AM PSM

Members:

Dr Lowitja O'Donoghue AC, CBE, DSG (retired November 2015)

Mr Frank Lampard OAM

Ms Sandra Miller

Ms Elizabeth Tongerie

Finance, Audit and Risk Committee

Chair:

Ms Noelene Buddle (term ended December 2015)

Mr Richard Perkins (commenced as Chair in December 2015)

Members:

Ms Juliet Brown OAM

Mr Peter Hanlon

Mr Richard Perkins (appointed as Chair in December 2015)

Mawson Trust Management Committee

Chair:

Professor David Adelson

Members:

Mr Andrew McEwin

Mr Alun Thomas

Science and Research Committee

Chair:

Professor Bob Hill

Members:

Professor David Adelson

Dr Paul Heithersay

Professor Claire Smith

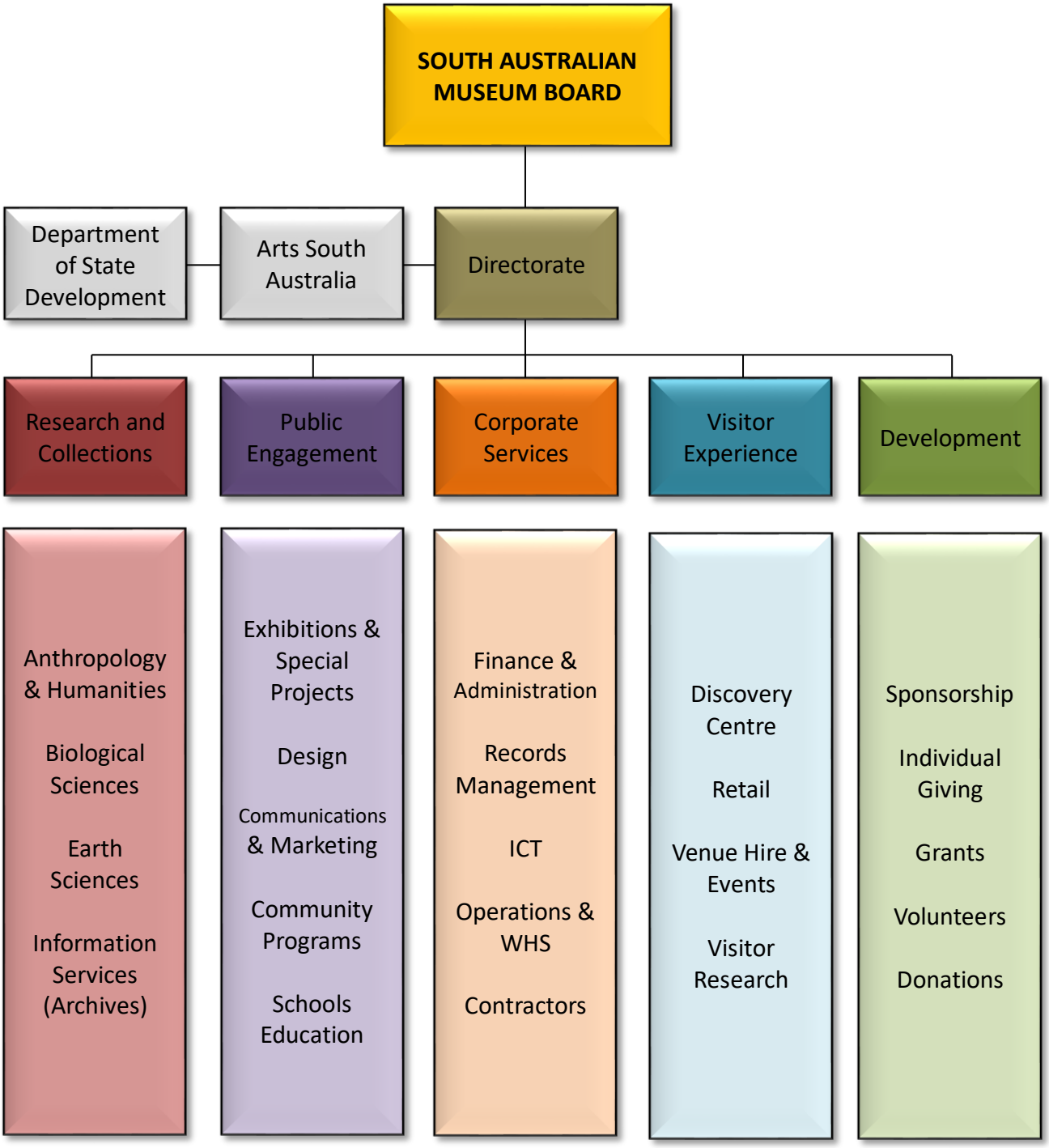
Professor Michelle Waycott

Professor Maria Makrides (resigned April 2016)

Dr Travis How (appointed April 2016)

2.3 STRUCTURE

The Museum's operational structure remained in line with the organisation's strategic plan, following the restructure implemented from January 2015. Changes to the reporting structure within the Public Engagement section were implemented in July 2015 and are reflected below.



3 SOUTH AUSTRALIAN MUSEUM STRATEGIC PLAN 2014-2020

The 2015-16 year was the first full year in which the Museum operated under the *South Australian Museum Strategic Plan 2014-2020*. The Museum was highly active in orientating its activities and outcomes to its key focus areas.

3.1 PRESENT A MODERN AND VISITOR-FOCUSED MUSEUM

The Museum is committed to learning more about our visitors so we can serve them better. Volunteer Data Collectors surveyed a subset of Museum visitors to find out about their visitor experience and a new visitor feedback process was implemented, which included the adoption of the Department of State Development's Customer Complaints Management Policy and Procedure (December 2015). The team also logged enquires received by the Discovery Centre during a discrete period in January. All of this information was collated and analysed to create a more detailed picture of our visitors, their experiences with us, and their needs. The outcomes of these initiatives are already being used to inform programs and planning at the Museum so we can better serve our audience.

As part of this process, the Museum also developed a Front of House Strategy, which led to the appointment of a dedicated Visitor Experience Officer. This Visitor Experience Officer will help coordinate and manage the front of house spaces; Gallery Guides and other visitor-facing volunteers as well as visitor enquiries and feedback, to make sure all visitors to the Museum enjoy a seamless and supported experience. This year also saw a significant expansion in the number and type of volunteers working in the Museum's public spaces. Volunteer Hosts were recruited to help welcome and direct visitors during the *Opals* exhibition. This initiative was well received by the public and the Volunteer Museum Host role will be an ongoing feature for our visitors.

The Discovery Centre was kept open between Christmas and New Year to test demand for its services in a period when the Centre is traditionally closed. Visitor numbers were high during this period and as a result the Discovery Centre will now open during this holiday period to better serve our visitors.

3.2 DEMONSTRATE EXCELLENCE IN OUR COLLECTIONS, RESEARCH AND SCIENCE

The Museum's scientists are amongst the world's best and contribute through innovative research; teaching and student supervision; peer reviewed publications; science communication; sharing and building our unique collections; and strengthening our society's engagement with science.

Research scientists, Honorary Research Associates, and students co-supervised by Museum personnel won 11 competitive, external research grants during the 2015-16 year, worth $3 458 017 – more than double the amount secured in the previous year. Throughout the year, Museum staff and Honorary Research Associates contributed approximately 2600 hours of teaching and student supervision, directly supervising 49 PhD students and 21 Honours students.

Our collections grew at a greater rate (up 26% on last year) and became more accessible than ever, thanks to international institution loans and the Museum's digitisation projects. Over 480 000 Museum records can now be accessed online through the Atlas of Living Australia project. The Museum also participated in a pilot project with the Australian National Wildlife Collection in Canberra and Museum Victoria to help make biological tissue sample data publically accessible via the Atlas. The Museum's Australian Biological Tissue Collection (ABTC) is the largest tissue collection in the world and as a result of this initiative is now publically accessible online. The Museum's contribution alone nearly doubled the global quantity of biological tissues available online.

The Museum is committed to sharing its collections and research results. Staff and HRAs more than doubled their public and professional academic engagement activities this year. The Museum's work was also more visible in the media, with more than 50 media releases and tailored stories covered by media outlets. Over 1 500 images and 500 digital records from the Australian Aboriginal Material Culture Collection were also uploaded onto the Museum's website to increase collection accessibility.

The Museum also hosts Inspiring South Australia, which is focused on strengthening our society's engagement with the sciences. This year the team established two new Regional Science Hubs with a corresponding program of community science engagement activities in and ran a STEM Education Summit attended by 750 education professionals.

3.3 SECURE OUR LONG-TERM FINANCIAL FUTURE

The Museum is employing a range of measures to secure its financial future. A strong exhibition program attracted high levels of awareness and visitation, with over 200 000 people visiting a Museum exhibition this year – more than double the exhibition visits from just two years ago. The spectacular exhibition *Opals* broke Museum records for ticketed exhibition attendance, philanthropic support, revenue and donations to the Museum's collection. The Museum Shop also expanded its offering to coincide with the exhibition and all proceeds from the Shop and Café were returned to the Museum to support its research, collections and public engagement priorities.

The Museum Café significantly expanded its catering services for corporate and private events this year, by increasing its capacity to cater for larger events and encouraging clients to use Museum rather than external catering. A total of 107 private events were hosted by the Museum in the 2015-16 period, representing approximately 10% growth on the previous year.

The Development Department had its most successful fundraising year yet, raising over $1.481 million through donations, benefaction, sponsorship and grants. This included over $400 000 in new funding for scholarships, cadetships and a new curatorial position, much of which will remain ongoing. Donors were very receptive to supporting opportunities created for students and early career researchers at the Museum, particularly those for Aboriginal applicants.

A new Museum Membership program was introduced by the Development Department and South Australian Museum Foundation Incorporated. The Museum Membership program fosters stronger relationships with supporters, raises awareness of the Museum's programs and needs, and raises funds to help the Museum deliver exciting programs and internationally significant scientific research as well as care for its collections. This membership program will complement the activities of Waterhouse Club Incorporated, which has raised more than $930 000 since it began in 1989. Two new roles were also created within the Development Department as a result

of its realignment this year. This will help the team expand on their successes in all areas of fundraising, including individual giving, trusts and foundations, corporate sponsorship and government grants.

3.4 Deliver Vibrant and Engaging Programs Linking Collections and Research

The Museum is drawing on its collections more and more to deliver outstanding exhibitions and engagement programs. Five of the seven exhibitions held at the Museum this year were based on its own collections, giving the community access to more of the Museum's treasures, opening up opportunities to increase visitation and touring exhibitions. The number of community programs on offer rose this year as did the number of participants in Museum events and activities. Over 126 000 people participated in more than 60 Museum programs in 2015-16. More than 71 000 people participated in the public programs held at the Museum during the year – a 92% increase compared to the previous year.

These community programs gave people the opportunity to engage with the Museum's exhibitions, research and collections through high quality, interactive experiences both at the Museum and around regional South Australia through our outreach program. All public program activities focused on engagement, rather than just observation. Community programs always involved a personal, face-to-face interaction between Museum staff or contractors and audiences. As well as participating in community programs, the Museum's scientists and Honorary Research Associates gave more public talks and tours to school, societies and other organisations than the previous year (78 compared to 38).

The Museum has also forged strong collaborations with a range of organisations and events including the *Adelaide Fringe Festival*, *WOMADelaide*, and *Science Alive!* The team has also engaged with many local artists and performers, particularly through the new *Makers at the Museum* program which encouraged adults to engage with the Museum's special exhibitions through hands-on activities.

School student visitation at the Museum in 2015-16 is the highest since data records began in 1998: over 37 000 students attended the Museum and took part in our education programs. New inquiry-based learning programs were created, with input from research and collection staff, to support student learning in the Australian Aboriginal Cultures, Ancient Egypt, Minerals and Biodiversity galleries.

4 CONTRIBUTION TO SOUTH AUSTRALIAN GOVERNMENT'S STRATEGIC PRIORITIES AND OBJECTIVES

The Museum continues to sustain and develop its contribution to achieving the goals of South Australia's Strategic Plan. The following sections summarise the Museum's commitment and achievements against the priorities and objectives of South Australia's Strategic Plan.

4.1 ALIGNMENT WITH SOUTH AUSTRALIA'S STRATEGIC PRIORITIES

The Museum's programs and activities (section 5.1) enable it to provide unique experiences to a diverse audience. The Museum is proud to have contributed to the following government priorities during the year.

4.1.1 An Affordable Place to Live

Once again, the Museum has provided a suite of programs and events, many at no charge, while maintaining free entry to the main galleries. The Museum continued to provide high-end, paid, temporary exhibitions and events, while striving to offer these enhanced offerings at an affordable entry price (section 5.2.1).

4.1.2 Creating a Vibrant City

The Museum delivers first-class activities and services to the community, with over 733 000 people enjoying its programs and exhibitions (section 5.1) on North Terrace during 2015–16.

Opals was the standout exhibition of the year, breaking Museum records for ticketed exhibition attendance, philanthropic support, revenue, and collection donations. Drawn from the Museum's collections as well as many private donations, *Opals* brought people into the city centre from around the state and around the country.

In August, the Museum also delivered one of the largest competitions and exhibitions of its kind in Australia; the *Australian Geographic ANZANG Nature Photographer of the Year (ANZANG)*. This highly regarded international competition has a strong annual following (section 5.2.1.1). More than 100 shields from the South Australian Museum's world leading collection of Aboriginal artefacts were displayed for the first time in *Shields: Power and protection in Aboriginal Australia*. This exhibition allowed the Museum to collaborate with Aboriginal communities and convey stories about the cultures in which the objects were created to educate and inspire the community.

A strong program attracted 232 789 people to Museum exhibitions – a figure which has more than doubled in the past two years (up from 165 677 last year and 113 800 in 2013-14). The Museum also offered more programs, for more diverse audiences with a richer scientific content in 2015-16. More than 126 000 people participated in a Museum public program, a 48% increase on the previous year. The Museum also contributed to key cultural programs held within the city including *Science Alive!*, two *BioBlitzes* at the Museum and a Museum tent in the KidZone at *WOMADelaide*.

4.1.3 Every Chance for Every Child

The Museum's Public Engagement department (section 5.2.3) was again supported by the Department for Education and Child Development (DECD). This partnership, and the continued secondment of a full-time teacher, ensured that engaging new student programs were specifically developed, designed and delivered by the Museum. New inquiry-based learning programs were created to support student learning in the Australian Aboriginal Cultures, Ancient Egypt, Minerals and Biodiversity galleries. All of the new programs were collaborated with school students and Museum scientists, incorporating current learning pedagogy and Australian Curriculum links.

Over 37 645 school students participated in educational programs at the Museum: the highest since attendance data was formally captured in 1998. The Museum also supported students through twelve outreach programs, including four education roadshows to regional and remote communities at no charge to the participants, as well as participation in *Science Alive*!, two *BioBlitzes*, a *STEM Festival* in Mt Gambier and a Museum tent in the KidZone at *WOMADelaide* and *Alice Springs Desert Festival*.

During the year the Museum remained committed to offering children free, or significantly reduced rate, entry to its ticketed exhibitions (section 5.2.1.1).

In 2015-16, a total of 20 685 children and their families also participated in the Museum's school holiday programs: *NAIDOC Week* (July 2015), *Opals from the Outback* (October 2015), *Under the Eromanga Sea* (January 2016) and *Shields* (April 2016).

Teacher professional learning sessions were offered during the year to coincide with the *Sprigg Lecture Series* (section 5.2.2) and help teachers develop their science skills and awareness. These sessions were aligned to the concepts presented in lecture and added significant value to their professional development.

4.1.4 Realising Benefits of the Mining Boom for All

The Museum's scientists work with the mining industry to solve problems that have an economic impact and limit its capacity for growth. The scientists' considerable theoretical knowledge and expertise, combined with our extensive mineral collections, provides crucial support for industry and helps strengthen its economic benefits for the State. In 2015-16 Chief Researcher, Dr Ben Grguric, provided reports that gave essential baseline information on the mineral indications from drill cores for five separate exploration companies operating across South Australia, Western Australia and Indonesia.

During the year the Museum was active in is relationship with the South Australian Chamber of Mines and Energy (SACOME) where it had both advertisements and editorial material in the SACOME magazine publication.

The Museum's *Opals* exhibition was enhanced through funding received from South Australia's Plan for Accelerating Exploration (PACE) program. Through PACE funding the Museum was able to recreate an opal mine in the middle of the exhibition. This mine re-creation provided visitors with a first-hand experience of an opal mine and was one of the major aspects of the exhibition's success.

4.2 ALIGNMENT WITH SOUTH AUSTRALIAN'S STRATEGIC PLAN OBJECTIVES

The Museum's activities are closely aligned with many of the objectives outlined in South Australia's Strategic Plan (2011), as summarised below.

4.2.1 Our Community

In 2015–16, over 71 000 people, from all ages, participated in a public program at the Museum (target 1: urban spaces) (section 5.2.2.2) along with seven exhibitions (section 5.2.1).

Museum educational programs (section 5.2.3), an early childhood learning program (*Young Explorers),* School Holiday and NAIDOC Week programs (target 12: early childhood) were also run as well as the *Sprigg Lecture Series* (target 23: social participation; section 5.2.2.2).

The Museum's active participation in public engagement activities continued to increase the vibrancy of the North Terrace Cultural Precinct, reaffirming it as a premier destination for local, interstate and international tourists (target 3: cultural vibrancy – arts activities and target 4: tourism industry).

The Museum also actively engaged in the Aboriginal Youth Program and again visited the APY Lands as part of the ongoing roadshow program (target 5: multiculturalism, target 6: Aboriginal wellbeing, target 15: Aboriginal education (early years) and target 27: understanding of Aboriginal culture; section 5.2.2.1). The Museum's Information Services processed 250 requests for Aboriginal family and community history, Native Title, exhibitions, websites, documentaries, publications, interpretive signs, private and academic research, education, training, posters and conference material. The Museum Board's Aboriginal Advisory Committee is a conduit between Aboriginal communities and the Museum (target 28: Aboriginal leadership).

The Museum also developed the special exhibition *Aboriginal ANZACs: from South Australia to the Great War* which explored the lives of six Aboriginal men who fought in the First World War: Stanley Copley, Rufus Gordon Rigney, Cyril Rigney, Frederick Prentice, Ronald Carter and Eustace Wilson. This helped to increase community awareness and recognition of the contribution of Aboriginal and Torres Strait Islander people who have fought alongside other Australians in every war.

The Museum's 257 volunteers and 54 HRAs and 4 HA continued to be integral to the Museum's activities and worked in all sections of the Museum including Development, Corporate Services, Information Services and Special Projects, Research and Collections (target 24: volunteering; section 5.9). The Museum promotes an active recycling regime throughout staff workspaces in order to reduce waste to landfill (target 67: zero waste) and continued to support a non-smoking environment in and around all Museum buildings (target 80: smoking).

The Museum also promoted nature conservation (target 72: nature conservation) through the *Waterhouse* exhibition and *ANZANG* competition, with continued success (section 5.2.1). The Museum's scientists also advanced the community's understanding of the natural world through their research, including the discovery of new species including a new family of crustaceans.

A disability access program was introduced to initiate ways for people with disability to participate in the cultural life of the Museum. Programs included quarterly Auslan interpreted tours of special exhibitions and tactile tours, which incorporated object handling and elements of audio description for visitors who were blind or vision impaired. The Museum also

established a precinct-wide disability access group, in order to share information and ideas for increasing the accessibility of the North Terrace cultural institutions.

4.2.2 Our Environment

The Museum remained committed to improving energy efficiency. Specific electrical circuitry connected to timers reduce energy consumption and recyclable or biodegradable refuse systems are in use throughout all work spaces (target 59: greenhouse gas emissions; target 61: energy efficiency – government buildings; target 67: zero waste).

The Museum undertook a broad range of research into terrestrial and aquatic ecosystems, which contributes to the State's conservation activities. Museum scientists are continually discovering new species, including a new frog species from the Australian arid zone, and helping us understand the true biodiversity of our environment. Without well documented ecosystems, it becomes much harder to make sure that no native species are lost as a result of human impacts (target 69: lose no species). Scientists at the Museum are also developing new tools for conservation and informing threatened species research by clarifying the limits of species; providing a historical perspective on former occurrences through its collections; and through the application of the latest DNA-based genetic tools that can demonstrate the genetic 'health' of isolated populations and reveal patterns of gene flow within and between them (target 69: lose no species; target 62: climate change adaptation).

4.2.3 Our Education

The Museum's commitment to STEM learning and school age education (sections 4.1.3 and 4.2.3) resulted in a record number of students participating in structured educational programs: 37 645 students, up 12%, from the previous year (target 12: early childhood; target 87: reading, writing and numeracy). Additionally, approximately 6000 three to five year-old children participated in the *Young Explorers* program. This program uses interactive, educational activities to nurture children's curiosity in culture and the natural environment and create a deep connection and sense of belonging to the Museum (section 5.2.2.2).

4.2.4 Our Ideas

The Museum attracted 730 223 visitors to its activities and events during the year (target 99: cultural engagement – institutions; section 5.1) and directly contributes to cultural engagement in the State.

Research activity, in partnership with South Australian universities, attracted $3 458 017 of competitively awarded external research income (target 97: university research income; section 5.6). The Museum's research, special projects and exhibitions are also well supported by industry (target 95: industry collaboration, research and development commercialisation).

5 ACHIEVEMENTS AND INITIATIVES

The Museum continues to inspire South Australians and the wider community with its internationally significant collections and research. The Museum is a respected and admired custodian of many important artefacts, collected over 150 years, which help us understand all aspects of the natural world and our place in it throughout history. In order to keep advancing this understanding, the Museum is committed to sharing its collections with the world, attracting and retaining talented scientists who undertake collection-based research, and fostering students who will become the leaders of the next generation. Here we present some of our key achievements and initiatives from 2015-16 that move us closer to these goals.

5.1 VISITATION

During the year 730 223 people visited the Museum, with 713 541 attending the Museum on North Terrace and 16 682 visiting the Science Centre.

5.2 PUBLIC ENGAGEMENT

The South Australian Museum had a highly successful year in bringing the research and collections of the Museum and inspiring the South Australian public with wonder and curiosity about life on Earth. Of particular significance was the increased link between public engagement and Museum research and collections, which delivered significant improvement in the Museum's ability to provide engaging, fun and educational experiences for the public.

This year saw an increase in science-related output into the media, a 34% increase in programs involving Museum experts, and a deliberate focus on exhibitions based on the Museum's collections and research. Five of the seven major exhibitions this year drew on Museum collections and research expertise, compared to two of seven last year and none in the previous two years.

Highlights in 2015-16

- The *Opals* exhibition broke Museum records for ticketed exhibition attendance, philanthropic support, revenue and donations to the Museum's collection.
- A strong exhibition program attracted high levels of awareness and visitation, with 232 789 people visiting a South Australian Museum exhibition this year, a figure which has more than doubled in the past two years (up from 165 677 last year and 113 800 the previous year).
- The Museum offered more programs for more diverse audiences with a richer scientific content. Over 126 000 people participated in a Museum public program, a 48% increase on the previous year.
- The Museum was more visible in the media, with double the media output. Twenty-five general media releases (40% science or collections related; 60% promoting exhibitions or programs) were distributed in 2015-16, compared to 21 in last period. At least 38 tailored stories were created for, and covered by, media outlets.
- The Schools Education program saw a 12% increase in student visitation, with up to 37 645 students having enriched learning experiences from Museum resources.

- The Commonwealth funded *Inspiring South Australia* program increased the number of regional hubs for science engagement to six across the State.
- The Museum worked with a number of partners, including state agencies and the paleontological community, to lead a public campaign to choose a State Fossil Emblem from the Ediacaran biota, the outcome of which will be announced in late 2016.

5.2.1 Exhibitions

5.2.1.1 Main Temporary Exhibition Gallery

Science & Art: 12 years of the Waterhouse Prize

5 June – 19 July 2015

Science & Art: 12 years of the Waterhouse Prize was a retrospective exhibition that displayed each of the overall winning works acquired by the Museum in the first 12 years of the *Waterhouse* prize. These works were paired with material from the South Australian Museum collections, National Archives of Australia, the State Herbarium of South Australia and State Records of South Australia to delve further into the science behind the art.

This exhibition was held in place of *The Waterhouse Natural Science Art Prize* in 2015 as the prize underwent a formal review. *The Waterhouse Prize* returned as a biennial competition from 2016.

Visitation: 29 638

Australian Geographic ANZANG Nature Photographer of the Year

1 – 31 August 2015

The Museum's *Australian Geographic ANZANG Nature Photographer of the Year* was held for the 12th time, the seventh since coming under the Museum's ownership. The 2015 competition received 2049 photographs – the first time more than 2000 images have been entered – from entrants in 12 countries including Australia, New Zealand, Papua New Guinea, USA, UK, France and Italy.

The exhibition featured an outstanding collection of images selected by judges Greg Allen-Waters, Jiri Lochman and Darren Jew. The overall prize was awarded to David Stowe of New South Wales for his striking symmetrical image of a white-winged tern with wings upstretched, taken at Lake Wollumboola, New South Wales.

Visitation: 5303

Opals

26 September 2015 – 14 February 2016

Opals was a spectacular exhibition created by the South Australian Museum. *Opals* gave visitors the chance to see the finest collection of opals ever assembled in one place, including many pieces from private collections never before shown to the public. The world's most valuable single piece of opal, the Virgin Rainbow, a recent addition to the Museum's collection, was displayed for the first time along with the world's first known opalised pearls. The

exhibition also included pieces kindly lent to the Museum by Her Majesty the Queen from the Royal Collection. A replica opal mine, cast from a real mine in Coober Pedy, allowed visitors to experience life underground and was accompanied by videos featuring many personal stories from Coober Pedy characters.

Visitation: 27 072

Shields: Power and Protection of Aboriginal Australia

26 March – 22 May 2016

More than 100 shields from the South Australian Museum's world leading collection of Aboriginal artefacts were displayed together for the first time in *Shields: Power and protection in Aboriginal Australia*. The presentation of this historic collection was an opportunity for the Museum to collaborate with Aboriginal communities and convey stories about the cultures in which the objects were created. The exhibition also enabled the Museum to work with Aboriginal craftspeople including contemporary Kaurna shield makers Jack Buckskin and Karl Telfer who helped the Museum make the stories of the exhibition come to life.

Visitation: 3550

The Waterhouse Natural Science Art Prize:

10 June – 31 July 2016

After a formal review in 2015, the *Waterhouse* returned with a stronger link between art and science and a broader scope for artists. Now divided into two categories, Open and Emerging, the prize accepts all fine visual art (with the exception of photography) including digital and video art for the first time. The panel of experienced judges spanned the fields of art, science and their intersection: Barry Keldoulis, CEO of Art Fairs Australia; Eleanor Gates-Stuart, Professor in Techno Art at National Cheng Kung University, Taiwan; Klaus Rohde, exhibiting artist, biologist and Emeritus Professor at the University of New England; and Brian Oldman, Director of the South Australian Museum.

Visitation: 13 057

5.2.1.2 Australian Aboriginal Cultures Gallery temporary exhibition space

Shimmer – a Tarnanthi exhibition

2 October – 28 November 2015

Shimmer was a collaborative project between JamFactory, the South Australian Museum and *Tarnanthi*, the festival of contemporary Aboriginal and Torres Strait Islander Art. The project offered eight artists from across Australia the opportunity to undertake research within one of the Museum collections, working closely with Museum collection managers and exhibition curators to inform new works. Artists Sebastian Arrow, Tamara Baillie, Maree Clarke, Janet Fieldhouse, Nicole Foreshew, Dale Harding, Grace Lillian Lee and Vicki West each responded to a collection area to create new works exploring contemporary forms of adornment. Collection areas accessed included Minerals, Marine Invertebrates, World Cultures and Aboriginal Cultures. The exhibition was held concurrently at the South Australian Museum and JamFactory.

Visitation: 111 505 (whole of Museum visitation during the exhibition period)

Aboriginal ANZACs: from South Australia to the Great War

24 June – 7 August 2016

Aboriginal ANZACs explored the lives of six Aboriginal men who fought in the First World War: Stanley Copley, Rufus Gordon Rigney, Cyril Rigney, Frederick Prentice, Ronald Carter and Eustace Wilson. These men were among the 45 Aboriginal men from South Australia known to have enlisted and fought. Aboriginal and Torres Strait Islander people have fought alongside other Australians in every war, but their presence and contribution has not been acknowledged until recently. The exhibition formed part of the Flanders Field Poppy Trail, which connects displays and events through Adelaide to commemorate battles on the Western Front in which Australians fought during the Great War.

Visitation: 12 724

Various locations inside the Museum

All of the exhibitions below were integrated into the Museum's galleries and offered free of charge – no visitation figures could be collected.

Shimmer - a Tarnanthi exhibition

2 October 2015 – 28 November 2015

As well as the exhibition in the Aboriginal Cultures Gallery temporary exhibition space, *Shimmer* displays were located throughout the Museum close to the collection material that informed them. Artworks were displayed in the Australian Aboriginal Cultures Gallery, Pacific Cultures Gallery, Biodiversity Gallery, adjacent to the Minerals Gallery and in the main foyer.

Treasures from Benin

16 June 2016 – (still on display 30 June 2016)

The Museum's collection of artefacts from Benin was included in the Art Gallery of South Australia's *Treasure Ships* touring exhibition. After returning to Adelaide these treasures have been placed on long-term display in a new location outside the Discovery Centre.

5.2.1.3 Touring exhibitions

Australian Geographic ANZANG Nature Photographer of the Year

The full exhibition of the 2015 *Australian Geographic ANZANG Nature Photographer of the Year* travelled to Western Australia after the exhibition closed at the Museum.

- Western Australian Museum Albany: 12 December 2015 – 28 February 2016
- Western Australian Museum Kalgoorlie: 7 May – 21 August 2016

Visitation: Albany: 20 924

Visitation: Kalgoorlie (to June 30): 12 768

The full exhibition of the 2014 *Australian Geographic ANZANG Nature Photographer of the Year* also toured Western Australia during this financial year.

- Western Australian Museum Geraldton: 12 June – 2 August 2015

Visitation: Geraldton: 8195

Magnified: 12 years of the Waterhouse Natural Science Art Prize

26 November 2015 – 28 March 2016

Renamed for the Canberra audience, *Science & Art: 12 years of the Waterhouse Prize* travelled to the National Archives of Australia, Canberra.

Visitation: 8234

5.2.2 COMMUNITY PROGRAMS

Community programs at the Museum took a significant step forward in 2015-16 with an increase in both the number of programs on offer to the public and the number of people participating in Museum events and activities.

Community programs offered audiences the opportunity to engage with the Museum's exhibitions, research and collections through high quality, interactive experiences, both at the Museum and, through our outreach program, around regional South Australia.

Over 126 000 people participated in more than 60 Museum programs in 2015-16. This represents a 48% increase in participation and a 68% increase in the number of programs offered to the public. Notably, the number of programs which directly involved one or more of the Museum's research and collections staff increased by 34%.

5.2.2.1 OUTREACH PROGRAMS

The Museum's *Out of the Glass Case* program is an innovative and nationally unique initiative for sharing the Museum collections and research with local, regional and remote communities. *Out of the Glass Case* enabled the Museum to travel across South Australia to engage with individuals, groups and communities who are otherwise unable, or unlikely, to visit the Museum. In 2015-16, the outreach program was generously supported by Beach Energy, the Wood Foundation and PricewaterhouseCoopers.

The Community Education Officer oversaw the delivery of twelve outreach programs, including four education roadshows to regional and remote communities at no charge to the participants, as well as participation in *Science Alive!*, two *BioBlitzes*, a *STEM festival* in Mt Gambier and a Museum tent in the KidZone at *WOMADelaide* and *Alice Springs Desert Festival*.

Regional and remote programs were delivered in the APY Lands, the Riverland, Kangaroo Island, Whyalla, Kadina and Mt Gambier. Programs in these regions focused on fostering deep engagement with participants of all ages, through workshops, talks and lessons with Museum scientists and program presenters. Over 2600 students and community members participated in these sessions.

In addition to programs in remote and regional areas, 51 982 people in the metropolitan area experienced the Museum's outreach program through events such as *WOMADelaide* and *Science Alive!* These figures bring overall participation in outreach programs to 54 658. This represents a 12% increase in participation from 2014-15.

5.2.2.2 PUBLIC PROGRAMS

Under the guiding purpose of inspiring in all people a wonder and curiosity about life on Earth, the Museum's community programs invited the public to connect with the Museum's exhibitions, research and collections.

All public program activities focused on engagement, rather than just observation. Community programs always involved a personal, face-to-face interaction between Museum staff or contractors and audiences.

In 2015-16, the Community programs team explored a variety of delivery models and developed some new regular programs. Over 71 000 people participated in a public program at the Museum during the year. This represented a 92% increase in the number of people participating in programs located at the Museum compared to the year prior.

In a departure from previous years, 27% of Museum programs in 2015-16 were ticketed. This meant an additional $30 000 could be channeled back to the community through delivery programs and exhibitions at the Museum.

SCHOOL HOLIDAY PROGRAMS

The Museum delivers four school holiday programs annually. These programs offer school children and families access to workshops and activities, which bring the Museum's research, collections and exhibitions to life. School holiday programs typically include a mix of self-guided trails, drop-in sessions and in-depth workshops and activities which require an advance booking. In 2015-16, a total of 20 685 children and their families participated in the Museum's school holiday programs.

The 2015-16, school holiday programs were; *NAIDOC Week* (July 2015), *Opals from the Outback* (October 2015), *Under the Eromanga Sea* (January 2016) and *Shields* (April 2016).

SPRIGG LECTURE SERIES

The *Sprigg Lecture Series* shone a light on the cutting edge of scientific research and experience. In 2015-16, the Museum presented four Sprigg lectures. The guest speakers and their lectures were:

- Professor Chris Turney (August 2015) who spoke on his journey to the Antarctic and the impact of funding on expeditions of this kind
- Dr Greg Rouse (November 2015) who spoke about the biology, life history and phylogeny of osedax worms
- Dr Rachel Popelka-Filcoff (April 2016) who spoke about radioanalytical and spectroscopic methods for the analysis of natural mineral pigments on cultural heritage materials
- Professor John Carty (May 2016) who spoke about the role of museums as dynamic and provocative agents in cultural processes.

820 people attended Sprigg lecture events in 2015-16. This represents a 7% increase on attendance from 2014-15.

YOUNG EXPLORERS

The *Young Explorers* program (formerly *Tell me a story*) is an interactive, educational program for three to five year-olds. In 2015-16, the Museum received funding from the Thyne Reid Foundation to expand the program, doubling the number of monthly sessions, as well as trialing specialised programs for kindergarten children and children under the age of three.

Approximately 6000 children and their families participated in the program in 2015-16, double the number of participants from 2014-15.

MAKERS AT THE MUSEUM

Makers at the Museum was a new program which encouraged adult audiences to respond to the Museum's special exhibitions through hands-on activities. Makers at the Museum sessions offered participants a chance to tour an exhibition with an expert guide before undertaking an art or craft-based activity inspired by the exhibition. This ticketed program was targeted towards small groups and offered a detailed in-depth opportunity to explore the Museum's exhibitions and collections. Sessions in 2015-16 included: life drawing in response to the *Science & Art: 12 years of the Waterhouse Prize*; analogue photography in response to the *Australian Geographic ANZANG Nature Photographer of the Year* exhibition; jewellery making in response to the *Opals* exhibition; printmaking in response to the *Shields* exhibition; and textile design in response to the *Waterhouse Natural Science Art Prize*.

During 2015-16, a total of 120 people participated in the *Makers at the Museum* program. The program established a strong following, with sessions typically sold out well in advance.

NIGHT LAB

After a pilot event in 2014, the Community programs team reintroduced *Night Lab*, the Museum's after-hours event targeted towards young adults, with three highly successful events in 2015-16.

Night Lab combined science engagement with great entertainment. Typical activities included talks, tastings, exhibition tours, live music or local DJs, hands-on activities and behind-the-scenes information. Each event has a theme and in 2015-16 these included: the hidden science of light (celebrating International Year of Light); opals; and food in our ecosystems (as part of Tasting Australia).

Night Lab was a ticketed program with 743 people attending events in 2015-16. *Night Lab* was delivered with support from sponsors National Science Week, the Thyne Reid Foundation and Beach Energy.

DISABILITY ACCESS PROGRAM

The Museum introduced a disability access program to initiate ways for people with disability to participate in the cultural life of the Museum.

Programs included quarterly Auslan interpreted tours of special exhibitions, and tactile tours, which incorporated object handling and elements of audio description for visitors who were blind or vision impaired.

The Community programs team also worked with the South Australian School for Vision Impaired on a long-term project exploring echolocation and the way that bats navigate the world. This project, still under development at the end of the reporting period, is being developed in collaboration with the Museum's research and collections staff.

In addition, the Museum established a precinct-wide disability access group, in order to share information and ideas for increasing the accessibility of the North Terrace cultural institutions.

PUBLIC PROGRAMS – IN ADDITION

In addition to regular programs, 2015-16 also saw a substantial increase in the number of one-off and exhibition-specific activities on offer. Collectively, these events reached over 43 000 people. Highlights included:

- family programming during *National Science Week 2015*
- a suite of special programs designed to complement the Museum's *Opals* exhibition
- collaborations with the *Adelaide Fringe Festival*, including participation in the North Terrace illuminations project and hosting Tindo Utpurndee (the Fringe's Kaurna opening ceremony)
- performances and tours during *National Reconciliation Week.*

5.2.3 SCHOOLS EDUCATION

The Department for Education and Child Development (DECD) continued their partnership with the South Australian Museum by the appointment of a full-time seconded teacher. New inquiry-based learning programs were created to support student learning in the Australian Aboriginal Cultures, Ancient Egypt, Minerals and Biodiversity galleries. All the new programs were co-constructed with school students and Museum scientists, incorporating current learning pedagogy and Australian Curriculum links.

5.2.3.1 Museum School Visitation

The Museum's 2015-16 student visitation reached 37 645 students, an increase of 4614 students, or 12%, from the previous year. Student visitation for the year was the highest since attendance data was formally captured in 1998. Figure 5-1 below details the numbers of students accessing the various galleries throughout the year. Of note is the increase in visits to the Minerals gallery. This can be attributed to the *Opals* exhibition and new programs implemented to support student learning in the gallery.

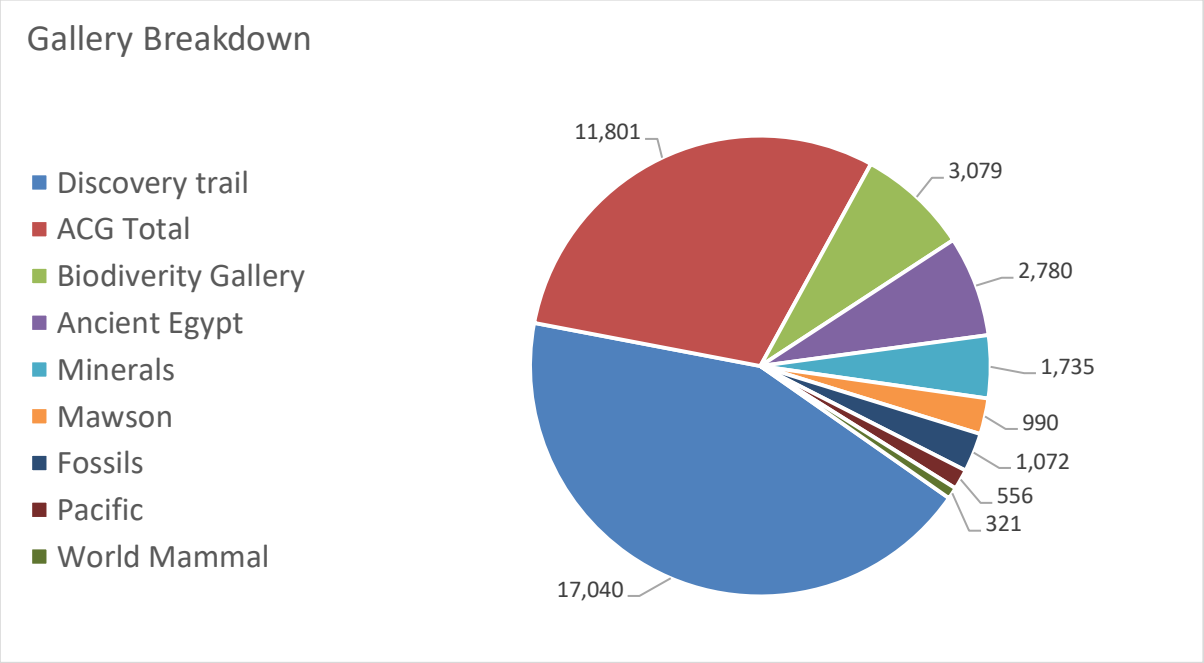


Figure 5.2.3.1a: Number of students accessing galleries in the Museum

The Museum's Education program catered for all students from pre-school to year 12. Students from the government sector make up almost 75% of the education audience with primary students from years 3–7 the dominant student cohort (see figure 5-2 below).

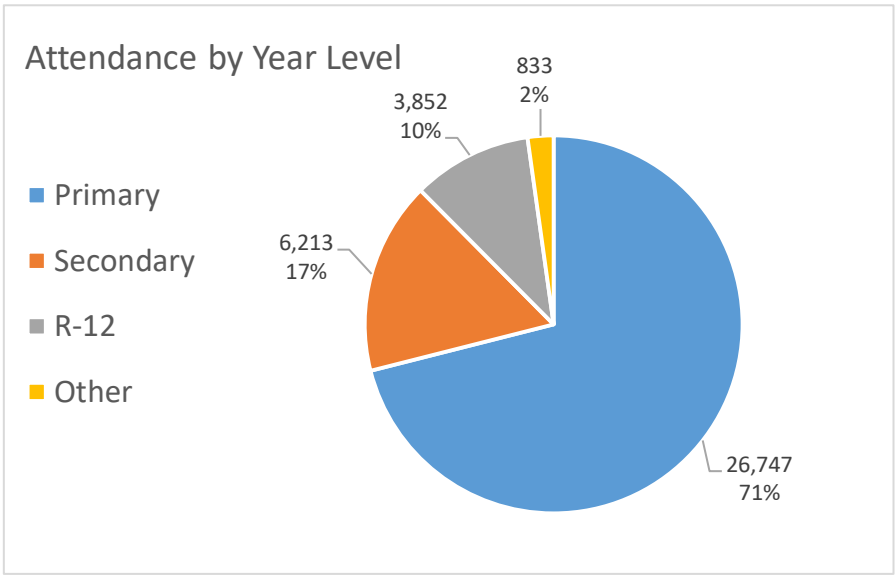


Figure 5.2.3.1b: Proportion of student visitors by year level.

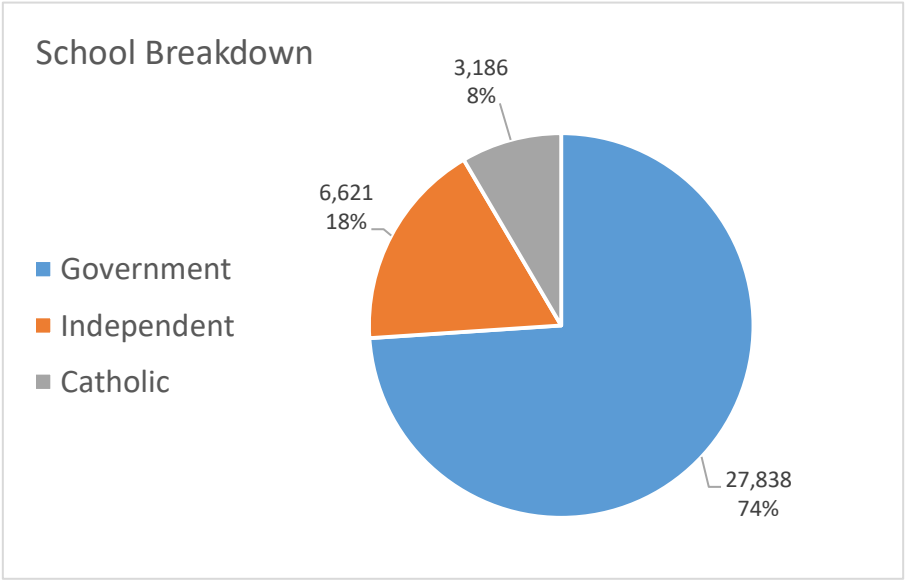


Figure 5.2.3.1c: Proportion of student visitors by school type.

5.2.3.2 Education Highlights

Program Development

Four new biological science, ecosystems projects were produced to support year 9 student learning in the Biodiversity Gallery. A specialised Ancient Egyptian program was written for year 7 students studying ancient cultures, and a new Minerals program for year 8 students was also created.

Teacher Professional Development

In 2016, teacher professional learning sessions were created to coincide and align with the concepts presented in the *Sprigg Lecture Series*. Feedback was very positive; it not only value-added to teacher learning but money raised from these sessions contributed to the *Sprigg Lecture Series*.

2015 National Science Week

Two high quality scientific programs were constructed around the *National Science Week* theme of Light in the Ocean. Both programs were developed and delivered by Museum scientists, Prof Steve Donnellan and Dr Andrea Crowther. Over 300 students from years 6-9 attended these sessions throughout the week.

Education Resources Audit

An audit of all education resources was completed in December 2015, including materials stored at Netley. An online data base of resources has been created.

Education volunteers

Two new education volunteers completed their induction, Dean Taylor and Skye Bennett. Following their inductions both volunteers independently led student sessions in the Australian Aboriginal Cultures Gallery.

5.2.4 Marketing and Communications

5.2.4.1 Digital Communications

The Museum website received 153 848 unique visits over the past twelve months, with 72.5% of all web visitors being new visitors and the average session duration being 2 minutes. The most popular pages were 'exhibitions', 'visit', 'opals', 'school holiday programs' and 'museum galleries'.

The Museum social media program expanded to include a strong focus on Instagram in the past year, with an ongoing presence on Facebook and Twitter. Across these three platforms a combination of organic and paid posts were used to promote exhibitions, events, programs, retail and research outcomes. The Museum's Facebook audience grew by 47%, from 14 115 'likes' in 2014-15 to 20 754 likes in 2015-16. On Twitter the Museum's following increased from 4620 in 2014-2015 to 5342 in 2015-2016, representing a 16% increase. At the end of the year the Museum's Instagram page had 2943 followers.

During 2015-16 the Museum collaborated with the Google Cultural Institute to take part in its natural history museum site launch. Google Street View footage of the interior of each gallery within the Museum was captured to enhance virtual experiences of the Museum for those who are unable to visit the site itself. Several Museum collections were also uploaded to the Google Cultural Institute in the process, placing them on the world stage and allowing people to make more detailed enquires around their science.

5.2.4.2 Media Communications

The Museum enjoyed a prolific year of media releases in 2015-16. Building on its already successful approach of issuing broad media releases, it added a new approach of tailoring news stories to particular media outlets. There were 25 general media releases distributed in 2015-16, compared to 21 in 2014-15, with 40% of media releases relating to science or collections; 50% promoting exhibitions and the remainder focused on programs or other activity. The Museum created 38 tailored stories for individual media outlets this year. Overall, the Museum's media output increased by 200% this year.

Media highlights in 2015-16

- The Virgin Rainbow media release to announce the launch of the *Opals* exhibition went viral and was covered in countries including Australia, New Zealand, the United Kingdom, United States of America, France, Italy, India, Israel, Spain and China. The story reached the *BBC, Cosmopolitan,* and *Buzzfeed*, and had a conservative reach of 100 million people.
- The story of a rare beaked whale which had two mysterious extra teeth. This release went viral in social media and was covered by *Smithsonian Magazine, the Guardian, International Business Times Australia, International Business Times UK, Discovery News, AOL News, Tech Times* and *New Hampshire Voice*.
- The South Australian Museum's partnership with the Smithsonian, the New York Botanic Gardens, Chicago's Field Museum, the Australian Museum and others to bring natural history collections online through a four-day global blitz of online crowdsourcing. This was covered by publications such as *Entomology Today, Tela Botanica* and *Discover Magazine* as well as across social media.

The *Waterhouse Natural Science Art Prize* competition and exhibition again received very positive coverage in major national media, including *ABC news and ABC news online, the Age, the Canberra Times, the Australian, WA Today, the Advertiser, SA Life Magazine, the Herald Sun, the Darwin Sun and InDaily*.

5.2.5 Inspiring South Australia Program

Inspiring South Australia (ISA) is the State's localised implementation of the national Inspiring Australia Strategy to strengthen our society's engagement with the sciences. The Museum continued to be the State's federal partner in 2015-16, and implementing the strategy involved a diverse range of actions and initiatives within each state and territory that contributed towards common objectives. In South Australia, the program focused on the objectives of the national *Inspiring Australia* strategy and its four specific outcomes:

- A society that is inspired by and values scientific endeavour.
- A society that critically engages with key scientific issues.
- A society that encourages young people to pursue scientific studies and careers.
- A society that attracts increasing national and international interest in its science.

The ISA program was supported by the Australian Government through the Department of Industry, Innovation and Science, the South Australian Department of State Development, the University of Adelaide, the University of South Australia, Flinders University and the South Australian Museum as the program host.

Highlights for the year included:

- engaging regional stakeholders to establish two new Regional Science Hubs – one in the Eyre and West region and one in the Far North – and develop a program of science engagement for their communities. These included both year round activities and National Science Week events. There are now six Regional Science Hubs
- running a very successful STEM Education Summit hosted by the Limestone Coast Regional Science Hub in Mount Gambier with 750 education professionals, followed by a weekend *Science Fair*
- establishing a new website to create an online science communication hub which provides information, facilitates science engagement and promotes Inspiring Australia initiatives. It will effectively communicate with ISA's target audiences in order to increase engagement with the sciences and improve science literacy.

5.3 DEVELOPMENT

This was the Museum's Development Department's most successful fundraising year, with over $1.481 million raised through donations, benefaction, sponsorship and grants for the benefit of the South Australian Museum in 2015-16.

Donors were highly receptive to new opportunities created for students and early career researchers at the Museum, particularly those for Aboriginal applicants. This resulted in over $400 000 of new funding for scholarships, cadetships and a new curatorial position – much of this funding will remain ongoing.

The major development project for the year was associated with the Museum's *Opals* exhibition and attracted new and diverse levels of support from donors, businesses, and government. This project attracted more than $1 million in donations to the Museum's minerals collection, in addition to funding for the public programs, exhibition design, and associated events. All fundraising activity was delivered in close collaboration with the South Australian Museum Foundation.

The Museum was also very grateful to receive two significant bequest donations in the 2015-16 year from private individuals. These bequests were dedicated toward the Museum's herpetological research and the display of opals in the Museum's permanent gallery.

The Museum's bequest program received the very welcome endorsement of Mr Antony Simpson as its new Patron, and the offering was revised in close consultation with Mr Simpson and Foundation Chairman, Dr Mary Sutherland.

The Exhibition Leadership Council model of support continued to be well received by private donors. The South Australian Museum Foundation worked very closely with the Development Department in the delivery of these programs, and together they secured support for *Opals*, *Shields: Power and Protection of Aboriginal Australia*, and *Curious Beasts: Animal Prints from Dürer to Goya* (October 2016).

Support from businesses continued during a relatively difficult down-market year. Projects supported included outreach and collection digitisation. In addition, the Museum gratefully received funding from across State Government for the delivery of *Outreach*, the *School Holiday Program*, the State Fossil Emblem project and the *Opals* exhibition.

The Museum launched a new membership program through the generous support of the South Australian Museum Foundation. Museum Membership was designed as a complementary offering to the Museum's existing supporter groups, and created a way to enhance the Museum's audience base and raise awareness of the critical need for support.

The Development Department of the Museum was realigned to ensure greater success across all areas of funding, namely individual giving, trusts and foundations, corporate, and government. The Development Department realignment resulted in the creation of two new roles, one with the support of the South Australian Museum Foundation, and two highly experienced fundraisers were recruited.

The department delivered all major opening events, events for donors, events for members, events for corporate members, as well as working collaborative across the Museum to build the contacts management database (Raiser's Edge).

The Museum gratefully acknowledges the leadership and assistance of the South Australian Museum Foundation and the Waterhouse Club.

5.4 VISITOR EXPERIENCE

Formed in January 2015, the Visitor Experience department is responsible for all non-exhibition front of house spaces as well as commercial revenue generation.

This department is responsible for delivering the following objectives of the Museum's Strategic Plan:

1.1 Establish ongoing processes which measure and interpret the needs and wants of visitors.

1.2 Enhance the visitor experience.

1.3 Manage the public area of the Museum in a unified way with the visitors' experience first and foremost.

3.2 Undertake entrepreneurial activity as a means of generating revenue.

5.4.1 Visitor Experience Staffing

The Visitor Experience department includes the Discovery Centre, Venue Hire and general management of the Museum's visitor services. As a result of the Front of House Strategy, developed in late 2015, a new Visitor Experience Officer position was created. This role, which was filled in February 2016, is responsible for day-to-day management of front of house spaces; coordination of Gallery Guides and other visitor-facing volunteers; and responding to visitor enquiries and feedback.

5.4.2 Volunteers

Volunteers made a valuable contribution to the Museum's visitor experience. A team of highly motivated volunteer Gallery Guides have been offering free daily tours of the Museum for many years. During the year this group was brought under the management of the Visitor Experience department. Furthermore, in 2015-16, there was a significant expansion in the number and type of volunteers working in the Museum's public spaces. In particular, a group of Volunteer Hosts were recruited to help welcome and direct visitors during the *Opals* exhibition. The volunteer contribution during the course of this exhibition exceeded 500 person-hours. Owing to the success of the hosting program during *Opals*, the role of Volunteer Museum Host was formalised and additional volunteers were actively recruited and trained as hosts. Volunteer Data Collectors continued to be instrumental in the Museum's endeavors to learn more about our visitors since their establishment in 2014-15.

5.4.3 Visitor Demographics

To deliver on the department's strategic objectives it was essential to learn more about the Museum's visitors. Since April 2015, an ongoing research program has been conducted with volunteer assistance to regularly survey visitors at the Museum. A subset of the visitors surveyed onsite agreed to receive a follow-up survey via email. This survey covered which galleries were visited and facilities used as well as overall visit satisfaction. In addition, visitors to special exhibitions were invited to complete a similar follow-up survey online. This research program allowed the Museum to build up a more detailed understanding of the general visitor population, as well as the profiles of visitors to special exhibitions.

In 2015-16, a total of 1296 randomly intercepted visitors responded to the general visitor survey, with 164 visitors (13%) completing the more detailed follow up survey. Of these, 62% resided in South Australia, 20% were visiting from interstate and 18% from overseas. Overseas visitors were most commonly from the United Kingdom (18%), United States of America (12%), New Zealand (9%) and China (9%). Visitors from Asia represented 30% of all international visitors to the Museum.

Other key findings from the onsite visitor survey included:

- 33% were first-time visitors to the Museum
- 21% were regular visitors (visiting annually or more frequently over the past five years)
- 41% of respondents were visiting with at least one child.

A subset of visitors was asked more detailed questions about the composition of their group. Based on these responses, it was estimated that approximately one third of all visitors to the Museum in 2015-16 (excluding school visits or other pre-organised large groups) were children aged under 16 visiting in the company of parents or other caregivers. The average age of children visiting in such family groups was seven.

Results from the general follow-up survey, as well as the special exhibitions surveys, were used to developed a more detailed profile of different visitor groups to the Museum, the nature of their experiences at the Museum, and their other leisure habits. This information will be used to inform future exhibition development and more targeted marketing campaigns.

5.4.4 Public Feedback and Improvement Strategy

The Museum maintained several means by which members of the public may offer feedback or complaints, through:

- writing, either by completing a Visitor Feedback Form or in writing to the Museum
- email (feedback@samuseum.sa.gov.au has been established for this purpose)
- telephone
- social media.

Feedback, managed through the Visitor Experience Officer, was collated and summarised in order to monitor patterns in visitor comments with specific points of concern passed on to the relevant Museum department for action. The Museum adopted Department of State Development's Customer Complaints Management Policy and Procedure (December 2015), which ensured that the Museum's management of complaints was consistent with other agencies and satisfied the requirements of the *Australian Standard AS/NZS 10002:2014 Guidelines for complaint management in organisations.* The Museum also developed a policy guideline document to help staff manage feedback and complaints.

Since the revised complaints management process was implemented in April 2015, a total of five formal complaints were recorded, primarily regarding service delivery at front of house. All of these complaints were resolved within the 10 working day time frame required by the revised policy.

Across a similar timeframe, a total of 33 comments were received via the Museum's visitor feedback forms. Assessment of the comments revealed approximately one third was positive in nature, one third was negative, and the remaining third had both negative and positive elements, or were otherwise non-evaluative suggestions.

5.4.5 Discovery Centre

The Discovery Centre was open daily, 11am-4pm on weekdays and 11am-3pm on weekends. It was staffed by a Manager, two part-time Information Officers, plus a pool of casual staff and volunteers. The Discovery Centre has two main target audiences: families seeking hands-on activities with natural and cultural specimens; and members of the public who had a specific query or specimen that they sought Museum expertise in identifying. The Discovery Centre holds a reference collection of natural history specimens and a library of books and fact sheets to assist with public queries. The Discovery Centre's collection of live animals, including a working beehive, remained very popular with family visitors.

On average, approximately 25% of Museum visitors enter the Discovery Centre. This increased during weekends and school holidays, and decreased during term time on weekdays. In previous years, the Discovery Centre has closed between Christmas and New Year, but it was kept open in 2015 from 11am-3pm, 27-31 December. During this time the Discovery Centre was highly popular and frequently visited by families. The Museum will plan for the Discovery Centre to be open during this period in coming years.

The number and type of queries received by the Discovery Centre was logged during 12 days in January. A total of 626 enquiries were received, most of which were in person (75%), but also included phone (15%) and email (10%) enquiries. Of the enquiries received, 46% (287) were with regard to Discovery Centre material/objects. Other key areas included: Zoology (170, 27%); the Museum in general (41, 6%); Palaeontology (25, 4%); and the School Holiday Program (22, 4%). The duration of each enquiry was qualitatively assessed with the following results: brief enquiry (<2 min) 315 (50%); standard enquiry (2-10 min) 292 (47%); and detailed enquiry (10-30 min) 19 (3%).

5.4.6 Venue Hire

The Museum's lobby, galleries and lawned areas again provided a unique setting for corporate functions, weddings and other private events. A total of 107 private events were hosted by the Museum in the 2015-16 period, representing approximately 10% growth on the previous year. Venue Hire continues to be an important source of revenue for the Museum and strategies will be implemented in the coming years to continue growing this aspect of the business.

5.5 STAFF ACHIEVEMENTS AND AWARDS

The Museum's Manager of Visitor Experience, Dr Regan Forest was awarded a PhD in July 2016. Dr Forest received her award for her research titled "*Design Factors in the Museum Visitor Experience*". Dr Forest's study used the South Australian Museum's permanent exhibition galleries to develop a model for describing visitor perceptions of different exhibition environments, and how these perceptions relate to the nature of the visitor experience in each gallery

The Ara Irititja project was presented with the Outstanding Project Award by the Association of Tribal Archives, Libraries, and Museums, *2015 Guardians of Culture and Lifeways International Awards*, on 11 September 2015 in Washington DC.

Ara Irititja, meaning 'stories from a long time ago' in the language of Anangu (Ngaanyatjarra, Pitjantjatjara and Yankunytjatjara people) of Central Australia, aims to bring back home materials of cultural and historical significance to Anangu by way of interactive multimedia software now known as Keeping Culture KMS. Materials include photographs, films, sound recordings and documents. This purpose-built computer archive digitally stores these materials and other contemporary items and repatriates them to Anangu.

5.6 RESEARCH

Research scientists, Honorary Research Associates and students co-supervised by Museum personnel won 11 competitive, external research grants, worth $3 458 017, during the 2015-16 year. Three of these were Discovery grants from the Australian Research Council (ARC):

- exploring methods that best combine information from fossils and from modern DNA data to reveal the evolutionary history of major animal groups, in this case, snakes (sole applicant, the Museum's Dr Mike Lee)
- a study of the evolutionary history of the evolution of limbs from fins (Museum participants: Prof John Long, Honorary Research Associate, Palaeontology and Dr Mike Lee)
- reconstructing Aboriginal Australian history using ancient genomic DNA (Museum participant: Dr Keryn Walshe, Archaeology).

During the year Museum staff were also partners in two new ARC Linkage grants, one on the plasticity of evolutionary change in tiger snakes isolated on islands (Lead Investigator Dr Vicki Thomson, University of Adelaide, Museum participants: Dr Mike Lee and Dr Mark Hutchinson), and the other on the patterns of breakdown of plastic materials as a problem in managing museum collections (Lead Investigator Dr Petronella Nel, University of Melbourne, Museum participant Dr Keryn Walshe).

In addition, the new Head of Anthropology, Prof John Carty, was awarded an ARC Early Career Researcher fellowship (Discovery Early Career Researcher Award) while still at the Australian National University and will be transferring that to the University of Adelaide as part of taking up his new position.

The Museum's A/Prof Mark Stevens also participated in a notable grant with funding from the Federal Government's new Columbo Plan, to study biodiversity and ecosystem health across the Pacific.

The Museum continued to establish strong collaborative research partnerships during the year, with 226 partnerships in total:

- 51 with other museums
- 138 with university departments
- 8 with education departments and community colleges
- 48 with other agencies and research institutions.

Internationally, Museum scientists and Honorary Research Associates have established or sustained, 89 productive research collaborations with the following 31 nations: Argentina, Austria (two separate collaborations), Brazil (two separate collaborations), Canada (seven separate collaborations), China (two separate collaborations), Czechoslovakia, Fiji (two separate collaborations), France (five separate collaborations), Germany (six separate collaborations), Hungary, Iceland, Indonesia (four separate collaborations), Iran, Italy (two separate collaborations), Japan, Malaysia (two separate collaborations), the Netherlands, New Zealand (nine separate collaborations), Poland, Russia, South Africa, Spain (four separate collaborations), Sri Lanka, South Korea, Sweden, Switzerland (two separate collaborations), Thailand (two separate collaborations), Vietnam, UK (six separate collaborations) and the USA (19 separate collaborations).

Throughout the year, Museum staff and Honorary Research Associates contributed approximately 2600 hours of teaching and student supervision. They contributed to the direct supervision of 49 PhD students (the total has more than doubled from 2014-15, with the commencement of many new students), and 21 Honours students (also a doubling compared to the previous report).

In September 2015, the Museum was very pleased to announce the appointment of Dr Benjamin Grguric to the role of Chief Researcher and Head of Earth Sciences at the Museum. Dr Grguric's career may well have started when he became a youthful volunteer in this Museum's Mineralogy section. He subsequently went on to a career in economic geology and mineralogy. His record of achievement includes a scholarship to Cambridge for his PhD and international experience across several continents working at mining field sites. Prior to taking up his position at the Museum, Ben had established his own geoscience consultancy for the mining industry (Mineralium PTL). His long-term familiarity with the research needs of the mining industry makes him well placed to lead this important strategic area of the Museum's research program.

In December, the Museum filled the remainder of the vacant senior science staff posts with the arrival of Professor John Carty. He now holds the new joint position of Head of Anthropology at the Museum and Professor of Anthropology at the University of Adelaide. John comes to the Museum from the Australian National University with a strong record as a researcher in Aboriginal art and culture. He has extensive experience within Australia and overseas in communicating ideas from museum collections to the wider public in ways that intimately involve the Aboriginal owners of the objects and artworks. John has also gained many of his insights into this rich culture through his considerable experience in living and working with Aboriginal communities in northern and central Australia. John brought with him a new and exciting vision for the research of Indigenous art and culture and a determination to more thoroughly link the Museum and its collections to the living cultures of today's Aboriginal Australia.

At the start of 2016, Dr Mike Lee's position became a joint appointment, maintaining his position as Senior Researcher in Palaeontology at the Museum and joining the School of Biological Sciences, Flinders University as Professor of Evolutionary Biology and Matthew

Flinders Fellow. This recognises Mike's outstanding track record as a researcher of international reputation and further cements the research relationship between the Museum and Flinders University.

This year the Museum has moved to further encourage the best research students to consider the Museum as a place where their research interests can flourish. Thanks to the generosity of Museum donors, new support schemes for research students working at the Museum have begun. PhD student Lily Reid has become the first recipient of the Museum's Postgraduate Researcher Scholarship, providing a salary top-up and research spending over three years to support her project on the palaeoenvironment of the first multicellular organisms of the Ediacaran fauna. The support for this award is based on an endowment which will continue into the future to attract other outstanding students to the Museum.

The Research and Collections area of the Museum is in the process of articulating its major research strategies. This will help the team to more clearly explain the main areas of Museum research and its impact to the community. This report includes the draft major areas of investigation, identified by italicised headings, with their associated research highlights.

5.6.1 Anthropology and Humanities

5.6.1.1 ***Human and Cultural Evolution.*** *How cultures change over time and how these changes are expressed through material culture.*

The Museum's researchers published 20 peer-reviewed works in this area during 2015-16.

Our knowledge of pre-contact Aboriginal societies continue to be illuminated by analysis of the Roonka site. This work was coordinated by Dr Keryn Walshe in collaboration with Honorary Researcher Dr Judith Littleton (University of Auckland), with new data emerging on the stature of individuals, with its implications for interpretations of past health and dietary status. This is part of Dr Littleton's broader research investigation into pre-contact and contact biological and cultural variation among Aboriginal populations along the Murray River and in South Australia. Research into the environmental effects on Aboriginal societies also includes ethnobotanical research by newly returned, now Honorary Researcher Dr Philip Clarke and his colleagues and its implications on understanding the lives of the Aboriginal people of southeastern South Australia. This work has provided insights on diet, medicine, seasonal movements, mythology and material culture.

The cultural effects of contact between Indigenous populations with aspects of colonising societies continues to be explored by Honorary Researcher Dr Peter Sutton and Dr Barry Craig. Dr Sutton concentrated on settlers and early anthropologists (such as Tindale) interacting with Cape York Aboriginal cultures and Dr Craig has documented the material cultural effects of war time contacts between New Guinean people and Australia's military forces.

The major exhibition in March-April, *Shields – Power and Protection in Aboriginal Australia* was an additional significant contribution to this strategic aim. Dr Philip Jones extensively researched background and stories about the objects for this exhibition.

Museum Honorary Researcher Prof. Alan Cooper (University of Adelaide) and postdoctoral fellow Dr Laura Weyrich are pioneering a new method for gaining insights into the diets and health of ancient societies through their analysis of dental calculus and the bacteria it contains. They are using advanced DNA sequencing technology to identify bacterial species that were present in the oral flora of these societies. The bacterial mix yields important clues regarding

the diet and oral health of these societies and monitoring changes over time can yield insights into the impact of changing resources and contact with new societies.

5.6.1.2 ***Culture and Art****. New perspectives and historical context for the transformations of Aboriginal material culture into contemporary art.*

The Museum's researchers published four peer-reviewed works in this area during 2015-16. Honorary Researchers Dr Mike Snow and Dr Peter Sutton's collaboration on *Iridescence* put into print the concepts from the Museum's 2014-15 exhibition of the same name. The collaboration between physical science (Dr Snow) and cultural anthropology (Dr Sutton) explored the artistic effects of interference patterns that lead to the shimmering effects incorporated into human art and decoration.

Dr Barry Craig's chapter on masks from the Sepik region of Papua New Guinea also contributed to this strategic area (section 6.2). This publication discusses several types of cultural objects and their transformation from markers of culture, with particular roles unique to those cultures, to powerful works of world art.

5.6.1.3 ***Indigenous Museology.*** *How Indigenous people, concepts and values find expression in exhibition development and collection management in the modern museum.*

A major change in this area has been the procurement of philanthropic funds to secure Aboriginal employment in the Museum. A new position of Curator of Aboriginal Art and Material Culture was funded, along with an early career position, and 2 annual cadetships. All these positions will be filled in late 2016, heralding a new era of Aboriginal employment and involvement at the Museum. In regard to Indigenious Museology, the Museum has entered a new area and it is expected to become an important focus in future years. Steps in this area were taken in the *Shields: Power and Protection of Aboriginal Australia* exhibition, with modern Aboriginal revisiting of shield making in the Kaurna tradition contributing to the static displays. The exhibition opening had a focus on re-telling dance and decoration traditions by modern Aboriginal society. This new trajectory in Museum practice is already underway in the form of three collaborative partnerships with Aboriginal communities for future exhibitions. Professor John Carty and the exhibition design team are working with the Girringun artists (Manggan exhibition late 2016), Yolngu artists (Yidaki/Didjeridu exhibition, 2017) and the Ngaanyatjarra art centres (Home exhibition, 2017) on a new model of co-development and co-curation of Museum exhibitions.

5.6.1.4 ***Other Anthropology.*** *Original work where the research expertise of South Australian Museum researchers informs the South Australian community.*

Expertise in anthropology led Dr Peter Sutton to the beach on Dampier Peninsula, Western Australia, to act as an expert witness in an on-site hearing of a native title case. The Museum's holdings of historical records allows Museum experts to assist in many areas where detailed knowledge is essential for decision making.

Figure 5.6.1.4: The Federal Court convenes on the beach of Dampier Peninsula (Photo: Peter Sutton).

5.6.2 Biological Sciences and Palaeontology

5.6.2.1 ***The Tree of Life.*** *Discovering and explaining the diversity and distribution of animal life.*

The Museum's researchers published 74 peer-reviewed works in this area during 2015-16. Other publications, such as reports and identification guides, added to this total in an area of research that continues to be a central theme of Museum activity.

Research on groundwater associated crustaceans, including stygifaunal species, is a major research theme. Dr Rachael King and Prof. Steve Cooper have used molecular and morphological analyses to define three new species of freshwater syncarid crustaceans from South Australia in the genus *Koonunga.* The same team, with colleagues at the University of Adelaide, also discovered a remarkable new family and several species of troglobitic isopod crustacean in the genus *Paraplatyarthrus* from Western Australia. These crustaceans have a unique water vascular intake system via their antennae! Dr King also co-authored a review paper that dealt with ways to define morphologically cryptic species across spring groups using molecular and geographic data.

Figure 5.6.2.1: A newly discovered freshwater crustacean Koonunga *from Freeling Springs, Lake Eyre Basin (Photo: Remko Leijs)*

In collaboration with Prof. Alan Andersen (CSIRO), Dr Kate Sparks continued to work on expanding our knowledge of the species diversity of Australian ants with a particular focus on *Melophorus* and *Monomorium.* Preliminary mitochondrial DNA data indicated significant unrecognised species diversity in both groups with many new species yet to be documented and described. The fauna of the arid zone has been the focus for further work on the diversity of salt lakes, with new work on the endemic salt lake scorpion 'species' *Australobuthus xerolimniorum*. This research now includes further molecular data (mitochondrial and nuclear genes) and reveals great levels of diversity representing numerous new species.

Museum researchers continue to discover new species of vertebrates from the Australian arid zone, a harsh place to find a new species of frog, albeit one well adapted to the extended droughts of the interior though its ability to secrete a cocoon of thickened skin while buried.

Evolution of the fauna of the Australian landmass is intimately connected to that of the adjacent Melanesian and Southwest Pacific, and Museum researchers have made important contributions to our knowledge of these areas in the last year. These include new native bees in Fiji (see below for the continuing Fijian studies by A/Prof Mark Stevens and Honorary Researcher A/Prof Mike Schwartz) and Australian robberflies. Honorary Researcher Dr Steve Richards, working on the New Guinean fauna with colleagues in Germany, Indonesia and the USA described four new species of frogs and no less than 17 new species of dragonflies and damselflies. Prof. Steve Donnellan and colleagues from Finland and the USA described new species of goanna and rat from remote islands in PNG, rarely visited by biologists.

The Museum has long had a specialisation in the diversity of parasites, and new species in several groups have been named this year. Amongst them are descriptions of new acanthocephalans from fishes by Honorary Researchers in Parasitology Dr Di Barton and Dr Lesley Smales. Honorary Researcher Dr Ian Beveridge and colleague David Spratt (CSIRO) also completed a nearly 200 page review of the parasites of marsupials and monotremes, which summarises a long period of discovery of parasite diversity evolution within these two Australian mammal groups.

5.6.2.2 ***The History of Life.*** *Understanding the major events in our evolutionary past.*

The Museum's researchers published 34 peer-reviewed works in this area during 2015-16. The Museum's researchers approached this topic using the long-established disciplines of palaeontology and comparative morphology as well as newer tools such as DNA sequencing that can independently provide hypotheses regarding the evolutionary relationships among animals.

Studies of the origins and diversity of the first multicellular life (the Ediacaran fauna) and of the earliest origins of the major living animal groups (the Cambrian explosion – Emu Bay) have continued and ensure the Museum's position as a leading institution in the study of the origins of complex life.

Figure 5.6.2.2: PhD students Felicity Coutts (l) and Lily Reid (r) examining an Ediacaran fossil slab (photo South Australian Museum).

Dr Jim Gehling's Ediacaran research program is continuing to explore the environmental conditions at the time that the fossils formed. PhD student Lily Reid, first recipient of the Museum's Postgraduate Scholarship Award, is undertaking studies of the chemical environment of the sediments. This research will include expertise in geochemical microanalysis from Dr Justin Payne, Lily's principle academic supervisor at the University of South Australia. Dr Jim Gehling and Museum Honorary Researcher Dr Diego Garcia-Bellido are also working jointly with their students on studies of the diversity of early animal communities, with reference to both the South Australian Ediacaran and Cambrian sites. Dr Diego Garcia-Bellido and his students continue to lead the studies of the Emu Bay Cambrian deposits on Kangaroo Island. He has also been part of a group looking at a more 'modern' fauna from the 450 million year old Ordovician deposits of Morocco.

The broad patterns of evolutionary history received several important contributions from Prof Mike Lee this year. His research has included new analyses of mammalian and venomous snake evolution, and considered the best way to approach combining evolutionary data from morphology and DNA sequence data. In a more specific problem area, Prof Lee led a team to appraise a remarkable fossil find from Brazil announced late last year, *Tetrapodophis*, which is

an apparently snake-like elongate reptile that has all four limbs and feet present (albeit very small in size). The current debate on snake origins is polarised, between snakes having either a burrowing or swimming ancestry – Dr Lee's new study established that *Tetrapodophis* had characteristics of both a burrower and a swimmer!

Honorary Researcher Dr Trevor Worthy has published several studies dealing with major fossil bird groups and the light these fossils shed on the history of bird evolution.

5.6.2.3 ***Evolution in Action***. *Documenting and understanding the evolutionary mechanisms that promote and maintain biodiversity.*

The Museum's researchers published 11 peer-reviewed works in this area during 2015-16. The Museum's collections provide a huge and still under-used resource for understanding how evolution modifies anatomy and how anatomical features 'work' in helping species to survive. Comparative studies of anatomical change are likely to multiply in scope and taxonomic breadth as, more and more, museums become the only places where large comparative collections are maintained for scientific study.

Dr Peter Hudson, using research grants from Nature Conservation Society of SA and Field Naturalists Society of SA, has continued to work on Australia's arid-zone salt lakes. This research continues work on the pogonine beetles endemic to the salt lakes that show remarkable variation from flighted to flightless species.

A research program on the functional and developmental variation in vertebrate skulls advanced with work led by Flinders University postdoctoral researcher Dr Alessandro Palci with the Museum's Prof Mike Lee and Dr Mark Hutchinson. The study addressed the differential changes that happen during the growth of snakes and the result in the enormous gape for which they are well known. The work revealed that different groups of snakes achieve this in at least two different ways and implies that the very wide gape has evolved at least twice within snakes.

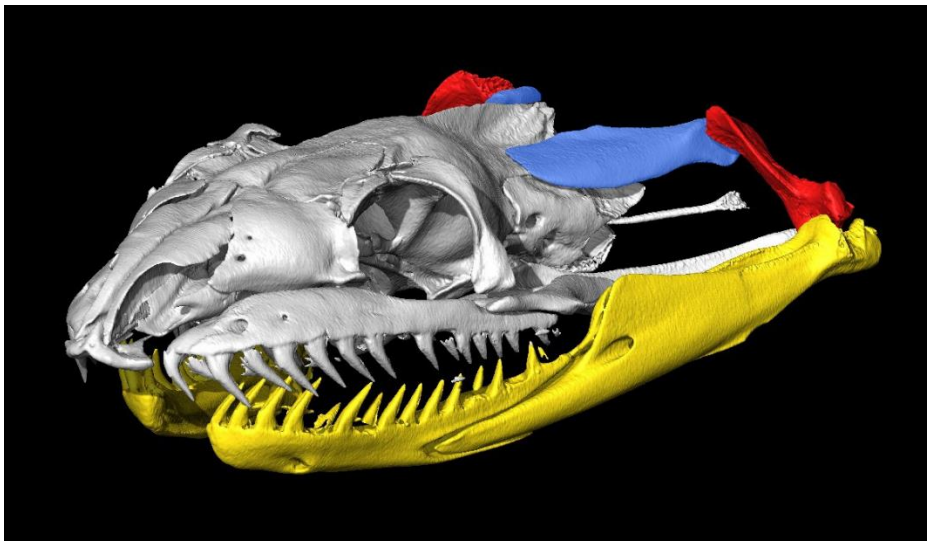


Figure 5.6.2.3: The CT-scanned head of a python, showing the elongated bones (blue and red) that push the jaw joint to beyond the back of the skull (Image: Alessandro Palci).

5.6.2.4 ***Tools for Conservation.*** *Providing the taxonomic and genetic foundations for conserving threatened species.*

The Museum's researchers published 23 peer-reviewed works in this area during 2015-16. The Museum's research contributes to threatened species research by clarifying the limits of species; by providing a historical perspective on former occurrences, thanks to its collections accumulated over nearly a century and a half; and by its ability to immediately apply many of the latest DNA based genetic tools that can demonstrate the genetic 'health' of isolated populations and reveal patterns of gene flow within and between them.

Insect diversity and evolution across the Pacific continues to be a focus of the Museum's Terrestrial Invertebrates section. The Museum (A/Prof Mark Stevens) and Flinders University (A/Prof Mike Schwarz and Dr Scott Groom) have long-term research interests in the evolutionary and population changes of bees across the Pacific. A recent finding was the unexpected effectiveness of Fijian bees in pollinating introduced weeds. Their pollination is so effective that it is promoting the spread of the weeds at an alarming rate, making Fiji especially vulnerable to these exotic plant species. The Pacific research is now in its second, five year term of funding from Australia Pacific Science Foundation and this year attracted further funding from the Commonwealth New Colombo Plan (see http://blogs.flinders.edu.au/flinders-news/2016/06/07/pest-plants-hook-fijian-bees/). Research updates can be found on the APSF website: http://www.apscience.org.au/projects/APSF_14_1/apsf_14_1.html. Research on this, and other newly introduced species, has this year included two honours students, Sarah Hayes and Matt Hisee, and PhD students Ben Parslow, Celina Rebola and Olivia Davies from Flinders University.

Vertebrate conservation work has included major contributions by Mark Adams together with Honorary Researcher Dr Mike Hammer to understanding the genetic diversity and isolation of freshwater fishes in various harsh and isolated environments in inland Australia. Prof Steve Donnellan and colleagues at the University of Adelaide have provided a population structure perspective on the mulloway. This will help to better manage this marine species of commercial and recreational fishery importance to both indigenous and non-indigenous communities in South Australia. Prof Steve Cooper's PhD student and collaborators contributed important genetics data for managing threatened populations of the southern brown bandicoot, *Isoodon obesulus* and evidence that the subspecies *I. obesulus obesulus* is restricted in its distribution to eastern Australia and the south-east of South Australia (reports to Natural Resources Adelaide and Mount Lofty Ranges South Australia, and Federal Department of Environment Threatened species advisory committee). These data led to the continuation of the 'threatened' status of the subspecies *I. obesulus obesulus*. Prof Steve Donnellan and Dr Terry Bertozzi were part of a research group from several institutions who have developed a 'kit' of microsatellite markers that can be used to monitor mallee fowl genetic diversity across their surviving populations.

Honorary Researcher Kyle Armstrong has co-authored several studies that contribute to the knowledge of small insectivorous bat distribution and conservation in both tropical Australia and New Guinea.

Prof Donnellan and colleagues from ANU, Western Australia and the USA continue to discover the immense extant of undocumented biological diversity across the Australian monsoonal tropics. This year they have focused on geckoes with work in progress examining this issue in frogs, snakes and other types of lizards.

5.6.2.5 Other Biological Contributions

Original work where the research expertise of Museum researchers informs the South Australian community includes the work on marine mammal pathology carried out as a collaboration between Dr Cath Kemper and Honorary Researcher, Dr Ikuko Tomo. Their work continues to clarify diseases, deficiencies and causes of death of local species based on both new stranded specimens and the Museum's rich holdings of skeletal and soft anatomical samples of whales, dolphins and seals. Work this year has extended to investigating the causes of death of little penguins, the decline of which continues to cause concern.

The Museum regularly provides identification services based on our taxonomic knowledge and the genetic technologies available to us. For example, the EBU's Mark Adams undertook a record number (37 during the October – May period) of 'same day' genetic identifications of fruit fly maggots this year, helping PIRSA's Biosecurity SA in its quest to keep South Australia's status as the only mainland state free of fruit fly.

Figure 5.6.2.5 The southern bent-winged bat, a critically endangered Australian cave-dwelling species (Photo Terry Reardon and Steve Bourne).

Dr Terry Reardon (EBU and Vertebrates) in partnership with researchers at Melbourne and Adelaide Universities received funding from the federal Department of Agriculture and Water Resources through a project led by Wildlife Health Australia to conduct a risk analysis for White-nose Syndrome (WNS). This is a fungal disease that has killed around six million bats in North America since its accidental introduction in 2006. The disease has had a drastic effect on populations of several already threatened bat species in North America, particularly cave-dwelling bat species. Bat biologists are greatly concerned about the risk that WNS represents to Australian bats. During the year the team researched and reported on cave environments and species' distributions, as well as the potential modes of fungal introduction into Australia. It is expected that research report results will be published in the next financial year.

5.6.3 Mineralogy

5.6.3.1 ***The Chemistry of the Earth.*** *How geological and mineralogical processes in the Earth operate at the molecular level.*

The Museum's researchers published 11 peer-reviewed works in this area during 2015-16. This work has been a major focus for the Museum in recent decades and will continue to be so. This work provides crucial theoretical and predictive information on the geochemical processes that determine where and how minerals have formed within the earth.

Former Senior Mineralogy Researchers and now Honorary Researchers, Professors Allan Pring (Flinders) and Joel Brugger (Monash) continue to explore the structures of minerals and ores. The research is aimed at understanding the processes that allow certain mineral associations to form, how the chemical elements comprising them interact with each other, and how those structures may change over time. Materials studies include mineral samples from the Museum's own collections as well as samples from major South Australian ore bodies, such as the uranium deposits at Olympic Dam.

An important collaborative study on the nature of rock surfaces brought together a multidisciplinary team that included archaeologists and physical chemists, including Prof Allan Pring. The team investigated the chemical and physical properties of rock coatings on outcrops at Ngaut Ngaut in the Murray River valley. Their findings have a number of implications, one being that the oxalate mineral in the rock coating could potentially be used to conduct accelerator mass spectrometry radiocarbon analysis and thereby refine our understanding of the rock art chronology.

5.6.3.2 ***Mineral Diversity.*** *Understand the rich endowment of mineral deposits of central Australia in terms of its complex geological history.*

The Museum's researchers published 4 peer-reviewed works in this area during 2015-16.

Prof Pring coauthored three papers that described new minerals, two of which were from the remarkably rich deposits around Broken Hill, while the third was from a site in the German state of Bavaria.

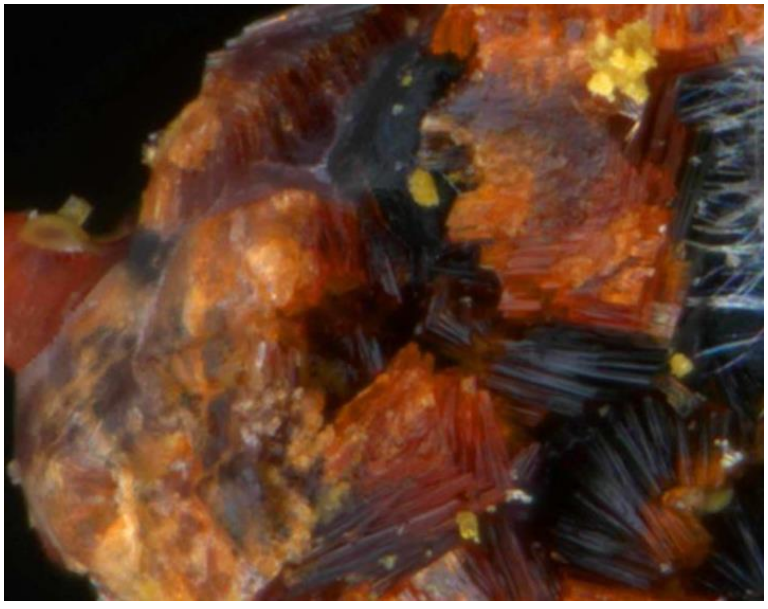


Figure 5.6.3.2: The orange to dark red crystals of the newly described Zinc-Manganese-Iron mineral Flurlite (modified from an image from the original description in Grey et al., 2015)

Documenting the myriad of distinct mineral types provides insights into the multitude of chemical environments that exist in the earth. While the research contributes to our understanding of the diversity and limits of the environments in which minerals are formed, it also helps us to understand the sheer beauty of the mineral world. This year the major Museum exhibition for the summer holiday period, *Opals*, showed not only the beauty of these extraordinary and quintessentially South Australian gems, but also provided an opportunity to demonstrate our scientific knowledge of the processes that lead to their formation. In association with this exhibition, Dr Ben Grguric and Prof Allan Pring authored a publication reporting on a new and unusual chemical signature within opal samples from Coober Pedy.

5.6.3.3 ***Mining Partnerships***. *Liaison with mineral producers in Australia and investigation of areas for fundamental and applied research with both scientific and material benefits.*

This is an area of Museum/industry collaboration in which Museum researchers use their theoretical knowledge and expertise to solve problems with economic impact on our use of mineral resources. While no peer-reviewed publications emerged in this strategic area this year, a series of reports by Dr Ben Grguric outlined essential baseline information on the mineral indications from drill cores for five separate exploration companies operating across South Australia, Western Australia and Indonesia.

The Museum's Mineralogy Department will be a key collaborator with the Department of State Development as they support development of exploration strategies for copper-bearing minerals during the coming year.

5.7 THE COLLECTIONS

The Museum's collections grew at a greater rate and were more accessible this year than the previous year.

In 2015-16, the Museum accessioned more than 25 548 new items into its collections, which represents a 26% increase compared to the previous year (20 238).

Over the course of the year, 396 loans (representing 4609 objects or specimens from the Museum's collections), were internationally shared with 62 institutions in 18 countries. The collections were accessed by 266 visiting researchers and were subject to 1326 collection enquires.

Traditional means of loaning collection material remained the primary means of sharing collection items with a total 383 of all loans being physically sent to collaborating partners. The Museum also shared digital representations of collection items as a result of our digitisation efforts. During the year, 13 digital 'loans' were provided in lieu of physical collection material. Sharing digital content, rather than physical material, significantly reduces the risk of damage to collection items while still realizing the benefits of collaboration.

By the end of the year, the Museum's collection was also more accessible than ever before with a total of 482 181 records available on the Atlas of Living Australia (compared to 323 931 at the end of the prior year), of which 7648 are accompanied by images. At the end of the year, Museum data had been downloaded on 27 544 occasions from the Atlas of Living Australia website.

The Museum's website was also updated to include over 1500 images and 500 digital records of material from the Australian Aboriginal Material Culture Collection for the first time. This represented a significant step in the Museum's endeavors to increase the accessibility of its collections to all.

Figure 4.6b details the wide range of peer engagement from national and international institutions the South Australian Museum has loaned material to during 2015-16. During the year, the Museum had active collection engagements around the world with its material on loan to institutions such as, Natuerhistorisches Museum Wien, Austria; Museum National d'Histoire Naturelle, France, Zoologische Staatssammlung Munchen, Germany; Hungarian Natural History Museum; University of Tehran; National Museum of Nature and Science, Japan; University of Lodz, Poland; Instituto Geológico y Minero de España, Spain; Swedish Museum of Natural History; Natural History Museum, UK; American Museum of Natural History; Scripps Institution of Oceanography, USA; Universidad Nacional de Mar del Plata, Argentina; Instituto Butantan, Brazil; University Museum of Bergen, Norway; Moscow State University, Russian Federation.

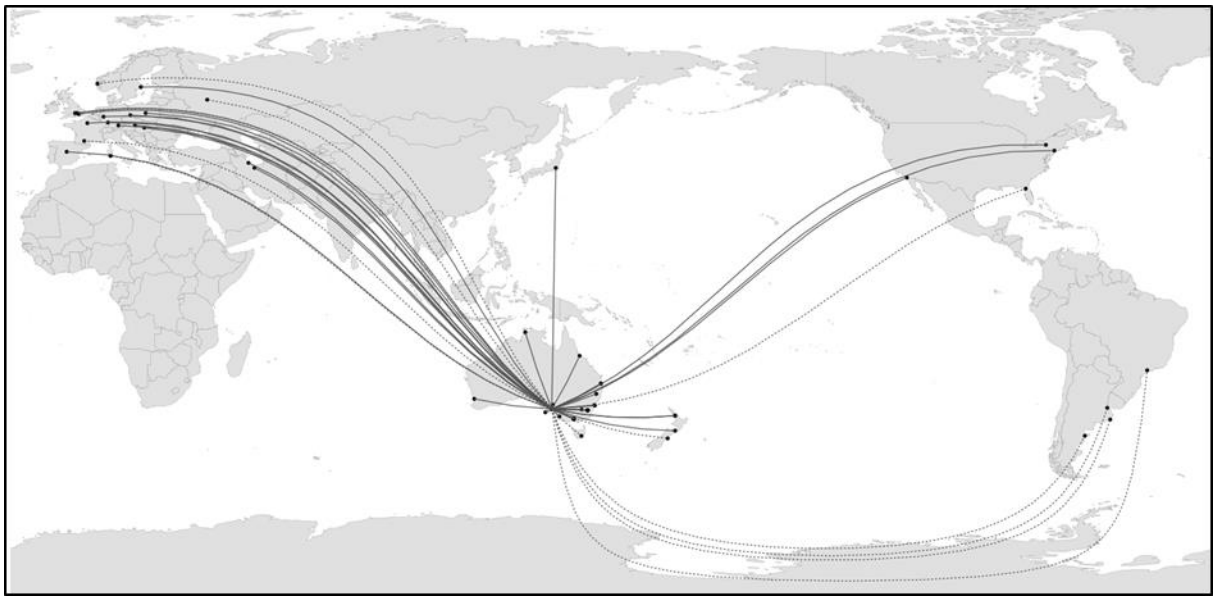


Figure 4.6b: National and international institutions the South Australian Museum has loaned material to during 2015-16.

5.7.1 Digitisation

5.7.1.1 Biological Sciences Volunteer Digitisation Program

The Biological Sciences Volunteer Digitisation Program continued in 2015-16. Some of the images produced by the in-house volunteer digitisation team were used for publications and outreach programs; for researchers in lieu of loans; and for documenting the condition of objects prior to touring.

The Biological Sciences Volunteer Digitisation Program team also made considerable progress in photographing and databasing primary types from the Terrestrial Invertebrates Collection. This project has been operating for approximately five years, and during the year the team focused on *Coleoptera* (beetles) which are by far represent the largest order in the collection. Digitising these specimens means that data for a large number of important types from A.M. Lea, one of the notable entomologists of the twentieth century, were discoverable online by the end of the year. Lea was a prolific entomologist, who described 5432 new beetle species, and contributed to important biological control programs in the Pacific Islands. Access to data and images of the Museum's beetles may lead to further research in this area. Work photographing and databasing *Hymenoptera* (wasps and bees), including the significant collections of types from early twentieth century hymenopterists Dodd and Girault, also began this year.

The Volunteer Digitisation Program team was also busy preparing images from the Marine Invertebrates Collection. These images were then delivered online through DigiVol, the Atlas of Living Australia's (ALA) online crowdsourcing platform, for volunteers to interpret and add to a central database from home. This has proven an excellent way to boost digitisation efforts, with several thousand dry marine invertebrate specimens databased over the last two years. In October 2015, the Museum participated in the global biological collections crowdsourcing event, *WeDigBio*. Over the weekend of 23-25 October, museums and other biological collections held a crowdsourcing blitz. The Museum focused on the 1929-1931 British Australian New Zealand Antarctic Research Expedition and online volunteers transcribed the handwritten register of senior expedition biologist Harvey Johnston, and cephalopods and

corals collected on the expedition. This was an excellent opportunity to promote online volunteering and to join in a global effort with organisations including the Smithsonian, Natural History Museum UK, and the Australian Museum, to improve the accessibility of biodiversity data. Over the *WeDigBio* weekend online volunteers transcribed more than 30 000 new biodiversity records across all institutions.

5.7.1.2 Aboriginal Material Culture Collection Digitisation Project

The Aboriginal Material Culture digitisation project continued during the year, photographing 100 objects per week on average. The biggest achievement for the project was delivering over 1500 images and 500 digital records to a broad public audience through the Museum website. The images and records are fully searchable and accessible to anyone with an internet connection.

Another significant project milestone was reaching 10 000 objects photographed. This means that approximately one third of the collection was made accessible in digital form by the end of the year. Images taken as a part of the project have been used in the catalogue *Riverland: Yvonne Koolmatrie* (2015) by Yvonne Koolmatrie et al., produced by the Art Gallery of South Australia. Images from the project have also been used in the Museum's exhibition *Shields: Power and Protection in Aboriginal Australia* (section 5.2.1.1) and to produce a series of greeting cards associated with the exhibition. Finally, images were sent to a number of researchers and communities from all over Australia to facilitate their interaction with the collection.

5.7.1.3 Data Provision

The Museum continued working with the Atlas of Living Australia (ALA) and other museums around Australia to deliver Australia's Biological collections data in a single unified location, allowing researchers from around the world to access our collections. At the end of the year, the Museum was providing data relating to over 480 000 specimens to the ALA.

The Museum participated in a pilot project working with the Australian National Wildlife Collection in Canberra and Museum Victoria to implement a process by which biological tissue sample data can be made publically accessible via the ALA. The Museum's Australian Biological Tissue Collection (ABTC) is by far the largest tissue collection in the world, and by the end of the year it was publically accessible online – the Museum's contribution alone nearly doubled the global quantity of biological tissues available online.

5.7.2 Individual Collections

5.7.2.1 Discovery Centre

Material was frequently brought in to the Discovery Centre as donations, or for identification and then donation. Some of this material is accessioned into the Museum's collections while other material is used for interpretational and educational purposes. The interpretational and educational material was used for various programs throughout the Museum, as well as during Outreach Programs (section 5.2.2.1).

5.7.2.2 Foreign Ethnology Collection

In December 2015, Dr Barry Craig, Senior Curator World Cultures; Aphrodite Hindson, Foreign Ethnology Collection Manger; and Eleanor Adams, Anthropology Digitisation Officer, were involved in the CT-imaging project of the Museum's ancient Egyptian cat mummies. The cats usually sit in the Egyptian Room, however, a very hot summer's eve during the year they had a night out – in the name of science. The CT-imaging results confirmed that all three cat mummies were indeed cats, as there was still evidence of their bone structure. This verified that the mummies were not merely pieces of wood wrapped up and called cat mummies, a practice not unknown during the Victorian era of 'Egyptomania'. In ancient Egypt cats were revered, living in their own sacred area in the temples. After they died they were mummified so that their souls would go on and live in the afterlife with their humans. It was satisfying to literally see that the Museum's cat mummies were intact. Details of the analysis were published in the Journal of Archaeological Science: Reports.

5.7.2.3 Ichthyology and Marine Invertebrates Collections

Ichthyology volunteer Steve Doyle, Marine Invertebrate volunteer Jessica Skarbnik Lopez, and Marine Invertebrate PhD student Amelia Lewis, spent a month on the Marine National Facility, Research Vessel *Investigator* in late 2015 where they helped survey the deep sea fauna of the Great Australian Bight. The voyage was organised by CSIRO marine researchers who invited the Museum to help in their ongoing research program to unlock the mysteries of the Great Australian Bight's vast area of ocean and coast. With updated technology and equipment, the group were able to sample to 4000m, a depth of which had not been previously sampled in the Great Australian Bight.

The voyage was a great success with many species collected, including species previously unrecorded from the area and several potentially new species. Steve Doyle collected hundreds of biological tissue samples for the Australian Biological Tissue Collection (ABTC) and, in a follow up workshop held in Hobart, helped to sort, identify and preserve fish specimens for the Museum's Ichthyology collection. Marine Invertebrate Collection Manager, Dr Andrea Crowther, was also invited to Museum Victoria to identify the sea anemones collected on the voyage.

Figure 5.7.2.3a: A globehead whiptail, one of the many unusual species collected.

Figure 5.7.2.3b: Ichthyology volunteer Steve Doyle (right) at work in wet lab of the RV Investigator.

Figure 5.7.2.3c: Lithodidae crab.

5.7.2.4 Ornithology

The collection of bird skeletons was used heavily throughout the year, largely by avian palaeontologists for fossil identification purposes. The collection was also used for a study of the allometry of cerebral blood flow across avian phylogenies.

Researchers had success in extracting useful DNA from bird skins with new genetic techniques, even skins a century old. As a result, an increase in requests were received for toepad samples from skins that have been in the collection for quite some time.

5.7.2.5 Palaeontology

A pair of Anomolocaris eyes from Kangaroo Island, which are approximately 550 million years old (featured in a 2011 *Nature* article) travelled to the National Museum of Nature and Science, Tokyo for their *Leaps in Evolution* exhibition, along with Ediacaran fossils from the Flinders Ranges, which are approximately 515 years old. Within three months over 300 000 visitors visited the exhibition. The Ediacaran specimens remained part of the *Leaps in Evolution* travelling exhibition to Nagoya, Okayama, Matsuyama and Osaka after which they will return to the Museum.

Figure 5.7.2.5a: South Australian Museum Palaeontology collection manager Dr Mary-Anne Binnie (right), with the display of the Anomolocaris eyes in Tokyo.

The Museum holds the only known near-complete specimen of *Sthenurus occidentalis* (an extinct short-faced kangaroo). Many of the replica *Sthenurines* at other institutions, including the one in the Museum's gallery, are casts from this specimen's mould. After many years of use for teaching, the fossils had deteriorated and required restoration, as seen in figure 5.7.2.5b.

Figure 5.7.2.5b: Fossil restoration.

5.8 SUPPORT ORGANISATIONS

5.8.1 South Australian Museum Foundation Incorporated

The South Australian Museum Foundation Incorporated (Foundation) enjoyed another year in which it successfully supported the Museum through a range of fundraising and commercial activities.

During the year the Foundation Board welcomed two new members, Mr Damian Scanlon and Ms Sonya Hender. The appointments of Mr Scanlon and Ms Hender have further strengthened the skillset of the Foundation Board, with both members bringing new experiences and relationships to the Board.

The Museum Shop continued to review its merchandising mix in order to maximise its appeal to three main target markets: visiting tourists, families, and local gift shoppers. Following the success of expanding the Shop's range of opal jewellery, to coincide with the *Opals* exhibition, the Shop has been forging relationships with local artists developing statement jewellery pieces inspired by the Museum collection and South Australian natural history. Unique product ranges which reflect the highlights of the Museum's permanent collections, as well as merchandise linked to special exhibitions, continue to be under development.

The Museum Café continued to offer Museum visitors quality café services and significantly expanded its catering services for corporate and private events during the year. This is the result of a strategic decision to encourage more venue hire clients to use the Museum Café as their caterer, as well as operational changes that have enabled the Café to cater for larger events.

The proceeds of the Museum Shop and Café were returned to the Museum to support its research, collections and public engagement priorities.

During the year, the Foundation embarked on a new supporter program, Museum Membership. Complementary to the Museum's Development Department's supporter engagement offerings and existing supporter groups, Museum Membership was established to increase the Museum's audience base and raise awareness of the critical need for support. While Museum Members receive a wide range of benefits, funds raised from the program supported the Museum in delivery of exciting and engaging programs; internationally recognised scientific research; and collections development and care programs.

During the year the Foundation developed its bequest society under the generous leadership of Mr Antony Simpson and Foundation Chairman, Mary Sutherland. The Thomas Bequest Society is named after Dr Morgan Thomas who, after passing away in 1903, left a bequest to the South Australian Museum, State Library and Art Gallery of South Australia. In recognition of his legacy, the Foundation funded a fifty-five-year renewal of Dr Thomas' burial site and monument at the North Road Cemetery, Nailsworth.

5.8.2 The Waterhouse Club Incorporated

The Waterhouse Club draws its membership from community leaders, who take an active interest in the natural world. Its aims are to build a supportive network for the Museum and to raise significant funds. Since 1989, in excess of $930 000 has been raised for the benefit of the South Australian Museum. The Club provides privileged access to the Museum's scientists who participate in events and expeditions designed with flair to places of special interest. During

these events participants are engaged, educated and entertained through thought-provoking interpretations – often in locations with memorable landscapes and natural beauty. The role of the Waterhouse Club is complimentary to the Museum Membership.

5.9 VOLUNTEER SUPPORT

The Museum was again supported by the generous participation of 257 volunteers, 54 Honorary Research Associates and 4 Honorary Associates who regularly and voluntarily contribute to all aspects of the Museum.

Each of the Museum's strategic focus areas (section 3) are influenced by the highly valuable contributions of volunteers across the institution. To this end, the Museum ensured that supporting volunteerism was embedded in its Strategic Plan, particularly with an aim to 'foster an engaged and dynamic volunteer force, aligned to the Museum's strategic priorities'.

As with previous years, the Museum estimated that each volunteer and Honorary Research Associate contributed an average of 30 hours per month of their time to the Museum. This estimate is based on 'full-time' honorary personnel and the frequency of other volunteers throughout the year. This estimate totals 360 hours a year in volunteered time per person. As the Museum has 257 volunteers, 54 Honorary Research Associates and 4 Honorary Associates, this equates to approximately 113 400 hours volunteered freely, without expectation of reward, in service to the Museum. This assessment is supported by a third party economic contribution study commissioned by the Museum Foundation which identified that the Museum received $2.7 million in volunteerism in the course of 2013-14.

The Museum's volunteers conduct ground-breaking research on the Museum's collections and are major contributors to its impressive annual publications record. Special projects supported by the Museum's volunteers and collaborations with industry, project managers and specialist staff provide the Museum with invaluable opportunities to digitise, preserve, document and make the Museum's collections accessible to local and global audiences. The *Atlas of Living Australia Volunteer Digitisation Project* has been highly successful in bringing the Museum's collections to a global audience through volunteer work locally and internationally through online crowdsourcing.

The *Australian Aboriginal Collections Digitisation Project,* in partnership with Newmont Asia Pacific and additional support from the State Government, continues to provide an invaluable opportunity to digitise this extraordinary collection. The Museum has been able to rapidly increase its digitisation capacity with support from partners that enabled the purchase of specialist equipment, volunteer training and specialist staff.

The first point of contact for Museum visitors are often the volunteers who work directly with the Museum's Visitor Experience, Front of House, Education and Public Engagement departments. Volunteer Gallery Guides allow the Museum to offer daily and special tours and volunteers answer queries from the public on a daily basis. The Museum's Public Programs are supported by dedicated volunteers who work with staff and students onsite, locally and in remote areas; to foster a passion of culture, science and the natural world. Volunteers work in all sections of the Museum and contribute to the administration and operations of the Museum, specifically through the Development, Information Services and Corporate Services departments.

6 PUBLICATIONS, TEACHING AND DISSEMINATION OF RESEARCH AND COLLECTIONS

Museum researchers, both staff and Honorary Research Associates (HRA), were active in the publication of research findings in peer reviewed journals and books. Presentation at national and international conferences also featured as outcomes of research activity during the year.

For the year a total of four books (by both staff and HRAs), 18 book chapters (3 by staff members, 15 by HRAs) and 183 scholarly journal articles were published, collectively authored by 22 Museum staff and 36 HRAs as well as 33 other publications (20 by staff, 13 by HRAs).

Staff and HRAs more than doubled their public and professional academic engagement activities by delivering 70 conference papers at national and international conferences and symposia during 2015-16 (29 reported for 2014-15). Furthermore, Museum staff and HRAs drastically increased the number of public talks and tours to schools, societies and organised events, for the year 78 of these activities were reported compared to 38 for the year prior.

External research studies related to the Museum's collections also increased in 2015-16, with a total of 57 publications, compared to 52 in 2014-15.

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6.4 OTHER PUBLICATIONS

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6.5 CONFERENCE PAPERS, TALKS AND LECTURES

KYLE ARMSTRONG:

Armstrong, K.N., Llamas, B., Reardon, T.B. and Donnellan, S.C. (2016). Genome-wide high throughput DNA sequencing helps resolve long standing issues in bat taxonomy. Oral presentation at the 17th Australasian Bat Society Conference, Hobart, Tasmania 29 March-1 April 2016.

Lentini, P., Reside, A., **Armstrong, K.N**., Pollock, L., Reardon, T. and Donnellan, S. (2016). Predicted climate change impacts on the phylogenetic diversity of bats across the Australian continent. Oral presentation at the 17th Australasian Bat Society Conference, Hobart, Tasmania 29 March-1 April 2016.

Armstrong, K. N., Aplin, K. P., and Crotty, S. (2016). A pipeline and app for massive filtering and assisted inspection of enormous acoustic datasets. Poster presentation at the 17th Australasian Bat Society Conference, Hobart, Tasmania, Australia 29 March-1 April 2016.

Hanrahan, N., Welbergen, J., Turbill, C. and **Armstrong, K.N.** (2016). Eavesdropping on ghost bats: determining social organisation through acoustic investigation. Poster presentation at the 17th Australasian Bat Society Conference, Hobart, Tasmania 29 March-1 April 2016.

Chen, C., Zhu, Z., **Armstrong, K.N**. and Tian, Z.F. (2016). Modelling the thermal characteristics of rare Pilbara bat roosts in mines and caves. Poster presentation at the 17th Australasian Bat Society Conference, Hobart, Tasmania 29 March-1 April 2016.

Hand, S.J., Aguirre, C., Archer, M., **Armstrong, K.N**., Black, K.H., Wroe, S. and Wilson, L.A.B. (2016). Ancestral reconstruction of skull form in Old World leaf-nosed bats (Hipposideridae & Rhinonycteridae) using geometric morphometrics. Poster presentation at the 17th Australasian Bat Society Conference, Hobart, Tasmania 29 March-1 April 2016.

TERRY BERTOZZI:

Cooper, S.J.B., Tierney, S.M., Hyde, J.C.A., Saint, K.M., **Bertozzi, T**., Austin, A.D., Humphreys, W.F. Regressive evolution of beetles from the subterranean archipelago of Western Australia: insights from comparative transcriptomics. 23rd International Conference on Subterranean Biology, 13-17 June 2016, Fayetteville, Arkansas, USA.

Brazenor, A.K., **Bertozzi, T**., Miller, T.L., Whittington, I.D., Hutson, K.S. (2015). Is Neobenedenia melleni (Capsalidae: Monogenea) really the culprit in global aquaculture? 9th International Symposium on Fish Parasites. 31 August - 4 September, Valencia, Spain.

Brazenor, A.K., **Bertozzi, T**., Miller, T.L., Whittington, I.D.,Hutson, K.S. (2015). Cryptic capsalids: is *Neobenedenia melleni* (Capsalidae: Monogenea) really the culprit in global aquaculture? 3rd Australasian Scientific Conference on Aquatic Animal Health, 6-11 July Cairns, Australia.

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LESLIE CHISHOLM:

Irigoitia, M. M., **Chisholm, L. A**. and Timi, J. T. (2015). Nueva especie de *Dendromonocotyle* (Monogenea: Monocotylidae) parasitando la piel de *Zearaja chilensis* (Chondrichthyes: Rajidae) en el Mar Argentino. 7 *Congresso Argentino de Parastilogía*, 1-4 Nov 2015, San Carlos de Bariloche, Argentina.

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STEVE COOPER:

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Tierney, S., Hyde, J., Saint, K., Bertozzi, T., Humphreys, W., Austin, A. and **Cooper S.** (2015). Genomic explorations of regressive evolution using blind subterranean diving beetles. *Genetics Society of Australasia Annual Conference*, 6-8 July, Adelaide.

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Hyde, J., **Cooper, S**. and Austin, A. (2015). Subterranean pool party: determining the trophic links between subterranean invertebrates in a groundwater system in Western Australia, *6th International Barcode of Life Conference*, 18-21 Aug, Guelph, Canada. (poster)

McLean, A., **Cooper, S**., Lancaster, M. and Carthew S. (2015). Location, location, location: habitat preferences of a semi-arid marsupial, *Ecological Society of Australia annual conference*, 1-4 Dec, Adelaide.

Carthew, S., Cremona, T., **Cooper, S**. and Baker, A. (2015). The Lambalk glider; resolving the identity of the northern sugar glider, *Ecological Society of Australia annual conference*, 1-4 Dec, Adelaide.

Harvey, M., Main, B., Rix, M., and **Cooper, S**. (2015). Refugia within refugia: *in situ* speciation of relictual trapdoor spiders in the mesic zone of south-western Australia, *Society of Australian*

Systematic Biologists and Invertebrate Biodiversity and Conservation conference, 6-9 Dec - Fremantle.

Cooper, S., Javidkar, M., Bradford, T., Austin, A. and Humphreys, W. (2015). Species delimitation in the subterranean realm: case studies from calcretes in the Northern Goldfields, Western Australia, *Society of Australian Systematic Biologists and Invertebrate Biodiversity and Conservation conference*, 6-9 Dec, Fremantle.

Tierney, S., **Cooper, S**., Saint, K., Humphreys, W. and Austin, A. (2015). Repeated loss of vision in groundwater beetles under the Western Australian desert: a genomic perspective. *Society of Australian Systematic Biologists and Invertebrate Biodiversity and Conservation conference*, 6-9 Dec, Fremantle.

Austin, A. and **Cooper, S**. (2015). The molecular taxonomic nexus: Key Issues in providing a useable taxonomy into the future, *Society of Australian Systematic Biologists and Invertebrate Biodiversity and Conservation conference*, 6-9 Dec, Fremantle.

Stringer, D., Guzik, M., Tierney, S., Meusemann, K., King, R., **Cooper, S**. and Austin, A. (2015). The evolution of endemic crustaceans from arid zone groundwater habitats, *Society of Australian Systematic Biologists and Invertebrate Biodiversity and Conservation conference*, 6-9 Dec, Fremantle.

King, R., Murphy, N., Delean, S., Fagan-Jeffries, E., **Cooper, S**. and Austin, A. (2015). Identifying cryptic species of groundwater-associated amphipod crustaceans, *Society of Australian Systematic Biologists and Invertebrate Biodiversity and Conservation conference*, 6-9 Dec, Fremantle.

Fagan-Jeffries, E., Austin, A. and **Cooper, S**. (2015). Systematics and evolution of Australian microgastrine parasitoid wasps: A PhD project with a twist, *Society of Australian Systematic Biologists and Invertebrate Biodiversity and Conservation conference*, 6-9 Dec, Fremantle.

Harrison, S., Rix, M., Harvey, M., **Cooper, S**. and Austin, A. (2015). A remarkable example of trans-oceanic dispersal in an Austral mygalomorph spider, *Society of Australian Systematic Biologists and Invertebrate Biodiversity and Conservation conference*, 6-9 Dec, Fremantle.

McLean, A., Lancaster, M., **Cooper, S**. and Carthew, S. (2016). Conservation biology of the endangered sandhill dunnart (*Sminthopsis psammophila*). *Natural Resources Management Science conference*, 13-15 April, Adelaide.

Cooper, S., Ottewell, K., MacDonald, A., Cremona, T. and Carthew, S. (2016). Implications of uncertain taxonomy for conservation management: case studies on bandicoots and gliders, *Natural Resources Management Science conference*, 13-15 April, Adelaide.

Cooper, S., Tierney, S., Hyde, J., Saint, K., Bertozzi, T., Austin, A. and Humphreys, W. (2016). Regressive evolution of beetles from the subterranean archipelago of Western Australia: insights from comparative transcriptomics, *23rd International Conference on Subterranean Biology*, 13-17 Jun, Fayetteville, Arkansas, USA.

Participated in Museum roadshow to APY lands (western region), 5-11 Sept 2015.

BARRY CRAIG:

Craig, B. (2015). Slit gongs of the Sepik-Ramu, Papua New Guinea. *Oceanic Art Society 'Art of the Sepik River' Forum*, 7-8 August. National Gallery of Australia, Canberra.

BARRY COOPER:

Conference Papers

Cooper, B.J. (2015) Internationally supported Heritage Stone Designation: A Progress Report Paper No. 152-1 Annual General Meeting, Geological Society of America, Baltimore, November 2015 Session No. 152 - T15. Dimension Stone and Heritage Stone: Quarries, Building Stones, Monuments, Sculpture, Utilitarian Stones, and More. Geological Society of America Abstracts with Programs. Vol. 47 (7) pp 393.

Dino, G., Borghi, A., Canali, F., Castelli, D.C. and **Cooper, B.J**. (2015) The Candoglia Marble from Verbano Cusio Ossola Quarry Basin (Northwestern Italian Alps): Characterisation, Quarrying evolution, and application for the Milano Cathedral construction. Paper No. 152-9 Annual General Meeting, Geological Society of America, Baltimore, November 2015 Session No. 152 - T15. Dimension Stone and Heritage Stone: Quarries, Building Stones, Monuments, Sculpture, Utilitarian Stones, and More. Geological Society of America Abstracts with Programs. Vol. 47(7) pp 395.

Kölbl-Ebert, M., Kramar, S. and **Cooper, B.J**. 2016. The Solenhofen Limestone: A stony heritage of many uses. Geophysical Research Abstracts. Vol. 18, EGU General Assembly 2016.

Talks to Australian Organizations

Field Naturalist Club of Victoria (Geology Group). Gave presentation entitled "World heritage stone: Establishing a new international geological standard".

Australian Mining History Group. Gave presentation on the "Geology around Callington".

JAN FORREST:

Butterfly Gardening talks to 11 community groups with an approximate audience of 245 people.

22 July 2015 - Land care group, Macclesfield 35 people.

19 September 2015 - General public (Bunnings), Marion 10 people.

21 September 2015 - Girl Guide group, Col. Light Gardens 15 people.

10 October 2015 - General public, Wayville 15 people.

28 October 2015 - Women's friendship group, Hawthorn 25 people.

7 November 2015 - General public, (Sophie's Patch), Mt.Barker 25 people.

19 November 2015 - General public in a library, Greenacres 10 people.

11 October 2015 - General public (Home show), Wayville 15 people.

26 March 2016 - General Public (Sophie's Patch), Mt.Barker 40 people.

12 April 2016 - Probus group, Seaton 25 people.

3 May 2016 - General public (talks program), Clarence Park 30 people.

DIEGO GARCIA-BELLIDO:

Daley, A.C.; Tilby, E.; Paterson, J.P.; **García-Bellido, D.C**.; Edgecombe, G.D. & Jago, J.B. (2015). The morphology and affinity of the Cambrian "muscle worm". *In: The Palaeontological Association 59th Annual Meeting. Abstracts*, pp 22-23. 14-17 Dec., Cardiff (UK).

Gaines, R.R.; Paterson, J.R.; Jago, J.B.; Gehling, J.G. & **García-Bellido, D.C**. (2015). Paleoenvironmental and depositional setting of the Emu Bay, Shale, A unique early Cambrian Lagerstätte. 2015. *GSA Meeting*, Nov., Baltimore (USA).

Gutiérrez-Marco, J.C.; Sá, A.A.; Rábano, I.; **García-Bellido, D.C**. & Sarmiento, G.N. (2015). Ordovician geological heritage in Spain and Portugal. *In: RALI 2015. The Rise of Animal Life - Promoting geological heritage*, pp 48. RALI 2015, 5-10 Oct., Marrakesh (Morocco).

Gutiérrez-Marco, J.C.; Rábano, I. & **García-Bellido, D.C**. (2015). Reapprisal of the Ordovician trilobites from the Bou Nemrou assemblage (Tafilalt Biota, Morocco). *In: RALI 2015. The Rise of Animal Life - Promoting geological heritage*, pp 48. RALI 2015, 5-10 Oct., Marrakesh (Morocco).

Paterson, J.R.; Edgecombe, G.D.; **García-Bellido, D.C**.; Gehling, J.G.; Jago, J.B. & Lee, M.S.Y. (2015). The Emu Bay Shale Konservat-Lagerstätte: A view of Cambrian life 'Down Under'. *In: RALI 2015. The Rise of Animal Life - Promoting geological heritage*, pp 70. RALI 2015, 5-10 Oct., Marrakesh (Morocco).

Holmes, J.D.; **García-Bellido, D.C**. & Lee, M.S.Y. (2015). The Emu Bay Shale biota: palaeobiogeographical relationships with other Cambrian Lagerstätten. *In: RALI 2015. The Rise of Animal Life - Promoting geological heritage*, pp 46. RALI 2015, 5-10 Oct., Marrakesh (Morocco).

Rábano, I.; Gutiérrez-Marco, J.C.; Sá, A.A. & **García-Bellido, D.C**. (2015). Ordovician biostratigraphy and biochronology, and the convenience of the Bohemo-Armorican regional chrosnostratigraphic scale for correlating the south polar Gondwanan areas. *Berichte des Institutes für Erdwissenschaften Karl-Franzens-Universität Graz*, Band 21, pp 312. 2nd International Congress on Stratigraphy - STRATI 2015, 19-23 July, Graz (Austria).

Gutiérrez-Marco, J.C.; Sá, A.A.; **García-Bellido, D.C**.; Rábano, I. & Sarmiento, G.N. (2015). Tremadocian (Lower Ordovician) sedimentary record from the Iberain Peninsula (Spain and Portugal) – A reappraisal with new data. *Berichte des Institutes für Erdwissenschaften Karl-Franzens-Universität Graz*, Band 21, pp 147. 2nd International Congress on Stratigraphy - STRATI 2015, 19-23 July, Graz (Austria).

Gutiérrez-Marco, J.C.; Sá, A.A.; Rábano, I.; Sarmiento, G.N.; **García-Bellido, D.C**.; Bernárdez, E.; Lorenzo, S.; Villas, L.; Jiménez-Sánchez, A.; Colmenar, J. & Zamora, S. 2015. Iberian Ordovician and its international correlation. *In:* Leslie, S.A., Goldman, D. & Ordorff, R.C. (eds). *12th International Symposium on the Ordovician System. Short papers and Abstracts*, pp 107-108. Harrisonburg, Virginia (USA).

University lectures

"The Cambrian 'explosion': the appearance of Animals", 24 August 2014, *Issues in Evolutionary Biology III*, School of Earth & Environmental Sciences, University of Adelaide.

"A glimpse at the marine realm half a billion years ago: the Ediacaran and Cambrian biotas", 5 April 2016, *Foundations in Marine Biology III*, School of Biological Sciences, University of Adelaide.

Seminars

"From the Cambrian of South Australia to the Ordovician of Morocco", 15 July 2015, Department of Geology, University of Tasmania, Hobart.

Public talks

"The Cambrian 'explosion' of life and the rise of marine species", 15 July 2015, *Winter Lecture Series*, Royal Society of Tasmania, Hobart.

"500 million-year-old eyes, the origin of vision", 1 October 2015, *TEDx, South Australian Museum*, Adelaide.

"Emu Bay Shale: a window to the first Animals in Australia", 30 March 2016, *Commercial Tour Operators Meeting*, Kingscote, Kangaroo Island.

"Animal dawn", 9 February 2016, *Research Tuesday*, University of Adelaide.

"When life got large, half a billion years ago", 9 April 2016, Rawnsley Park, Flinders Ranges.

BEN GRGURIC:

Zhao, J., Brugger, J., **Grguric, B.A**., Yung, N. and Pring, A. (2016) The rapid kinetics of fluid-catalysed exsolution processes in hydrothermal systems. 35th *International Geological Congress*, August 2016, Cape Town, South Africa.

Grguric, B.A. (2016). The history and heritage value of the mineral collection of the South Australian Museum, *Australian Earth Sciences Convention*, 26-30 June, Adelaide.

Grguric, B.A. (2016) Geometallurgy of low grade Ni sulphide deposits; challenges and success stories. *13th International Nickel Copper PGE Symposium*, September 2016, Perth, Western Australia.

Seat. Z., **Grguric, B.A**., Hronsky, J.M.A., Miles, G.J. (2016) The Nebo-Babel Ni-Cu-PGE sulphide deposit, West Musgrave, Western Australia. *13th International Nickel Copper PGE Symposium*, September 2016, Perth, Western Australia.

28 February 2016: BBC Coast Australia TV series for Foxtel. Filming the Moonta-Wallaroo Copper Coast episode, directed by Pria Viswalingam. Interviewed by host Alice Garner on Moonta-Wallaroo copper mineralogy and performed a simple copper cementation experiment.

PETER HUDSON:

Hudson, P. (2015). Remarkable species diversity on adjacent salt lakes in South Australia. 12th International Conference on Salt Lake Research, Bejing 14-18 July.

Hudson, P.: 6-12 September 2015, Pitlands Roadshow to the western regions. Theme: Looking at invertebrates.

Hudson, P.: 17 February 2016, talk on salt lakes at Womens Meeting Place, "Nothing could live out there (or could it?)".

Hudson, P.: 27-28 February 2016, Waterhouse Coorong Expedition. Exploration of terrestrial invertebrate fauna living on a Coorong salt lake plus a brief presentation on the second day.

INFORMATION SERVICES

ARCHIVES:

2 July 2015: Salisbury City Council.

27 August 2015: Ngarrindjeri Elders Group.

19 August 2015: Australian Society of Archivists Conference. A Museum Perpsective. The Archive at the Museum: a Panel Discussion. Hobart, Tasmania. (**Zilio.F**.)

22 September 2015: MAYFS Young Offenders Program.

15 October 2015: SA Link Up Tour and Talk.

23 November 2015: Aboriginal Heritage Project Port Lincoln Community Consultation.

26 November 2015: Aboriginal Heritage Project Koonibba Ceduna Community Consultation.

30 November 2015: Aboriginal Heritage Project Adelaide Community Consultation.

15 December 2015: ASSETTS (Aboriginal Summer School for Excellence in Technology & Science) students talk (**Abdullah-Highfold.A**.).

19 February 2016: Ben Clark and Stacy Thomas Australian Executor Trustee.

20 April 2016: Tour for the Stolen Generation Certificate IV course. Nukuwarrin Yunti of SA Inc.(**Abdullah-Highfold.A., & Zilio.F**.).

3 May 2016: University of SA INFS 5081 Archival Management tutorial and tour (**Zilio.F**.).

19 May 2016: Whitelion Group. Young Offenders Program Workshop and Tour.

20 June 2016: Prescott Primary Northern Archives Tour and Talk.

LIBRARY

27 August 2015: Tour for University of South Australia Library course.

ARA IRITITJA

Mathe B (Session Chair), Enote, J., Christen Withey, K., **Dallwitz, J**., Dallwitz, D., Thorner, S. and Scales, S. A. (2015). 'Systems Solutions for Community Access and Control of Digital Archives: Containing the Digital' at *International Conference of Indigenous Archives, Libraries, and Museums*, 9-12 September 2015, ATALM Washington DC.

Lowish, S., **Dallwitz, J**., Rive, L. and Dallwitz, D. (2016). '*Tjukurpa Mulapa* – Holding true records of Anangu Art: responsibilities and collaborations into the future' at *Art Ethics and Indigeneity: A Symposium*, 1 June 2016, University of Melbourne and Victorian College of the Arts, Melbourne.

32 demonstrations of Ara Irititja were made for visitors to Netley.

21 June 2016: Trinity Gardens Primary School.

MARK HUTCHINSON:

5 September 2015. Spoken Presentation:

23 years of getting to know the Pygmy Bluetongue Lizard, Tiliqua adelaidensis

Public meeting regarding the conservation of the Pygmy Bluetongue Lizard, Burrra Railway Station.Lincoln College, University of Adelaide.

5 November 2015. Spoken Presentation.

Gallery talk to public (with Cath Kemper).

Living on the Moon - the modern mammals and reptiles of the Moon Plain and adjacent areas

South Australian Museum.

6 May 2016. Spoken Presentation.

All the Better to Eat You With – the skulls of lizards and snakes and how they work

Night Lab. South Australian Museum.

JIM JAGO:

Betts, M. J., Brock, G. A., Paterson, J. R., **Jago, J. B**. and Andrew, A. (2015). Integrated shelly fossil biostratigraphy and carbon and oxygen chemostratigraphy: Applying a multi-proxy toolkit to correlating the lower Cambrian of South Australia. AAPG SEG Abstracts, 13-16 September 2015.

Gaines, R.R., Paterson, J., **Jago, J.B**., Gehling, J. and Garcia-Bellido, D.G. (2015). Paleoenvironmental and depositional setting of the Emu Bay Shale, a unique early Cambrian lagerstätte. Geological Society of America Annual Meeting, Baltimore, November 2015, Abstracts.

Paterson, J.R., Edgecombe, G.D., Garcia-Bellido, D.G., Gehling, J.G., **Jago, J.B**. and Lee, M.S.Y. (2015). *The Emu Bay Shale Konservat-Lagerstätte: A view of Cambrian life 'Down Under'*. The International Conference. The Rise of Animal Life – Promoting Geological Heritage: Challenges and Issues. Marrakesh 5-10 October 2015, *Abstracts and Program*, 70.

PHILIP JONES:

3 July 2015: *Afghan Architecture in Marree, South Australia*. Address to 'Spatial Studies workshop', School of Architecture, University of Adelaide.

7 July 2015: *Shadows of Afghan Architecture in Hergott Springs*. Guest lecture at workshop, 'Rethinking Encounters: Islam and the West', 9th International Convention of Asia Scholars (ICAS), Convention Centre, Adelaide.

6 August 2015: Lecture to History Theory III students, School of Architecture, University of Adelaide (*Afghan cameleer built heritage*).

13 August 2015: Lecture in Indigenous Art and Culture course, University of South Australia.

3 September 2015: Address with Otto Jungarrayi Sims to DesArt Symposium, Alice Springs.

4 September 2015: Speech at opening of Yuendumu Men's Museum, Yuendumu, N.T.

9 September 2015: Address to Traditional Owners regarding sacred objects in museums, Strehlow Research Centre, Alice Springs.

8 September 2015: Speech launching exhibition: Ken Orchard's *Flinders Ranges Sketchbooks*, Artlab Australia.

22 September 2015: Lecture to Adelaide Central School of Art students, re *Yuendumu Doors*.

30 October 2015: Paper delivered at Conference marking re-publication of T.G.H. Strehlow's *Journey to Horseshoe Bend*. University of Western Sydney, State Library of New South Wales.

3 December 2015: Address at Memorial Symposium for Professor Hugh Stretton, Department of History, University of Adelaide.

17 March 2016: *George French Angas: Transcolonial Artist and Scientific Traveller*. Lecture to Royal Geographical Society.

18 May 2016: *Aboriginal Shields* Lecture, Museum exhibition.

CATH KEMPER:

Vertebrates of the Cobber Pedy area, lunchtime talks 5 and 26 November 2015.

Kemper, C.M. and **Tomo, I.** *Comparing pre and post-ADS: what 25 years of post mortems can tell us.* Adelaide Dolphin Sanctuary Forum, 20 November 2015.

Kemper, C. M. and Talamonti, M. (2015). *Sexual maturity and estimated fecundity in female Tursiops aduncus* from South Australia. Society for Marine Mammalogy, 13-18 December, 2015, San Francisco.

Flinders University careers advisory evening, 21 April 2016.

Whyalla Roadshow, 1-3 June 2016.

RACHAEL KING:

Conference paper (oral): Rachael King, Nicholas Murphy, Steven Delean, Errin Fagan-Jeffries, Steven Cooper, Andrew Austin (2015.) *Identifying cryptic species of groundwater-associated amphipod crustaceans.* Society of Australian Systematic Biologists Biennial Conference plus 11th Invertebrate Biodiversity and Conservation Conference, 6-9 December 2015, Perth.

Conference paper (oral): Rachael King, Erinn Fagan-Jeffries, Steven Cooper, William Humphreys (2015) *Systematics and evolutionary relationships of the Pilbara amphipods*. Society of Australian Systematic Biologists Biennial Conference plus 11th Invertebrate Biodiversity and Conservation Conference, 6-9 December 2015, Perth.

THIERRY LAPEROUSAZ:

28 November 2015: BioBlizt at St Kilda. *Collecting mangrove invertebrates, "Show and Tell".*

MIKE LEE:

Lee, M.S.Y. Public lecture, *From Dinosaurs to Birds.* Australian Museum (Sydney) 13 July 2015.

Lee, M.S.Y. Public lecture, *Reversibility in evolution*. Melbourne Museum, 8 Oct 2015.

Lee, M.S.Y., Palci, A. *Reptilian limblessness: A macroevolutionary perspective*. Conference on Australasian Vertebrate Evolution, Palaeontology and Systematics, Museum of Central Australia. 5 Sept 2015.

REMKO LEIJS:

Hogendoorn, K., Glatz, R. and Leijs, R. (2016). *Of bees and burns: conservation of the green carpenter bee Xylocopa aeratus in relation to fire-history on Kangaroo Island*. NRM Science Conference April 2016, Adelaide 2016.

Hogendoorn, K. and Leijs, R. (2016). *Management of biodiversity for apple and pear pollinators.* NRM Science Conference April 2016, Adelaide.

JUDITH LITTLETON:

Littleton, J. H. (2015). *Critical periods or weathering? Assessing the relationship between linear enamel hypoplasia and mortality.* Presented at Australasian Society of Human Biology, 2-4 December 2015, Brisbane.

Mcfarlane, G. and Littleton, J. H. (2016). *A stressful legacy: Childhood stress and longevity*. Annual Meeting of the American Association of Physical Anthropology, 10-13 April 2016, Atlanta.

Smith, C. B. and Littleton, J. H. (2016, March). *Experiencing Childhood at Roonka: An Analysis of Enamel Hypoplasia in the Permanent Dentition of Australian Aboriginal Hunter-Gatherers.* Annual Meeting of the American Association of Physical Anthropology, 10-13 April 2016, Atlanta.

PETER SHAUGHNESSY:

Goldsworthy, S., Shaughnessy, P., Mackay, A. and Bailleul, F. (2015). *Mixed fortunes: contrasting status, trends in abundance and management issues for South Australian pinnipeds*. 52nd Australian Marine Science Association (AMSA) Annual Conference. Abstract pp 140.

Shaughnessy, P. D. and Goldsworthy, S. D. (2015). *Increase of long-nosed fur seals (Arctocephalus forsteri) populations on Kangaroo Island over 26 years.* Australian Mammal Society Conference, Hobart, Tasmania, July 2015. Abstract pp 69.

TERRY REARDON:

Lumsden, L. F., Bush, A., Holz, P., Hufschmid, J., Ingeme, Y., Jemison, M., Mitchell, T., Reardon, T., Scherlies, E. & Zollinger, R. (2016). *Progress towards implementing the soon to be released Southern Bent-wing Bat Recovery Plan.* Australasian Bat Conference, 29 March - 1 April, Hobart.

Scherlies, E., Lawrence, R., Lumsden, L., Meyers, N. & Reardon, T. (2016). *PIT tag technology at a stretch: A case study on the critically endangered southern bent-wing bat (Miniopterus orianae bassanii).* Australasian Bat Conference, 29 March -1 April, Hobart.

Cross, C., Dowling, T., Maillet, A., Roberts, E., Suffredini, P., Usher-Chandler, L., Weiss,V., Wingfield, A., Witherby, B., Wuth, M., Armstrong, K., Reardon, T., & Robson, S.K.A. (2016). *The behaviour of bats at harp traps: is a 5-banker enough?* Australasian Bat Conference, 29 March -1 April, Hobart.

Armstrong, K.N., Llamas, B., Reardon, T.B. & Donnellan, S.C. (2016). *Genome-wide high throughput DNA sequencing helps resolve long standing issues in bat taxonomy*. Australasian Bat Conference, 29 March -1 April, Hobart.

Reside, A., Armstrong, K.N., Pollock, L., Lentini, P., Reardon, T.B. & Donnellan, S.C. (2016). *Predicted climate change impacts on the phylogenetic diversity of bats across the Australian continent.* Australasian Bat Conference, 29 March -1 April, Hobart.

Boardman, W., Bradshaw, C., Prowse, T., Crameri, G., McKeown, A., Westcott, D., Reardon, T. & Caraguel, C. (2016). *What are flying foxes doing in Adelaide? Researching the disease and ecological implications of Grey-headed flying foxes in South Australia.* Poster: Australasian Bat Conference, 29 March -1 April, Hobart.

Burbridge, K., Boardman, W., Bradshaw, C., Prowse, T., Crameri, G., McKeown, A., Westcott, D., Reardon, T. & Caraguel, C. (2016). *Spatial movements of Grey-headed flying-foxes Pteropus poliocephalus in Adelaide and their proximity to horses.* Poster: Australasian Bat Conference, 29 March -1 April, Hobart.

Reardon, T. (2016). *Protecting hollow-bearing trees from fire in the Adelaide Hills.* Poster: Australasian Bat Conference, 29 March -1 April, Hobart.

Reardon, T. (2016). *Bats of South Australia.* Talk/night walk ~100 people for Sturt Upper Reaches Landcare Group. Upper Sturt.

Reardon, T. (2016). *Introduction to bats*. Dinner speaker for the Adelaide Hills Justices of the Peace. Balhannah.

Reardon, T. (2016). *Wonderful world of bats*. Talk to Bright Sparks (70 people). Adelaide University.

Reardon, T. (2015). Talk and walk for Morialta *BioBlitz*. Morialta National Park.

Reardon, T. (2015). Talk to the Board of Friends of Parks on hollow-tree protection. Keswick.

Reardon, T. (2015). Talk on bats to Groote Eylandt Community Rangers. Groote Eylandt, NT.

MIKE SNOW:

26 July 2015. A Talk was presented to the Cave Exploration Society of SA on analysis of Guano Minerals. Subsequently 5 sets of cave minerals were collected by the Society members for analysis and on going work in the Mineral Section of the Museum.

MARK STEVENS:

16 November 2015: *I've just had a hunch!* Talk about scientific thinking and discoveries to year 6 class at Seymour College.

IKUKO TOMO:

13 -19 December 2015: Society for marine mammalogy conference in San Francisco, USA , presented *Long-term study of skeleton pathology shows differences between Tursiops aduncus in Gulf St Vincent and Spencer Gulf, South Australia* with Kemper, Catherine and Valentina Sciutteri.

IAN WHITTINGTON:

Brazenor, A., Bertozzi, T., Miller, T., Whittington, I. and Hutson, K. (2015). Is *Neobenedenia melleni (Capsalidae: Monogenea) really the culprit in global aquaculture?* 9th Annual Symposium on Fish Parasites (ISFP9), 31 Aug - 4 Sept 2015, Valencia, Spain.

6.6 EXTERNAL RESEARCHER PUBLICATIONS

Based on material in the South Australian Museum's collections.

6.6.1 ENTOMOLOGY:

Frisch, J. (2016). On the *Scopaeina Mulsant & Rey of Australasia (Staphylinidae, Paederinae): type revisions and new biogeographic data.* Soil Organisms 88(1): 55-88.

Kittel, R.N., and Austin, A.D. (2015). *New species of Australian arid zone chelonine wasps from the genera Phanerotoma and Ascogaster (Hymenoptera: Braconidae) informed by the "Bush Blitz" surveys of national reserves.* Journal of Natural History http://dx.doi.org/10.1080/00222933.2015.1074747

Liu, Z., Ślipiński, A., and Pang, H. (2015). Notes on Australian *Laius* Guérin-Méneville, *Dicronolaius Champion* and *Intybia Pascoe* with description of new species related to *Dicranolaius* c-purpureus (Lea) (Coleoptera: Melyridae: Malachiinae). Zootaxa 3936(2): 272-280.

Matthews, E.G., and Merkl, O. (2015). *Hangaya enigmatica, a new genus and species of Tenebrionidae from Central Australia (Coleoptera).* Annales Zoologici 65(3):479-482.

Theischinger, G., Gassmann, D. and Richards, S.J. (2015). *Macrocnemis gracilis, a new genus and species of Idiocnemidinae (Zygoptera: Platycnemididae) from Papua New Guinea*. Zootaxa 3990(3): 429-436.

Theischinger, G., and Richards, S.J. (2015). *The genus Nososticta Hagen (Odonata: Platycnemididae)* from the Papuan region with descriptions of ten new species group taxa. Odontologica 44 (1/2): 153-224.

Theischinger, G., and Richards, S.J. (2015). A new species of *Microtrigonia* Förster (Anisoptera, Libellulidae) from Papua New Guinea. International Dragonfly Fund – Report 77: 1-6.

6.6.2 INFORMATION MANAGEMENT:

Binder, Susanne (2014). *The diary of Max Weidenbach in the South Australian Museum: a new source on the Prussian expedition to Egypt 1842-1845*. Bulletin of the Australian Centre for Egyptology 25: 9-29.

Thorner, Sabra (2014). Article and lecture drawn from Ara Irititja *Native Intelligence in the 'Digital Age': Interfaces of an Indigenous Public Sphere*. Anthropology Quarterly (under review 2014) George Washington University, Washington DC.

Mattingley, C. *Maralinga's long shadow Yvonne's Story.* Published by Allen & Unwin, Australia. Iris Dicks Collection (AA827) and Aboriginal Affairs and Reconciliation Collection (SAMA1083).

McLeod, J & Paisley, F. *The Modernisation of Colonialism and the educability of the 'native': transpacific knowledgte networks and education in the interwar years'*. Published by Wiley. Tindale Collection (AA338).

Pierce, S. *The history of blood group serology*. Published by the American Association of Blood Banks. Tindale Collection (AA338) and Birdsell Collection (AA689).

Sheehan, M. *An Introduction to the History of Porirua.* Pataka Art and Museum, New Zealand. Angas Collection (AA8).

Smithers, G. *Science, Sexuality and Race in the United States.* University of Nebraska Press.

Tindale Collection (AA338).

State Library of South Australia. South Australian Red Cross Information Bureau Website. Various images from Museum collections of WW1 soldiers. AFA Collection (AA1), Kartinyeri Collection (AA659), Marg Angas Collection (AA676/5), SAMA Collection (1017) and Ken Sumner Collectioin (AA670).

Wood, M. (2015) *Dudley Bulmer's artefacts as autobiography.* Tindale Collection (AA338).

6.6.3 MAMMAL SECTION:

Arman, S.D. and Prideaux, G.J. (2016). *Behaviour of the Pleistocene marsupial lion deduced from claw marks in a southwestern Australian cave*. Scientific Reports 6: Article No 21372.

6.6.4 MARINE INVERTEBRATES:

R. Leijs (2015). *The evolution of Epigean and Stygobitic Species of Koonunga Sayce, 1907 (Syncarida: Anaspidacea) in Southern Australia*, with the description of three new species. *PLOS ONE*/D01: 10.1371/Journal.pone.0134673: 1-35.

P. M. O'Loughlin & J. Skarbnik-Lopez (2015). *Sea cucumbers of the Kerguelen Plateau*, with descriptions of new genus and species (*Echinodermata: Holothuroidea*). Memoirs of Museum Victoria 73: 59-93.

E. Kupriyanova et al. (2015). *Serpulidae (Annelida) of Lizard Island*, Great Barrier Reef, Australia. Zootaxa 4019 (1): 275-353.

J. K. Lowry & L. E. Hughes (2015). *Endevouridae, a review with description of four new species (Crustacea, Amphipoda, Lysianassoidea).* Zootaxa 4018 (1): 001-034.

L. E. Hughes (2015). *Maeridae from the Indo-Pacific: Elasmopus, Leeuwinella gen. nov., Maeropsis, Pseudelasmopus and Quadrimaera (Crustacea: Amphipoda).* Zootaxa 4059 (2): 201-256.

B. V. Timms (2015). A partial revision of the *Australian Eulimnadia Packard, 1874 (Branchiopoda: Spinicaudata: Limnadiidae)*. Zootaxa 4066 (4): 351-389.

L. E. Hughes 2016. New genera, species and records of *Maeridae from Australian Waters*: *Austromaera, Ceradocus, Glossomaera, Hamimaera, Huonella* gen. nov., *Linguimaera* and *Maeraceterus* gen. nov. (*Crustacea: Amphipoda*). Zootaxa 4115 (1): 001-081

M. B. Martin, N. L. Bruce & B. F. Nowak (2016). Review of the fish-parasitic genus *Cymothoa Fabricius, 1793 (Crustacea: Isopoda: Cymothoidae) from Australia*. Zootaxa 4119 (1): 001-072.

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Forshaw, J. M. (2015). *Pigeons and Doves in Australia*. CSIRO Publishing, Clayton South, Victoria.

Gibb, G. C., England, R., Hartig, G., McLenachan, P. A., Taylor Smith, B. L., McComish, B. J., Cooper, A. and Penny, D. (2015). *New Zealand passerines help clarify the diversification of major songbird lineages during the Oligocene*. Genome Biology and Evolution 7: 2983-2995.

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Heenan, C. B., Goodman, B. A. and White, C. R. (2015). *The influence of climate on avian nest construction across large geographical gradients.* Global Ecology and Biogeography 24: 1203-1211.

Nguyen, J. M. T. (2016). *Australo-Papuan treecreepers (Passeriformes: Climacteridae) and a new species of sittella (Neosittidae: Daphoenositta) from the Miocene of Australia*. Palaeontologia Electronica 19.1.1A: 1-13.

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Worthy, T. H., Mitri, M., Handley, W. D., Lee, M. S. Y., Anderson, A. and Sand, C. (2016). *Osteology supports a stem-galliform affinity for the giant extinct flightless bird Sylviornis neocaledoniae (Sylviornithidae, Galloanseres).* PLoS ONE 11: e0150871.

6.6.6 PARASITOLOGY:

Behnke, J. M., Stewart, A., Bajer, A., Grzybek, M., Harris, P. D., Lowe, A., Ribas, A., Smales, L. and Vandegrift, K. J. (2015). *Bank voles (Myodes glareolus) and house mice (Mus musculus musculus; M-m. domesticus) in Europe are each parasitized by their own distinct species of Aspiculuris (Nematoda, Oxyurida)*. Parasitology 142: 1493-1505.

Beveridge, I. and Durette-Desset, M.-C. (2015). Austrostrongylus papuensis n. sp (Nematoda: Trichostrongylina) from the scrub wallaby, Dorcopsis hageni Heller (Marsupialia: Macropodidae), from Papua New Guinea. Transactions of the Royal Society of South Australia 139: 306-312.

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Irigoitia, M. M., Chisholm, L. A. and Timi, J. T. (2016). *A new species of Dendromonocotyle Hargis, 1955 (Monogenea: Monocotylidae) from the skin of Zearaja chilensis (Guichenot) (Rajiformes: Rajidae) from the Argentine Sea.* Systematic Parasitology 93: 367-374.

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Kearn, G., Karlsbakk, E., Evans-Gowing, R. and Gerasev, P. (2015). *A new species of Entobdella Blainville in Lamarck, 1818 (Monogenea: Capsalidae: Entobdellinae) from the Greenland halibut, Reinhardtius hippoglossoides.* Acta Parasitologica 60: 361-370.

Kearn, G. and Whittington, I. (2015) *Sperm transfer in monogenean (platyhelminth) parasites*. Acta Parasitologica 60: 567-599.

Moravec, F. and Barton, D. P. (2015). *Two gonad-infecting species of Philometra (Nematoda: Philometridae) from marine fishes off the northern coast of Australia*. Parasite 22: 4.

Pichelin, S., Smales, L. R. and Cribb, T. H. (2016). *A review of the genus Sclerocollum Schmidt & Paperna, 1978 (Acanthocephala: Cavisomidae) from rabbitfishes (Siganidae) in the Indian and Pacific Oceans.* Systematic Parasitology 93: 101-114.

Shamsi, S. and Suthar, J. (2016). *Occurrence of Terranova larval types (Nematoda: Anisakidae) in Australian marine fish with comments on their specific identities*. Peerj 4.

Smales, L. R., Al-Hasson, H. A. H., Al-Niaeem, K. S. and Al-Azizz, S. A. (2016). *A new species of Neorhadinorhynchus (Acanthocephala: Cavisomidae) from Platax teira (Ephippidae) from Iraqi marine waters.* Transactions of the Royal Society of South Australia 140: 90-95.

Smales, L. R. and Weaver, H. J. (2015). *An annotated checklist of Acanthocephala from Australian fish.* Zootaxa 3985: 349-374.

Spratt, D. M. (2015). *Species of Angiostrongylus (Nematoda: Metastrongyloidea) in wildlife: A review.* International Journal for Parasitology Parasites and Wildlife 4: 178-189.

Spratt, D. M. and Beveridge, I. (2016). *Helminth parasites of Australasian monotremes and marsupials.* Zootaxa 4123: 1-198.

Vaughan, D. B., **Chisholm, L. A**. and Hansen, H. (2016). Electrocotyle whittingtoni *n. gen., n. sp. (Monogenea: Monocotylidae: Heterocotylinae) from the gills of a captive onefin electric ray,* Narke capensis *(Narkidae) at Two Oceans Aquarium, Cape Town, South Africa.* Parasitology Research, DOI: 10.1007/s00436-016-5123-1.

6.6.7 Other Events and Associations

MARK ADAMS:

Assisted Biosecurity SA (part of PIRSA) to maintain their best practice, ‘rapid response’ program for keeping the state free of fruit fly by conducting 37 on-demand genetic identifications on fruit fly maggots.

KYLE ARMSTRONG:

IUCN SSC Bat Specialist Group member. Currently revising IUCN listing and profiles of the bats of Australasia.

ALICE BEALE:

Committee member Museums Australia South Australia Branch.

Women in Science roadshow December 2016.

WOMADelaide South Australian Museum Explorers’ tent 3 days of workshops.

TERRY BERTOZZI:

Science week- popup science display at Rose Park primary school, 17 August 2015.

Discovery Session – Museum foyer, 7 October 2015.

MARY-ANNE BINNIE:

Completed her PhD at the University of South Australia and graduated in August 2015. Her research focused on the application of fossil benthic foraminifera in reconstructing a Holocene sea-level history for the South Australian Gulfs.

Delivered and supervised the installation of Ediacaran and Cambrian fossils for display in the *Leaps in Evolution Exhibition* at Tokyo's National Museum of Nature and Science. The Ediacaran specimens are now part of a travelling exhibition to Nagoya, Okayama, Matsuyama and Osaka.

Dr Binnie took part as a special guest in the formal opening ceremony of the *Leaps in Evolution Exhibition* in Tokyo and attended other functions as a guest and representative of the South Australian Museum.

PHILIP CLARKE:

Consultant anthropologist preparing native title reports for Aboriginal claimant groups.

Report on a Fieldtrip to Cairns, Edmonton, and Gordonvale for the *Gimuy Walubara Yidinji Native Title Claim*. Prepared for P&E Law, Cairns. 1 June 2016.

Final Anthropological Report on *Native Title for the West Ranken, East Ranken, Adder and Rocklands Pastoral Stations*. Prepared for the Northern Land Council, Darwin. 27 November 2015.

Anthropological Report on the *Descendants of Tommy Anderson and their Association with Kariyarra Native Title Claims WAD 6169/1998, WAD 232/2009 & WAD 47/2014*. Prepared for Alan Rumsley, Commercial Disputes Lawyer, Perth. 31 August 2015.

Also working on the Wirangu No.2 native title claim in western South Australia through South Australian Native Title Services, Adelaide.

Cultural Heritage Assessments:

Anthropologist consultant conducting heritage surveys of areas subject to planned development, producing reports for obtaining government approvals:

Report on the *Bird-in-Hand Heritage Assessment for a Mining Lease Application*. Prepared for Terramin Australia Limited on Instructions from Mr Matthew Daniel. Adelaide. 26 May 2016.

Anthropologist consultant for the nationally-funded Return of Indigenous Cultural Property (RICP) program, in partnership with the Northern Land Council, Darwin and the Australian Museum, Sydney.

Expert Examiner engaged in assessments of ethnographic objects proposed for moving out of Australia under the *Protection of Movable Cultural Heritage* Act 1986 (PMCH Act), under Part 1- Objects of Australian Aboriginal and Torres Strait Islander Heritage of the National Cultural Heritage Control List.

BARRY COOPER:

Secretary General, International Commission on the History of Geological Sciences (INHIGEO).

Secretary General, Heritage Stone Task Group, a project of the International Union of Geological Sciences (IUGS).

International Geoscience Program, Project Leader. IGCP 637 – Heritage Stone Designation.

Committee Member, Geological Society of Australia, South Australian Division.

Chairman, Field Guide Subcommittee, Geological Society of Australia, South Australian Division.

Vice Chair, History of Science, Technology and Ideas Group, South Australia.

STEVE COOPER:

Continued as Editor of the Australian Journal of Zoology.

Member of grant assessment panel for Research grants submitted to Australian Biological Resources Study in December, 2015.

Member of the organising committee and chair of a session on Evolutionary Genetics for the Genetics Society of Australasia conference held in Adelaide, 6-8 July 2015.

Organised symposium, Chair of session and panel discussion member for session on species delimitation at the Society of Australian Systematic Biologists and Invertebrate Biodiversity and Conservation conference, 6-9 December Fremantle.

Ordinary Member of the Society of Australian Systematic Biologists council, 2015-2017.

Graduation of PhD student, Amanda McLean at the University of Adelaide in 2015.

BARRY CRAIG:

Interview with Andrew Stephens *The Age*, Melbourne re *War Trophies or Curios?* Published 9 April 2016, pp 20, 21 and on-line at http://www.theage.com.au/entertainment/forgotten-treasures-of-world-war-i-come-to-light-at-melbourne-museum-20160402-gnw5r1.html

Launch of *War Trophies or Curios?* at Melbourne Museum, 18 April 2016. Interview with Patricia Karvelas, ABC/RN Drive re the book, and broadcast 21 April c. 7.15pm.

ANDREA CROWTHER:

Continued sole supervision of three volunteers: Alun Thomas, Amanda Kenley Chung, and Jacob Maher.

Collaborate with Alexis Tindall to photograph dry specimens for ALA online transcription project.

17-21 August 2015: taught Primary School classes about deep-sea bioluminescence for *Science Week*.

4-5 September 2015: outreach at *Alice Springs Family Day*.

6-12 September 2015: *APY Lands Roadshow*. Developed and delivered an educational program to school children in remote communities about marine animals and their homes.

14 February 2016: scientific talk to NRM Coastal Ambassadors course.

13 March 2016: provided on-site assistance in the *WOMADelaide* South Australian Museum tent.

21-23 April 2016: Kangaroo Island Roadshow. Developed and delivered educational items for "*Science in the Park*".

DIEGO GARCIA-BELLIDO:

Secretary of the *Association of Australasian Palaeontologists* (AAP), for the term 2014–2016.

LISA-ANN GERSHWIN:

Member of the Medical Advisory Panel for St John Ambulance, Australia.

Member of the UNESCO-IOC WESTPAC Working Group on Harmful Jellyfish.

Muse of the ArtScience exhibition *The Trouble with Jellyfish*, September 2015 to January 2016 at Le Laboratoire, Harvard University, USA.

Participant, NESP Irukandji Priorities Working Group, Cairns, QLD September 2015.

Delivered a series of seminars on box jellyfish safety in Broome, Western Australia, in May 2016.

Delivered a weeklong workshop on Box Jellyfish Identification, Phuket Marine Biological Centre, Phuket, Thailand, 13-17 June 2016, sponsored by UNESCO-IOC WESTPAC.

Book Launch for *Jellyfish: A Natural History,* at Hobart Bookshop 22 June 2016, attended by 80-90 people.

JIM GEHLING:

Public Talks and Media

10 December 2015:

Promoting Natural History - Enlightenment or Entertainment? The Attenborough Effect: guest speaker at the Annual Dinner of the Royal Geographical Society of South Australia. Navy, Army and Airforce House, Hutt St, Adelaide.

16 December 2015:

Ediacara and Emu Bay biotas - the evolution of early animals and their preservation in the rocks of South Australia: lecture & workshop for Geoscience Summer School, Minerals and Energy, Department of State Development.

PETER HUDSON:

Reviewed papers for the following Journals:

Zootaxa (1).

Transactions of the Royal Society of South Australia (1).

MARK HUTCHINSON:

6 September 2015. Public Event

Lizard Crawl. Information day for the *Pygmy Bluetongue Lizard* at the Tiliqua Reserve, Burra. Sponsored by Nature Foundation SA.

7-18 October 2015. Expedition.

Waterhouse Club collecting expedition (*Surveying the Line*) to Malbooma Station and adjacent areas.

14 November 2015. Public Event

Bioblitz – Hallett Cove. Public information day (guided walks and talks on local wildlife).

Organised by Discovery Circle (http://www.discoverycircle.org.au/).

26 February 2016. Meeting.

Attended meeting of Naracoorte Caves Interagency-Community Reference Group as representative of the Museum.

Naracoorte Caves, SA.

6.6.8 INFORMATION MANAGEMENT:

6.6.8.1 ARCHIVES

Archive Requests

Archive collections are used for exhibitions, websites, displays, publications, interpretive signage, private and academic research, publications, education and training, Native Title, Indigenous Land Use Agreements, posters and conference material.

250 requests were processed, 29 of which were for Native Title.

One request was granted for the use of the Tindale Tribal Boundaries Map on enviro carry bags at Dreamworld Corroboree on the Gold Coast.

The Tindale Tribal boundaries map was also requested for use on the floor of the Commonwealth Games Corporation offices in the Gold Coast.

Aboriginal Family & Community History Requests

188 requests were processed.

29 requests were processed for the Aboriginal Heritage Project grant.

Aboriginal Community Consultations & Repatriations of Archive copies

2 December 2015 Maraura Language Project Group workshop Consultation Group of ten men. Tindale Collection (AA338) Vocabularies.

2016-2017 Paw Media (Yuendumu Community). Board for Anthropological Research (AA346) Film.

27 August 2015 Ngarrindjeri Elders Group. Board for Anthropological Research (AA346) Genealogy and Data Cards.

Exhibitions

Aboriginal ANZACs: From South Australia to the Great War. Australian Aboriginal Cultures Gallery. 24 June-7 August 2016.

Art Gallery of South Australia: *Yvonne Koolmatrie exhibition catalogue.* Marg Angas Collection (AA676), Workshop Collection (AA383), Sweet Collection (AA492).

Art Gallery of South Australia: *Tarnanthi. Tindale Collection* (AA338).

Adelaide Festival Centre: *Our Mob* Exhibition August 2015. *Marg Angas* Collection (AA676).

Fowler Museum at UCLA. *Art of the Austronesians: Voyagers to the Southern Isles exhibition*. Vyse Collection (AA353).

Ian Potter Museum of Art Melbourne : *Basil Sellers Art Prize*. *Koonibba Football* Exhibition. Birdsell Collection (AA689).

2015 NSW History Fellowship project – Paul Irish. *This is where they travelled: Historical Aboriginal Lives in Sydney.* For NAIDOC week 2016. Image to be used in both the exhibition and flyer. George French Angas Collection (AA8).

Documentaries

Bryce Gray's documentary *First*. For an exhibition at AIATSIS. Tindale Collection (AA338).

9 March 2016 PAW Media *NYURRUWIYI YARRAMPI (Yuendumu Early Days*). AA346 FILM

2 Jan 2016 WDYTYA Retro Series. *Board for Anthropological Research* (AA346) Genealogy, Tindale Collection (AA338) Map and Film.

Media

9 April 2016. ABC Awaye Program. Daniel Browning. *A hair's breadth: Mapping Aboriginal genetic history.*

27 May 2016. SBS Lisa Clausen. DNA Country.

Grants

A grant was secured from the Milton Foundation to work with Aboriginal young offenders. The aim is to improve self-esteem, motivate and give a sense of identity to decrease risk-taking behavior.

With Dr Keryn Walshe, Prof Peter Sutton, Isabel O'Loughlin and Lesley Williams, *Reconstructing Aboriginal Australian history using ancient genomic DNA*, an Australian Research Council Indigenous Discovery Project Project grant was secured. Research Partners include University of Adelaide, Max Planck Institute for the Science of Human History, Wellcome Trust Sanger Institute and Harvard University.

Honorary and Volunteers

A team of 12 volunteers have continued to process archive collections. Volunteers have been transcribing the Joseph Birdsell journals, processing collections such as Lindsay Black, Gerard, Albrecht, Mountford and Tindale, indexing the genealogies and scanning the anthropology registers. Our honorary George Smith has standardized 122,000 indexing terms for the collections made available on the website.

Donations

Three donations were received that included Edgar Ravenswood Waite's diaries from the Waite family.

6.6.9 INFORMATION MANAGEMENT - LIBRARY

6.6.9.1 Library Requests

52 items were supplied to researcher.

Inter Library Loans

23 inter library loans requests from other libraries.

9 inter library loan requests from staff.

Retroconversion

1162 including 28 links to Biodiversity Heritage Library.

Donations

There were 10 donations. Notably, there were 175 books from Karen George that belonged to Norman Tindale; 7 volumes of *A Monograph of Echinoidea* from Museum Victoria; and books on shells from Michael Tolle.

6.6.10INFORMATION MANAGEMENT - ARA IRITITJA

Award

Ara Irititja was presented with the Outstanding Project Award by the Association of Tribal Archives, Libraries, and Museums, *2015 Guardians of Culture and Lifeways International Awards*, 11 September 2015, Washington DC.

Images and Research Requests

10 requests for community permission and research for external publications were processed.

6 requests for images and family history for funeral and memorial brochures were processed.

9 requests for video clips, images and research for external documentary videos were processed.

Donations to the Ara Irititja collection

This year, 12 871 archive items have been donated, digitised and catalogued into the collection, numbering 11 288 photos, 918 documents, 60 movies, 85 sounds and 520 objects. Ara Irititja now holds a total of 164 138 digital archive items, made up of 152 530 photos, 5290 documents, 515 movies, 554 sounds and 5249 objects. This archival material included two major donations from Nyangatjatjara College and Rev. Bill Edwards.

GREG JOHNSTON:

Adjunct Associate Professor, School of Medicine, University of Adelaide.

Adjunct Senior Lecturer, School of Biological Science, Flinders.

Chair, Gawler Ranges Natural Resource Management Group.

Member, Scientific Advisory Panel, Adelaide International Bird Sanctuary.

Member, Scientific Advisory Panel, Birdlife Australia Gluepot Research.

Australian representative on the International Ethologist's Council (http://www.ethologycouncil.org/).

Reader, Australian Research Council.

Member, Pelican Specialist Group, Species Survival Commission of the International Union for the Conservation of Nature.

Member of the Editorial Advisory Board, Open Journal of Ornithology. (http://www.bentham.org/open/tooenij/EBM.htm)

PHILIP JONES:

Jones, P.G. (2016). Curator of Museum exhibition: *Shields: Power and Protection in Aboriginal Australia*. April-May 2016, South Australian Museum.

CATH KEMPER:

Attended Australian Mammal Society (as outgoing President) 6-9 July 2015.

Attended Australian Fisheries Management Authority meeting, Adelaide, 30 August 2015.

Attend Waterhouse Club survey of Malbooma Station (as Mammalogist), 7-18 October 2015.

Channel 7 interview on whale sightings database release to Atlas of Living Australia, 27 October 2015.

Demonstration of dolphin post-mortem to students (15) from Wilderness School, 10 November 2015.

Ardrossan Whale Memorial. Invited to contribute to event by Yorke Peninsula Council. 8 December 2015.

Channel 7 interview regarding beaked whale at Waitpinga, 1 February 2016.

ABC Radio interview regarding beaked whale at Waitpinga, 1 February 2016.

Victor Harbor Times interview regarding beaked whale at Waitpinga, 4 February 2016.

BBC Coasts Program filming of Bolivar and research by SAM, 1 March 2016.

ABC Radio interview regarding pathology of dolphins in SA, 16 March 2016.

ABC News and InDaily interview regarding beaked whale at Waitpinga, 10 May 2016.

ABC Radio interview regarding whales and ambergris in Australia, 20 May 2016.

PETER D. KRUSE:

Voting member of Cambrian Stage Subdivision Working Group of International Union of Geological Sciences since 2004.

April 2016: Led public outreach geological excursion under auspices of Normanville Natural Resource Centre entitled "Rocks of the southern Fleurieu – foundation of our landscape and scenery", involving introductory explanatory talk followed by excursion to geological localities in the district. About 20 people attended. Transcript of talk available online via www.nnrc.com.au.

ROBERT LAVIGNE:

Review for 'Journal of the Entomological Research Society' September 2015.

Ultrastructure of Digestive Canal of *Graphosoma lineatum* (Linnaeus, 1758) (*Heteroptera:Pentatomidae*) by Damla Amutkan, Zekiye Suludere, Selami Candan.

Review for Zootaxa'. November 2015. Key to known pupal cases of Laphriinae genera. by S. Dennis.

Review for 'Entomological News'. April 2016. Revised annotated checklist of Robber Flies (diptera: asilidae) of arkansas, U.S.A. by Jeffrey K. Barnes.

Review for Zootaxa. June 2016.

Revision of robber flies of the genus *Stichopogon* Loew, 1847 (Diptera: Asilidae) from Egypt by Gawhara M.M. Abu El-Hassan[1,4], Haitham B.M. Badrawy[1,5], Sohair Mohammad Gad Allah[1,6], Ahmed M. Soliman[2,3,7], Mohamed S. Salama[1,8] & Salwa K. Mohammad[1,]

MIKE LEE:

Awarded the Riversleigh Medal 2015, for services to Australian palaeontology.

Jointly-appointed Professor of Evolutionary Biology and Matthew Flinders Fellow at Flinders University from 2016.

Awarded three highly competitive and substantial Australian Research Council grants:

Sole CI. Integrating fossils and genomes to resolve the early evolution of snakes. Australian Research Council (ARC) Discovery Grant. $351 000 (2016, 2017, 2018)

Long JA (lead CI), Lee MSY et al. Resolving evolutionary problems at the fish-tetrapod transition. Australian Research Council (ARC) Discovery Grant. $491 000 (2016, 2017, 2018).

Thomson V (lead CI), Jones, MEH, Sumner, J, Lee, MSY, Hutchinson MN, Sanders KL. Testing co-evolutionary processes driving venom diversity in tiger snakes. Australian Research Council (ARC) Linkage Grant. $164 000 (2017, 2018, 2019).

REMKO LEIJS:

4 public lectures *On the biodiversity and Conservation of Native Bees* for local community groups.

3 Citizen Science workshops *On the biodiversity and Conservation of Native Bees* and *how to build 'bee hotels'*

2 Consultancies: Molecular Biodiversity Assessments of subterranean habitats as part of environmental impact assessments of mining projects in Western Australia and South Australia.

1 Consultancy: Expert advice on building a 'bee hotel' at the National Botanic Gardens in Canberra.

1 Bush Blitz survey report: ABRS- Bush Blitz Carnarvon Station.

Participated in Australian native pollinator think tank, Orange May 2016.

JUDITH LITTLETON:

Member of the Temporary Advisory Group for the Willandra Lakes Heritage Area, a Commonwealth advisory group providing advice on research within the Willandra Lakes Heritage area.

CHRIS MADDEN:

Participated as scientist identifying specimens in *Morialta BioBlitz*, 19 September 2015 and Breakout Creek *BioBlitz*, 18 June 2016.

GRAHAM MEDLIN:

During the year significant improvements to the sub-fossil storage and preparation space resulting in drastic improvements to collection housing and work spaces.

On 6 July hair samples extracted from Barn Owl pellets containing extinct species, and Ghost Bat scats were sent away for radio-carbon dating using funding obtained by Adelaide University Honours student Jessie Treloar from Nature Foundation SA. In December 2015 Jessie received notification that she had achieved 1st Class honours and was eligible to start a PhD in 2016. She is currently working on her PhD with Dr. Liz Reed from Adelaide University on a bone deposit in the Naracoorte Cave system, and she keeps in regular contact with the Subfossil Lab volunteers and the Honorary.

From 6–8 August Mr Medlin was involved with *Science Alive!* at the Wayville Showgrounds and demonstrated Barn Owl pellet analysis and bone sorting to adults and children, allowing them to have some hands on experience.

On 14 October Mr Medlin was presented with the Field Naturalists Society of South Australia (FNSSA), Nature Conservation Award Silver Medal, for work conducted over the past 40 years in mammal survey work with the FNSSA and barn owl pellet analysis through the South Australian Museum. This was also presented to Museum Science Staff in November.

On 8 February 16 palaeontology students from Flinders University were hosted in the Subfossil Lab, led by lecturer Aaron Camens. Described the type of work undertaken by volunteers and the honorary in the lab.

From July 2015–June 2016 pellets from Nankeen Kestrels, Black-shouldered Kites, Letter-winged Kites, Wedge-tailed Eagles, Barn Owls (various sites) and Grass Owls (from Lake Callabonna) were dissected by volunteers to determine the prey species. Most pellets were from old or recent Barn Owl roosts and hundreds have been dissected.

Sites where the pellets or loose bone remains were collected include:

Aroona Dam in the Flinders Ranges (dissected and analysed by Jessie Treloar for her Honours project), Billa Kalina Station north of Woomera (150 Barn Owl pellets), Old Canopus Shearing Shed in Danggali C.P. (15 Barn Owl pellets), Hamilton Station - Neckeena Waterhole (12 Barn Owl pellets), Macumba Basin (40 Barn Owl pellets), Lake Gregory Waterhouse Club trip October 2013 (to date 63 Barn Owl pellets. Started dissecting the pellets in April 2016), APY lands bulk bone material collected from caves during the Warru monitoring project,

TERRY REARDON:

Wildlife Health Australia (2016). How to Report a Suspect Case of White-Nose Syndrome [for anyone who works with, or comes into contact with bats]. Terry Reardon part of the team that prepared these guidelines.

Wildlife Health Australia (2015, 2016). Australian Bat Lyssavirus Report: ABLV Statistics. Terry Reardon is a regular contributor to this publication.

Naracoorte Caves Cave Access Zone Proposal (2015/6): Terry Reardon contributed to this new initiative by Naracoorte Caves World Heritage Area, DEWNR.

Preparation of Bat Species Accounts for Global Mammal Assessment for the International Union for the Conservation of Nature.

Helped coordinate field work for trapping Grey-headed flying-foxes for disease study on Adelaide's population by PhD student, Wayne Boardman, University of Adelaide.

Participated in a week long bat survey on Groote Eylandt, NT.

DENNIS RICE:

July 2015: Member of exploration team exhuming fossiliferous Ediacaran sea beds for continued research under UCR and South Australian Museum joint study at Australian National Heritage site, Nilpena Flinders Ranges.

July 2015: Maintain records for on-site storage of fossils, under South Australian Museum management responsibilities for National Heritage site, Nilpena.

May 2016: member of team performing maintenance under SAM management responsibilities for National Heritage site, Nilpena.

May 2016: Member of South Australian Museum and Adelaide University exploration team at State Conservation Park, Ediacara, involved in collection of specimens for student research and South Australian Museum display.

March 2016: Addressed the Victorian Field Naturalists Geology Group on the subject of Ediacaran research in Australia.

June 2016 Addressed the Nunawading, Victoria, U3A study group on the newest findings of the South Australian Museum palaeontology research team, at the National Heritage site, Nilpena.

PETER SHAUGHNESSY:

Contributed to the State of the Environment Report prepared for Commonwealth Department of Environment by drafting Assessments for 3 pinnipeds: Long-nosed fur seals, Australian fur seals and Australian sea lions.

Member of the Marine Mammal Working Group of the Southern and Eastern Scalefish and Shark Fishery coordinated by the Australian Fishery Management Authority (AFMA).

DAVID STEMMER:

Exchange with Western Australian Museum, adding a new species of cetacean to SAM's collection:

SAMA M23799 *Arctocephalus pusillus doriferus* skull with mandible and baculum, in exchange for WAM M16233 *Stenella coeruleoalba* skull with mandibles.

Treasurer of the Australian Mammal Society: Presenting the Society's finances to members at the AGM in Hobart 7 July 2015 and handing over the office to the new council.

With Catherine Kemper, Ikuko Tomo and volunteers.

1 March 2016 BBC filmed activities at Bolivar for an episode of the documentary "*The Coast*" featuring South Australia. This included a dolphin dissection, lifting a sperm whale skull out of our large tank with crane and many interviews.

With Catherine Kemper, ABC filmed a news clip for the ABC national news on the unusual find of two vestigial teeth in *Mesoplodon hectori*, a rare species of beaked whale collected by SAM in February 2016. Aired on 14 & 15 May 2016. This news piece was picked up by many other news providers, even internationally.

MARK STEVENS:

Presentations in *Night Lab* in March 2016.

New Colombo Plan funding project, 11 undergraduate students from Flinders University and University of South Australia to Fiji to undertake mobility studies and research across two weeks. April 2016. This created media interest:

http://blogs.flinders.edu.au/flinders-news/2016/06/07/pest-plants-hook-fijian-bees/

http://phys.org/news/2016-06-fijian-bees-exotic-fiji-vulnerable.html

http://www.fbc.com.fj/fiji/41123/fijian-bees-love-for-exotic-plants-makes-fiji-vulnerable-to-invasive-species

South Australian Museum Unlocked story "Antarctic life under the microscope" (September 2015).

Filming at South Australian Museum for Channel 10 children's program, SCOPE. 2 June 2016.

Invited to introduce the film *Ice and the Sky*, at the *Adelaide Transitions Film Festival 2016* http://www.transitionsfilmfestival.com/adelaide-speakers/

Involved in the Morialta *BioBlitz*, organized by University of South Australia, September 2015. http://www.discoverycircle.org.au/projects/bioblitzes/morialta/

Finalist in University of South Australia's 2016 Images of Research Photography Competition.

IKUKO TOMO:

Little penguin workshop risk assessment 24 May 2015 organized by DEWNR at University of Adelaide Wait campus.

MIKE TYLER:

Identified diverse frogs for AQIS at the request of the Australian Museum.

WOLFGANG ZEIDLER:

Editor for the families, genera and species of the Crustacean Amphipod sub-order Hyperiidea, for the website World Register of Marine Species (WoRMS). Attended workshop for amphipod editors, 4-5 April 2016, sponsored by LifeWatch (Belgium) and held at the Flanders Marine Institute, Oostende, Belgium.

Awarded a Visiting Research Fellowship at the Smithsonian Institution, Washington DC, to identify and conduct research on their collections of Hyperiid amphipods, spent the months of September and October 2015 at the Smithsonian.

7 STAFF LIST

7.1 DIRECTORATE

Director

B. Oldman, BA (Hons)

Executive Officer

K. Ross, AdvDip Mgt, Dip Bus (Marketing)

Directorate Executive Assistant

L-A. Jackson

7.2 CORPORATE SERVICES

Manager Corporate Services

B. Macdonald, B.Com

Operations Manager

B. Collett, Dip Man

Manager ICT (formerly IT Network and Systems Manager)

P. Carter, CertIV IT CS; CertIV IT NM; Dip IT N

Museum Administration Coordinator (formerly Senior Administrative Officer)

D. Churches

Museum Services Officer

R. Simon

Administration Services Officer

N. Mladenovic

Desktop Support Officer (formerly Helpdesk Officer)

T. Cheng, AssocDip Bus (Computer Programming)

7.3 DEVELOPMENT

Head of Development

J. Parsons, BA (Hons), MA (Museum Studies)

Development Officer

P. Pearson, BA (Hons)

Volunteer & Intern Coordinator

M. Filsell

(Term ended 6 January 2016)

7.4 VISITOR EXPERIENCE

Manager, Visitor Experience

Dr. R. Forrest, BSc (Hons), Grad. Dip. ScComm, PhD.

Senior Hire and Events Manager

A. Ferrari

Visitor Experience Officer FOH

B. Sande

(started 15 February 2016)

Discovery Centre Manager (formerly Supervisor Information Centre)

M. Gemmell

Information Officers

L. Builth, Dip Nat Res Management

J. Smith, BSc (Hons)

7.5 PUBLIC ENGAGEMENT

Head of Public Engagement

K. Nitschke, B.Sc, Grad. Dip. Ecology and Management, Grad. Cert. Prof Comm

Museum Administration Officer (formerly Public Programs Coordinator – Executive)

E. Thomson, BSc

L. Perry (30 May 2016 – 7 October 2016)

Schools Administration Officer

Vacant

7.5.1 Temporary Exhibitions & Projects

Manager, Temporary Exhibitions & Special Projects

T. Gilchrist, BA, Grad Dip Comm (PR)

Exhibitions Coordinator (formerly Entomology Stores Project Coordinator)

Dr. L. Chenoweth, BSc (Hons), PhD

Museum Services Officer

G. Parnell

7.5.2 Design

Lead Exhibition Designer

J. Green

(started 8 Feburary 2016)

Senior Design Officer (formerly Senior Exhibition Designer)

B. Chandler, BAVA, BAFT

Design Officer

M. Prerad

(started 13 June 2016)

Design Officer

T. Pyrzakowski

(started 7 December 2015)

3D Design Specialist

J. Bain

Senior Designer

C. Midson, BA

(Resigned 15 March 2016)

Development and Design Manager

D. Kerr, B Ed (Hons), BA

(end date 28 January 2016)

Multimedia Supervisor

T. Peters, BA Fine Art

(end date November 2015)

7.5.3 Communications & Marketing

Manager, Communications & Marketing

A. Murphy, BA (Hons), Grad Dip Applied Sc (Cultural Heritage Management), BVisComm (Graphic Design), MA (Communication Management)

Manager, Community Programs

L. Torr, BVA (Hons)

DECD Education Officer

K. Hogan, BEd, (DECD Secondment)

Community Education Officer (formerly Community Engagement Officer)

L. Bloomfield

Community Programs Coordinator (formerly Public Programs Coordinator – Programs)

K. Tucker

Communications Officer

T. Williams

(started 23 November 2015)

Manager, Inspiring South Australia Program

Dr. S. Pitman

(started 6 October 2015)

7.6 RESEARCH & COLLECTIONS

7.6.1 Administration

Head Research & Collections

Dr. M. Hutchinson, BSc (Hons), PhD

Museum Administration Coordinator (formerly Manager Science Administration)

L. Strefford

D. Churches

Atlas of Living Australia Digitisation Project, Manager Volunteer Digitisation

A. Tindall, BA (Hons), Grad Dip Arts (Museums & Collections)

Collections Data Manager and Coordinator (formerly Project Digitisation Officer)

K. Maguire, BA (Hons), Grad Dip (Information Management)

7.6.2 Anthropology and Humanities

Head of Anthropology

Professor. J. Carty BA (Hons), PhD

(started 16 January 2016)

Senior Researcher Australian Ethnology

Dr. P. Jones, LLB, BA (Hons), PhD

Senior Researcher Foreign Ethnology

Dr. B. Craig, BA (Hons), Dip Ed, MA (Hons), PhD

Researcher, Archaeology

Dr. K. Walshe, PhD

Casual Staff:

P. Blacksmith (end date 30 June 2016)

E. Taylor (end date 30 June 2016)

Q. Agius (end date 30 June 2016)

Senior Collection Manager, Anthropology

A. Beale, BArch (Hons), Grad Cert (Museum Studies)

Digitisation Project Officer

E. Adams, BSc (Hons), MA (Museum & Curatorial Studies)

A. Hindson (nee Rose), BA, Grad Dip Mus St, M A

Assistant Collection Manager, Anthropology

Vacant

Collection Manager, History of Science and Polar Collections

M. Pharaoh, BA (Hons), MA, Grad Dip Information Services (Archives)

7.6.3 Earth Sciences

Head of Earth Sciences

Dr. B. Grguric, PhD

(started 9 January 2016)

Senior Researcher, Palaeontology

Prof. M. Lee, BSc (Hons), PhD

Dr. J. Gehling, BSc (Hons), MSc, PhD

Senior Collection Manager

B. McHenry, BSc (Hons), MSc

Collection Manager

Dr. M-A. Binnie, BEd (Geology), PhD

Research Assistants/Scientists

Dr. Z. Jing, PhD

Dr. P. Elliott, PhD

PhD Students:

K. Li

A. Altree-Williams

7.6.4 Biological Sciences

Head of Biological Sciences

Prof. S. Donnellan, BSc (Hons), PhD

7.6.4.1 ENTOMOLOGY

Senior Researcher Terrestrial Invertebrates

Assoc. Prof. M. Stevens, PhD

Casual Staff:

A. Velasco (end date 30 June 2017)

Collection Manager Terrestrial Invertebrates

Dr. P. Hudson, PhD

Assistant Collection Manager Entomology

C. Lee

Databasing Project

Casual Staff:

M. Moore (end date 30 June 2016)

J. Skarbnik-Lopez, BSc (Hons) (end date 30 June 2017)

I. Van Streepen, BSc (Environmental Science) (end date 30 June 2016)

J. Wood (end date 30 June 2016)

7.6.4.2 ARACHNOLOGY

Collection Manager Arachnology

Dr. K. Sparks, BSc (Hons), PhD

7.6.4.3 PARASITOLOGY

Principal Researcher/Head of Biological Sciences, Parasitology

Vacant position

Collection Manager, Parasitology

Dr. L. Chisholm, BSc, MSc, PhD

7.6.4.4 MARINE INVERTEBRATES

Researcher Aquatic Invertebrates

Dr. R. King, BSc (Hons), PhD

Collection Manager Marine Invertebrates

T. Laperousaz, BSc (Hons)

Collection Manager Marine Invertebrates

Dr. A. Crowther, BSc (Hons), Grad Dip Env Mgt, PhD

Assistant Collection Manager Marine Invertebrates

C. Lee

7.6.4.5 HERPETOLOGY

Senior Researcher Herpetology

(Head, Research & Collection from 2 May 2015)

Dr. M. Hutchinson, BSc (Hons), PhD

Collection Manager Herpetology

C. Kovach

Emeritus Curator appointed 2012

Professor Michael J Tyler, AO, MSc. DSc.

7.6.4.6 ICHTHYOLOGY

Collection Manager Ichthyology

R. Foster

7.6.4.7 MAMMALOGY

Senior Researcher Mammology

Dr. C. Kemper, BSc, PhD

Collection Manager Mammalogy

D. Stemmer, BSc

Researcher Mammalogy

I. Tomo, BVSc, MVSc, DVM (Japan) (Contract from 14 December 2015 – 30 June 2016)

Researcher

T. Reardon, Cert Sc Tech

Bolivar Casual Staff

J. Light (end date 30 June 2016)

M. Buss (end date 30 June 2016)

T. Segawa (end date 30 June 2016)

7.6.4.8 ORNITHOLOGY

Senior Collection Manager Ornithology

Dr. P. Horton, BSc (Hons), PhD

Collection Manager Ornithology

M. Penck, BSc (Hons)

7.6.4.9 EVOLUTIONARY BIOLOGY

Head of Evolutionary Biology/Chief Researcher Evolutionary Biology

Prof. S. Donnellan, BSc (Hons), PhD

Principal Researcher, Evolutionary Biology

Prof. S. Cooper, BSc (Hons), PhD

Senior Researcher Evolutionary Biology

M. Adams, BSc (Hons)

Researcher Evolutionary Biology

Dr. T. Bertozzi, BSc (Hons), PhD

T. Reardon, Cert Sc Tech

L. Wheaton

Dr. M. Gardner, BSc (Hons), PhD

Dr S. Catalano, BSc (Hons), PhD

Principal Technical Officer

K. Saint, BSc

T. Bradford (started 26 April 2016)

Casual Staff

J. Mohammad (end date 30 June 2016)

A. McLean

(end date 30 June 2016)

M. DeBoo

(end date 30 June 2016)

A. Manuel

(end date 30 June 2016)

7.6.5 Information Services (Archives)

Manager Information Services

F. Zilio, B A, MIMS

Library Services Officer

J. Evans

Archives Collection Manager

L. Gardam (Part-time)

T. Kidd (Part-Time) backfill for maternity leave. Lea Gardam (Contract from 5 March 2016-30 June 2016)

Family and Community History Consultant

A. Abdullah-Highfold

A. Guy, BA Aboriginal Studies (Part-time)

Archive Access and Community Outreach Officer

S. Agius

Manager Ara Iritja Project

J. Dallwitz

Casual Staff

A Fenech (end date 30 June 2016)

A Jury (end date 30 June 2016)

R. Jury (end date 30 June 2016)

J. Nicholls (end date 30 June 2016)

K. Littler (end date 30 June 2016)

7.6.5.1 HONORARY RESEARCH ASSOCIATES

Dr. K. Armstrong, BSc, PhD (Biological Sciences)

Professor A. Austin, BSc, PhD (Biological Sciences)

Dr. D. Barton, PhD (Biological Sciences)

Dr. I. Beveridge, BSc, PhD (Biological Sciences)

Dr. A. Black, PhD (Biological Sciences)

Dr. V. Boll, PhD (Anthropology)

Professor J. Brugger, PhD (Earth Sciences)

Dr Philip Clarke (Anthropology)

Dr. A. Cooper, PhD (Biological Sciences)

Dr. B. Cooper, BSc, PhD (Earth Sciences)

Not returning at this stage Dr. P. Elliott, BSc (Hons), PhD (Earth Sciences)

J. Forrest, OA (Biological Sciences) (Honorary Associate)

Dr. A. Fyfe, BA, PhD (Anthropology)

Dr. D. Garcia-Bellido, BSc, MSc, PhD (Earth Sciences)

Dr. R. V. Glatz, BSc, PhD (Biological Sciences)

Dr. W. Haak, PhD (Biological Sciences)

Dr. M. Hammer, BSc (Hons), PhD (Biological Sciences)

Dr. J. Jago, BSc (Hons), PhD, F Aus IMM (Earth Sciences)

Dr. G. R. Johnston (Biological Sciences)

Dr Marc Jones (Biological Sciences)

Dr. P. Kolesik, PhD (Biological Sciences)

Dr. P. Kruse, BSc, PhD (Earth Sciences)

Dr. R. J. Lavigne, PhD (Biological Sciences)

Dr. R. Leijs, MSc, PhD (Biological Sciences)

Dr John Kynaston Ling, B.Sc, PhD, (Biological Sciences)

Associate Professor Judith Littleton (Anthropology)

Professor J. Long, PhD, B.Sc. (Biological Sciences)

A.J. McArthur, OAM, BE (Biological Sciences).

Dr. E. Matthews, BA, PhD (Biological Sciences)

G. Medlin, BSc, Dip T (Biological Sciences)

M. O'Donoghue, B Ed, Grad Dip Rel Ed, M Ed (Foreign Ethnology)

Dr. N. Pledge, BSc (Hons), MSc (Earth Sciences)

Dr. G. Prideaux, BSc (Hons), PhD (Earth Sciences)

Professor A. Pring, BSc, PhD, DSc (Earth Sciences)

Dr. L. Reed, BA (Hons), PhD (Earth Sciences)

D. Rice (Earth Sciences) (Honorary Associate)

S. Richards, PhD (Biological Sciences)

Professor G. Rouse, PhD (Biological Sciences)

Dr. T. Schultze-Westrum, PhD (Foreign Ethnology)

Professor Michael Schwarz, B.Sc, PhD. (Biological Sciences)

Dr. P. Shaughnessy, BSc (Hons), MSc, PhD (Biological Sciences)

Dr. S. Shepherd, BA, LIB, M Env St, PhD (Biological Sciences)

G. Smith (Information Services)

Dr. M. Snow, BSc, PhD (Earth Sciences)

Professor. P. Sutton, BA, MA, PhD (Anthropology)

Dr. I. Tomo, BVSc, MVSc, DVM (Japan) (Biological Sciences)

Dr. A. Tomkins, PhD, BAppSc (Earth Sciences)

Emeritus Professor. L. Warner, BSc, PhD (Biological Sciences)

Dr. C. Watts, BSc (Hons), PhD (Biological Sciences)

Professor. P. Weinstein, BSc, PhD (Biological Sciences)

Dr. R Wells, BSc (Hons), PhD (Earth Sciences)

Dr. W. Zeidler, BSc (Hons), MSc, PhD (Biological Sciences)

8 HUMAN RESOURCES

The South Australian Museum, through the Department of State Development, reported to the Office for the Public Sector its 2015-16 Workforce Information Collection. Further human resources information is available from the Commissioner for Public Employment via http://publicsector.sa.gov.au/

Full-Time Equivalents (FTE's)

Agency	Arts South Australia: South Australian Museum
Persons	83
FTE's	76

8.1 EMPLOYMENT OPPORTUNITY PROGRAMS

The Museum continued to function as an Equal Employment Opportunity employer. During the period the Museum remained strongly committed to employing on merit based selection processes which does not discriminate against race, gender, sexuality, marital status, age, pregnancy or disability for all positions within the organisation.

8.2 MUSEUM PATHWAYS: TRAINING AND SKILLS DEVELOPMENT AT THE SOUTH AUSTRALIAN MUSEUM

To further demonstrate the Museum's commitment to advancing career training and employment opportunities it has recently developed 'Museum Pathways'. This initiative depends on private sponsorship and benefaction and involves paid employment with Museum academics and professionals sharing their expertise in order to provide high quality training and development opportunities across the institution.

The Museum identified the need to advance Aboriginal employment beyond the current level to reflect the institution's dependence upon, and engagement with, Aboriginal communities. The Museum has therefore strategically prioritised its fundraising for Aboriginal traineeships, cadetships and early career employment positions.

During the year the Museum was successful in securing private support which will enable the employment of an early career Aboriginal graduate to work directly with the Australian Aboriginal Material Culture Collection, with 2 years of funding secured, four Aboriginal cadetships in Australian Aboriginal Material Culture Collection, over 2 years and, following very a generous individual gift, the employment of an Aboriginal Curator for the Australian Aboriginal Material Culture Collection in perpetuity to provide a career path and the opportunity to work at the cutting edge of academic anthropology research.

This initiative will further enhance the reputation of the Museum as the nation's most successful research institution and custodian of the world's most comprehensive collection of Australian Aboriginal Cultural materials.

8.3 WORKFORCE DIVERSITY

Gender Diversity

Gender	Persons	FTE's
Female	43	38
Male	40	38
Other	0	0
Total	83	76

Number of employees by age bracket, by gender

Age bracket	Female	Male	Other	Total
20–24	1	0	0	1
25–29	1	2	0	3
30–34	4	2	0	6
35–39	7	5	0	12
40–44	3	3	0	6
45–49	10	7	0	17
50–54	3	7	0	10
55–59	7	3	0	10
60–64	5	7	0	12
65+	2	4	0	6
Total	43	40	0	86

8.3.1 Workplace Adaptation

Total number of employees with disabilities (according to Commonwealth DDA definition)

Female	Male	Other	Total	% of agency
3	0	0	0	3.6%

Types of disability (where specified)

Disability	Female	Male	Other	Total	% of agency
Disability requiring workplace adaptation	3	0	0	3	3.6%
Physical	1	0	0	1	1.2%
Intellectual	0	0	0	0	0.0%
Sensory	2	0	0	2	2.4%
Psychological/psychiatric	0	0	0	0	0.0%

8.3.2 Executives

Number of executives by status in current position, gender and classification

Classification	Ongoing			Term Tenured			Term Untenured			Other (inc. Casual)		
Gender	F	M	O	F	M	O	F	M	O	F	M	O
SAES1								2				
Total								2				

8.4 LEAVE MANAGEMENT

Total average days of leave taken per Full time equilvalent

Leave type	2015-16
Sick leave taken	5.6
Family carer's leave taken	1.2
Sick and Family Carer's Leave	6.9
Special leave with pay	1.0

8.5 OVERSEAS TRAVEL

Museum overseas travel activity has been reported through Premier and Cabinet PC035 – Proactive Disclosure.

8.6 PERFORMANCE DEVELOPMENT

Documented review of individual performance management

Documented review of individual performance management	Total
% reviewed within the last 6 months	42%
% review older than 6 months	14%
% not reviewed	44%*
*44% includes appointments to new positions which will be subject to reviews in 16-17	

8.7 LEADERSHIP AND MANAGEMENT DEVELOPMENT

Leadership and management training expenditure

Training and development	Total cost	% of total salary expenditure
Total training and development expenditure	$28 383.08	0.34

9 WORK HEALTH SAFETY AND INJURY MANAGEMENT (WHS&IM)

9.1 KEY ACHIEVEMENTS

Key achievements during the reporting period 2015-16 were:

- Provision of training for workers including first aid, four-wheel driving and manual handling.
- Ongoing review of the Museum WHS & IM management system to comply with the Work Health and Safety Act 2012 and align with the Department of State Development Work Health and Safety system.
- Provision of a lone worker framework and resources to support workers working alone.
- Provision of physiotherapy ergonomic assessments of workstations and implementation of recommendations for ergonomic risks.

9.2 WHS REPORTING

Prosecutions, notices and corrective actions taken

Number of notifiable incidents pursuant to WHS Act Part 3 Section 35	0
Number of serious injuries pursuant to WHS Act Part 3 Section 36	0
Number of provisional improvement notices served pursuant to WHS Act Sections 90, 191 and 195	0
Number of prosecutions pursuant to WHS Act Part 2 Division 5	0
Number of enforceable undertakings pursuant to WHS Act Part 11	0

Agency gross workers' compensation expenditure for 2015–16 compared with 2014–15

EXPENDITURE	2015–16 ($)	2014-15 ($)	Variation	Change (%)
Income maintenance	0.00	0.00	0.00	0.00
Lump sum settlements redemptions – sect.42	0.00	0.00	0.00	0.00
Lump sum settlements permanent disability – sect.43	0.00	0.00	0.00	0.00
Medical/hospital costs combined	0.00	$2 645.27	-$2 645.27	-100%
Other	0.00	0.00	0.00	0.00
Total claims expenditure	0.00	$2 645.27	-$2 645.27	-100%

10 FRAUD AND LEGISLATIVE COMPLIANCE

The Museum has maintained a comprehensive system of checks and balances to control and prevent fraud, under the advice of the Auditor-General's Department. During the 2015-16 period, no suspected or actual instances of fraud were detected.

Whistleblowers Protection Act 1993

As an entity of the South Australian Government, the Museum remained committed to supporting and encouraging staff to demonstrate integrity and conduct ethical professionalism as part of the public sector ethical standards. Reporting, as defined by the Whistleblowers Protection Act, is encouraged by the Museum should it be necessary.

For the 2015–16 reporting period there were no occasions where public interest information has been disclosed to the responsible officer.

11 SUSTAINABILITY REPORTING

In addition to the Museum's highly focused dedication to environmental sustainability through its research, collections and public engagement activities, administrative actions remained in place during the year. The Museum maintained solar panels for energy consumption, dual flush amenities for water reduction and recycling programs for paper, cardboard, toner and bottles.

12 FREEDOM OF INFORMATION STATEMENT

Agency structure and functions: section 9(2)(A)

The following information is contained in this Annual Report and is deemed to be consistent with the requirements of the *Freedom of Information Act 1991*:

- statement of role and objectives
- legislation responsibilities
- resources employed

Agency performance is monitored regularly. Each year specific targets and objectives are formulated and major achievements, improvements and initiatives reported.

Effect of agency's functions on members of the public: section 9(2)(B)

The Museum has a direct effect on the general public in two quite different ways. First, as an institution whose display galleries are open for public education and enjoyment and second through the scientific divisions whose research and information are available to other government departments as well as the public.

The impact and involvement of each division of the Museum in this process can be obtained from the achievements and initiatives section of this annual report.

Arrangements for public participation in policy formation: section 9(2)(C)

The board of eight members is appointed by the Governor. These appointments are from the general public and provide an avenue for public participation in policy formulation.

For any major development, such as the development of displays relating to living cultures, advisory committees are established for the period of the project to ensure that there is full and proper provision for public participation.

The Museum also maintains regular contact with Aboriginal community groups through the board-appointed Aboriginal Advisory Committee, which deals specifically with matters relating to custodianship and access to collections.

Freedom of information requests

The Museum did not receive any enquiries under the Freedom of Information Act during the year.

Description of kinds of documents held by the agency: section 9(2)(D)

The Museum classifies all documents into the following categories:

- Board minutes: The minutes of the Museum Board meetings are numbered, approved, signed by the Chair and recorded in a board minute book. Board papers are also numbered and filed in a similar manner. The papers contain all documents and correspondence relating to each board meeting. Current minute books and papers are kept in the director's office, with older minute books and papers, dating back to 1940, stored in the Museum Archives section. Board papers and minutes up to 1940 are permanently stored in State Records.
- Dockets: The Museum continued to administer the formal document recording/registration and archiving via its docket database system. Administration staff coordinated the process of document management for each of the Museum's departments. Dockets hold all documents concerned with the day-to-day management of the Museum and are classified as in the areas of research, collection management, public programs and directorate activities.
- Policy statements: The Board has published several policy statements which are available for use by the general public. These include: *Professional and Commercial Services, Statement on Secret/Sacred Collection, Collections Policy, Policy on Human Skeletal Remains Collection, Honorary Appointments, Guidelines for the Acquisition, Operation and Management of Computers in the Museum, Access to Personal Information – policy and procedures, Procedures for Records Management. Copyright Policy and Procedures, Museum Inbound Funds Policy, Museum Budget Policy and South Australian Museum Board Investment Policy, Museum Board Risk Management Policy & Museum Child Protection Policy.*

Access arrangements, procedures and points of contact: section 9(2)(E)(F)

To gain access to Museum documents, other than those identified above as available, it is necessary to apply in writing under the Freedom of Information Act to:

Contact Officer, Freedom of Information

C/- The Director

South Australian Museum, North Terrace, Adelaide 5000

13 INDEPENDENT AUDIT REPORT OF FINANCIAL STATEMENTS

INDEPENDENT AUDITOR'S REPORT

Government of South Australia
Auditor-General's Department

Level 9
State Administration Centre
200 Victoria Square
Adelaide SA 5000
DX 56208
Victoria Square
Tel +618 8226 9640
Fax +618 8226 9688
ABN 53 327 061 410
audgensa@audit.sa.gov.au
www.audit.sa.gov.au

To the Chair
Museum Board

As required by section 31(1)(b) of the *Public Finance and Audit Act 1987* and section 16(3) of the *South Australian Museum Act 1976*, I have audited the accompanying financial report of the Museum Board for the financial year ended 30 June 2016. The financial report comprises:

- a Statement of Comprehensive Income for the year ended 30 June 2016
- a Statement of Financial Position as at 30 June 2016
- a Statement of Changes in Equity for the year ended 30 June 2016
- a Statement of Cash Flows for the year ended 30 June 2016
- notes, comprising a summary of significant accounting policies and other explanatory information
- a Certificate from the Chair, Museum Board and the Director, South Australian Museum.

The members of the Museum Board's responsibility for the financial report

The members of the Museum Board are responsible for the preparation of the financial report that gives a true and fair view in accordance with the Treasurer's Instructions promulgated under the provisions of the *Public Finance and Audit Act 1987* and Australian Accounting Standards, and for such internal control as the members of the Museum Board determine is necessary to enable the preparation of the financial report that is free from material misstatement, whether due to fraud or error.

Auditor's responsibility

My responsibility is to express an opinion on the financial report based on the audit. The audit was conducted in accordance with the requirements of the *Public Finance and Audit Act 1987* and Australian Auditing Standards. The auditing standards require that the auditor comply with relevant ethical requirements and that the auditor plan and perform the audit to obtain reasonable assurance about whether the financial report is free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial report. The procedures selected depend on the auditor's judgement, including the assessment of the risks of material misstatement of the financial report, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation of the financial report that gives a true and fair view in order to design audit procedures that are appropriate in the circumstances. An audit also includes evaluating the appropriateness of the accounting policies used and the reasonableness of accounting estimates made by the members of the Museum Board, as well as evaluating the overall presentation of the financial report.

I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my audit opinion.

My report refers only to the financial statements described above and does not provide assurance over the integrity of publication of the financial report on the Museum Board's website nor does it provide an opinion on any other information which may have been hyperlinked to/from these statements.

Opinion

In my opinion, the financial report gives a true and fair view of the financial position of the Museum Board as at 30 June 2016, its financial performance and its cash flows for the year then ended in accordance with the Treasurer's Instructions promulgated under the provisions of the *Public Finance and Audit Act 1987* and Australian Accounting Standards.

Andrew Richardson
Auditor-General
21 September 2016

Museum Board

Financial Statements

For the year ended 30 June 2016

Museum Board
Certification of Financial Statements
for the year ended 30 June 2016

We certify that the attached general purpose financial statements for the Museum Board:

- are in accordance with the accounts and records of the Museum Board;
- comply with relevant Treasurer's Instructions issued under section 41 of the *Public Finance and Audit Act 1987* and relevant Australian Accounting Standards; and
- present a true and fair view of the financial position of the Museum Board as at 30 June 2016 and the results of its operations and cash flows for the financial year.

We certify that the internal controls employed by the Museum Board over its financial reporting and its preparation of the general purpose financial statements have been effective throughout the financial year.

Brian Oldman
Director
South Australian Museum
13 September 2016

Dr Jane Lomax-Smith
Chair
Museum Board
13 September 2016

Museum Board
Statement of Comprehensive Income
for the year ended 30 June 2016

	Note	2016 $'000	2015 $'000
Expenses			
Staff benefits	4	8 379	7 703
Supplies and services	6	4 738	4 355
Accommodation and facilities	7	2 806	2 885
Depreciation and amortisation	8	2 087	2 080
Net loss from disposal of non-current assets	13	12	-
Grants		151	150
Total expenses		**18 173**	**17 173**
Income			
Grants	9	1 005	1 358
Fees and charges	10	551	503
Donations and bequests		875	428
Donations of heritage assets		2 881	1 437
Sponsorships	11	284	268
Interest and investment income	12	155	183
Resources received free of charge	14	619	534
Recoveries		133	230
Net gain from the disposal of non-current assets	13	-	247
Sale of goods		1 315	1 262
Other income	15	448	354
Total Income		**8 266**	**6 804**
Net cost of providing services		**9 907**	**10 369**
Revenues from SA Government			
Recurrent operating grant		10 691	10 508
Capital grant		765	563
Total revenues from SA Government		**11 456**	**11 071**
Net result		**1 549**	**702**
Other comprehensive income:			
Items that will not be reclassified to net result			
Change in asset revaluation surplus	19	(78 794)	-
Total other comprehensive income		**(78 794)**	**-**
Total comprehensive result		**(77 245)**	**702**

The net result and total comprehensive result are attributable to the SA Government as owner.

The above statement should be read in conjunction with the accompanying notes.

Museum Board
Statement of Financial Position
as at 30 June 2016

	Note	2016 $'000	2015 $'000
Current assets			
Cash	24	3 824	4 596
Receivables	16	916	590
Inventories		119	106
Total current assets		**4 859**	**5 292**
Non-current assets			
Receivables	16	10	3
Property, plant and equipment	17	39 553	40 730
Intangibles	18	89	104
Heritage collections	19	288 141	364 056
Investments	20	1 662	782
Total non-current assets		**329 455**	**405 675**
Total assets		**334 314**	**410 967**
Current liabilities			
Payables	21	977	764
Staff benefits	22	1 028	917
Provisions	23	6	8
Total current liabilities		**2 011**	**1 689**
Non-current liabilities			
Payables	21	152	125
Staff benefits	22	1 646	1 395
Provisions	23	12	20
Total non-current liabilities		**1 810**	**1 540**
Total liabilities		**3 821**	**3 229**
Net assets		**330 493**	**407 738**
Equity			
Asset revaluation surplus		191 704	270 498
Retained earnings		138 789	137 240
Total equity		**330 493**	**407 738**

The total equity is attributable to the SA Government as owner

Unrecognised contractual commitments	25
Contingent assets and liabilities	26

The above statement should be read in conjunction with the accompanying notes.

Museum Board
Statement of Changes in Equity
for the year ended 30 June 2016

	Asset Revaluation Surplus $'000	Retained Earnings $'000	Total equity $'000
Balance at 30 June 2014	270 498	136 538	407,036
Net result for 2014-15	-	702	702
Total comprehensive result for 2014-15	**-**	**702**	**702**
Balance at 30 June 2015	**270 498**	**137 240**	**407 738**
Net result for 2015-16	-	1 549	1 549
Changes in asset revaluation surplus	(78 794)	-	(78 794)
Total comprehensive result for 2015-16	**(78 794)**	**1 594**	**(77 245)**
Balance at 30 June 2016	**191 704**	**138 789**	**330 493**

All changes in equity are attributable to the SA Government as owner.

The above statement should be read in conjunction with the accompanying notes.

Museum Board
Statement of Cash Flows
for the year ended 30 June 2016

Cash flows from operating activities	Note	2016 $'000	2015 $'000
Cash outflows			
Staff benefits		(7 984)	(7 781)
Supplies and services		(3 980)	(3 975)
Accommodation and facilities		(2 806)	(2 885)
Grants		(151)	(150)
GST payments to the ATO		(137)	(90)
Cash used in operations		**(15 058)**	**(14 881)**
Cash inflows			
Grant contributions		1 005	1 416
Fees and charges		551	503
Donations and bequests		875	428
Sponsorships		184	234
Interest and investment income		137	187
Recoveries		133	230
Sale of goods		1 506	1 471
Other		224	354
Cash generated from operations		**4 615**	**4 823**
Cash flows from SA government			
Recurrent operating grant		10 691	10 508
Capital grant		765	563
Cash generated from SA government		**11 456**	**11 071**
Net cash provided by operating activities		**1 013**	**1 013**
Cash flows from investing activities			
Cash outflows			
Purchases of heritage collections		(10)	(57)
Purchases of property, plant and equipment and intangibles		(895)	(394)
Purchases of investments		(880)	(1 211)
Cash used in investing activities		**(1 785)**	**(1 662)**
Cash inflows			
Proceeds from sale of investments		-	1 655
Cash generated from investing activities		**-**	**1 655**
Net cash used in investing activities		**(1 785)**	**(7)**
Net increase/(decrease) in cash and cash equivalents		**(772)**	**1 006**
Cash and cash equivalents at the beginning of the period		4 596	3 590
Cash and cash equivalents at the end of the period	24	**3 824**	**4 596**

The above statement should be read in conjunction with the accompanying notes.

Museum Board
Notes to and forming part of the financial statements
For the year ended 30 June 2016

1 Objectives of the Museum Board

Objectives

The functions of the Museum Board (the board), as prescribed under the South Australian Museum Act 1976, are as follows:

- to undertake the care and management of the Museum;
- to manage the premises of the board;
- to carry out, or promote, research into matters of scientific and historical interest;
- to accumulate and care for objects and specimens of scientific or historical interest;
- to accumulate and classify data in regard to any such matters;
- to disseminate information of scientific or historical interest;
- to advise the Minister on matters relating to scientific or historical research or collections; and
- to carry out any other functions assigned to the board by this or any other Act or the Minister.

2 Summary of significant accounting policies

(a) Statement of compliance

These financial statements have been prepared in compliance with section 23 of the *Public Finance and Audit Act 1987*.

The financial statements are general purpose financial statements. The accounts have been prepared in accordance with relevant Australian Accounting Standards (Reduced Disclosure Requirements) and comply with Treasurer's Instructions and Accounting Policy Statements promulgated under the provisions of the *Public Finance and Audit Act 1987*.

The board has applied Australian Accounting Standards that are applicable to not-for-profit entities, as the board is a not-for-profit entity.

(b) Basis of preparation

The preparation of the financial statements requires:

- the use of certain accounting estimates and requires management to exercise its judgement in the process of applying the board's accounting policies. The areas involving a higher degree of judgement or where assumptions and estimates are significant to the financial statements, are outlined in the applicable notes
- accounting policies are selected and applied in a manner which ensures that the resulting financial information satisfies the concepts of relevance and reliability, thereby ensuring that the substance of the underlying transactions or other events are reported
- compliance with APS issued pursuant to section 41 of the *Public Finance and Audit Act 1987*. In the interest of public accountability and transparency the APS require the following note disclosures, which have been included in this financial report:
    a) expenses incurred as a result of engaging consultants
    b) staff targeted voluntary separation package information
    c) staff whose normal remuneration is equal to or greater than the base executive remuneration level (within $10 000 bandwidths) and the aggregate of the remuneration paid or payable or otherwise made available, directly or indirectly, by the entity to those staff
    d) board/committee member and remuneration information, where a board/committee member is entitled to receive income from membership other than a direct out-of-pocket reimbursement.

The board's Statement of Comprehensive Income, Statement of Financial Position and Statement of Changes in Equity have been prepared on an accrual basis and are in accordance with historical cost convention, except for certain assets that were valued in accordance with the valuation policy applicable.

The Statement of Cash Flows has been prepared on a cash basis.

The financial statements have been prepared based on a 12 month operating cycle and are presented in Australian currency.

The accounting policies set out below have been applied in preparing the financial statements for the year ended 30 June 2016 and the comparative information presented.

(c) Reporting entity

The financial statements and accompanying notes cover the board as an individual reporting entity. It is a statutory authority of the State of South Australia, established pursuant to the South Australian Museum Act 1976.

The board's consolidated financial statements have been prepared by combining the financial statements of the Museum Board, SA Museum Foundation Incorporated and the SA Museum Foundation Fund in accordance with AASB 10 Consolidated Financial Statements.

In forming the view that the SA Museum Foundation Incorporated and SA Museum Foundation Fund (the entities) are controlled, the board considered its involvement with the entities and determined that its substantive rights give them the current ability to direct the major relevant activities of the entities and is exposed or has rights to variable returns from its involvement, contributing to the furtherance of the board's objectives.

The activities of the entities are not material and therefore a full consolidated presentation has not been adopted.

Consistent accounting policies have been applied and all inter-entity balances and transactions arising within the consolidated entity have been eliminated in full.

(d) Sources of funds

The board's principal source of funds consists of grants from the State Government. In addition, the board also receives monies from sales, admissions, donations, bequests, sponsorships and other receipts, and uses the monies for the achievement of its objectives.

(e) Income and expenses

Income and expenses are recognised in the board's Statement of Comprehensive Income to the extent it is probable that the flow of economic benefits to or from the board will occur and can be reliably measured. Income and expenses have been classified according to their nature, and have not been offset unless required or permitted by a specific accounting standard, or where offsetting reflects the substance of the transaction or other event.

Income

Income from the sale of goods is recognised upon the delivery of goods to customers. Interest revenue is recognised on a proportional basis taking into account the interest rates applicable to the financial assets. Investment income is recognised when the board obtains control over the funds. Income from the rendering of a service is recognised upon the delivery of the service to the customers. Government grants are recognised as income in the period in which the board obtains control over the grants. Bequests, donations and sponsorships are recognised as an asset and income when the board obtains control or obtains the right to receive the bequest, donation or sponsorship and the income recognition criteria are met (i.e. the amount can be reliably measured and the flow of resources is probable).

Donated heritage collections received by the board are recognised as income in the Statement of Comprehensive Income in the year of receipt at fair value.

Resources received free of charge

Resources received free of charge are recorded as income and expenditure in the Statement of Comprehensive Income at their fair value.

Under an arrangement with Arts SA and Artlab Australia, divisions of the Department of State Development, Artlab Australia receives SA Government appropriation to perform conservation services on the board's heritage collections. The value of this work performed is recognised as resources received free of charge in income (note 14) and a corresponding amount included as conservation work expenditure in supplies and services (note 6).

Under an arrangement with the Services Division of the Department of State Development, financial services and human resource services are provided free of charge to the board. The value of these services is recognised as resources received free of charge in income (note 14) and a corresponding amount included as a business services charge in supplies and services (note 6).

Net gain on disposal of non-current assets

Income from the disposal of non-current assets is recognised when the control of the asset has passed to the buyer and has been determined by comparing proceeds with carrying amount. When revalued assets are sold, the revaluation surplus is transferred to retained earnings.

Staff benefits expense

Staff benefits expense includes all costs related to employment including wages and salaries, non-monetary benefits and leave entitlements. These are recognised when incurred.

(f) Current and non-current classification

Assets and liabilities are characterised as either current or non-current in nature. The board has a clearly identifiable operating cycle of twelve months. Assets and liabilities that will be realised as part of the normal operating cycle have been classified as current assets or current liabilities. All other assets and liabilities are classified as non-current.

(g) Cash

Cash in the Statement of Financial Position includes cash at bank, cash on hand and short term cash deposits with Hood Sweeney.

Cash is measured at nominal value.

(h) Receivables

Receivables include amounts receivable from goods and services, prepayments and other accruals.

Receivables arise in the normal course of selling goods and services to other government agencies and the public. Receivables are generally settled within 30 days after the issue of an invoice or the goods/services have been provided under a contractual arrangement.

Collectability of receivables is reviewed on an ongoing basis. An allowance for doubtful debts is raised when there is objective evidence that the board will not be able to collect the debt. Bad debts are written off when identified.

(i) Investments

Investments are brought to account at cost in accordance with Accounting Policy Framework IV *Financial Asset and Liability Framework* APS 2.1.

(j) Inventories

Inventories are measured at the lower of cost or their net realisable value. Cost of inventory is measured on the basis of the first-in, first-out method. Net realisable value is determined using the estimated sale proceeds less costs incurred in marketing, selling and distributing to customers. Inventories include stock held by the Museum cafe and shop.

(k) Non-current asset acquisition and recognition

The cost method of accounting is used for the initial recording of all acquisitions of assets. Cost is determined as the fair value of the assets given as consideration plus costs incidental to the acquisition. Assets donated during the year have been brought to account at fair value.

All non-current assets with a value of $10,000 or greater are capitalised.

Componentisation of complex assets is only performed when the complex asset's fair value at the time of acquisition is greater than $5 million for infrastructure assets and $1 million for other assets.

(l) Valuation of non-current assets

All non-current assets are held at fair value and a revaluation of non-current assets or a group of assets is only performed when its fair value at the time of acquisition is greater than $1 million and estimated useful life is greater than three years.

Land and buildings and heritage collections are re-valued every 6 years. However, if at any time management considers the carrying amount of an asset materially differs from its fair value, then the asset will be revalued regardless of when the last valuation took place. Non-current assets that are acquired between revaluations are held at cost until the next valuation, where they are revalued to fair value.

Any revaluation increment is credited to the revaluation surplus, except to the extent that it reverses a revaluation decrement of the same asset class previously recognised as an expense, in which case the increase is recognised as income.

Any revaluation decrement is recognised as an expense, except to the extent that it offsets a previous revaluation increase of the same asset class, in which case the decrease is debited directly to the revaluation surplus to the extent of the credit balance existing in the revaluation surplus for that asset class.

Upon revaluation, the accumulated depreciation has been restated proportionately with the change in gross carrying amount of the asset so that the carrying amount, after revaluation, equals its revalued amount.

Upon disposal or de-recognition, any revaluation surplus relating to that asset is transferred to retained earnings.

Land and buildings

Land and buildings have been valued at fair value. Valuations of land and buildings were determined as at 30 June 2014 by certified independent valuer Valcorp Australia Pty Ltd.

Plant and equipment

Plant and equipment, including computer equipment, has been deemed to be held at fair value on acquisition.

Intangible assets

An intangible asset is an identifiable non-monetary asset without physical substance. Intangible assets are measured at cost. Following initial recognition, intangible assets are carried at cost less any accumulated amortisation and any accumulated impairment losses.

The useful lives of intangible assets are assessed to be either finite or indefinite. The board only has intangible assets with finite lives. The amortisation period and the amortisation method for intangible assets is reviewed on an annual basis.

Heritage collections

The board's collections were revalued as at 30 June 2016 using the valuation methodology outlined below in accordance with fair value principles adopted under AASB 116 *Property, Plant and Equipment* and AASB 13 *Fair Value Measurement*. These valuations were undertaken by Aon Risk Solutions.

The collections were broadly valued on the following basis:

Collection	**Method of valuation**
Heritage collections	Market approach
Natural history collections	Cost approach

Heritage collection status applies to those collections where an established market exists.

Natural history collections have been valued at fair value on the basis of the cost of fieldwork, preparation and documentation to replace the material in its present condition.

Heritage collections deemed to have market value are Australian Aboriginal ethnology, foreign ethnology, Australian polar collection, social/industrial history collection, mineralogy, museum library, archives/artworks, rare books and public programs.

Natural history collections valued at cost of recovery are the Australian biological tissue bank, marine invertebrates, malacology, ichthyology, palaeontology, arachnology, entomology, ornithology, the Australian helminthological collection, archaeology, mammalogy and herpetology.

The public programs collection is a new collection which was valued for the first time in the 30 June 2016 valuation. This collection consists of both the Waterhouse Art Prize collection and the ANZANG nature photography collection.

The valuations of heritage collections deemed to have market value were carried out by the following recognised industry experts:

Collection	Industry expert
Australian Aboriginal ethnology	D Davidson
Foreign ethnology	D Davidson
Australian polar collection	H Miller & P Tinslay
Mineralogy	J Alford
Archives	H Miller & P Tinslay
Museum library	P Tinslay
Public Programs	H Miller
Social/Industrial History	J Munroe

Collections deemed to be culturally sensitive, including human remains or items which are secret and sacred to Aboriginal communities have not been included within the current valuation and are deemed to be at zero valuation. These collections are human biology and secret sacred material.

The foreign archaeology collection was not included in the 30 June 2016 valuation. This collection will be revalued separately in 2016-17.

(m) Impairment of assets

All non-current assets are tested for indications of impairment at each reporting date. Where there is an indication of impairment, the recoverable amount is estimated. The recoverable amount is determined as the higher of the asset's fair value less costs of disposal and depreciated replacement costs. An amount by which the asset's carrying amount exceeds the recoverable amount is recorded as an impairment loss.

For re-valued assets an impairment loss is offset against the revaluation surplus.

(n) Depreciation/amortisation of non-current assets

AASB 13 defines fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants, in the principal or most advantageous market, at the measurement date.

All property, plant and equipment and intangibles, having a limited useful life, are systematically depreciated/ amortised over their useful lives in a manner that reflects the consumption of their service potential.

Assets' residual values, useful lives and depreciation/ amortisation methods are reviewed and adjusted if appropriate, on an annual basis.

Land is not depreciated.

Depreciation/amortisation is calculated on a straight line basis over the estimated useful life of the following classes of assets as follows:

Class of asset	Useful life (years)
Buildings and improvements	15-100
Plant and Equipment	
Exhibition	10
Other	3-25
Computer Equipment	3-5
Intangibles	5-10

Exhibitions with a life of less than one year are expensed.

Heritage collections are kept under special conditions so that there is no physical deterioration and they are anticipated to have very long and indeterminate useful lives. No amount for depreciation has been recognised, as their service potential has not, in any material sense, been consumed during the reporting period.

(o) Payables

Payables include creditors, accrued expenses and staff on-costs.

Creditors and accrued expenses represent goods and services provided by other parties during the period that are unpaid at the end of the reporting period. All payables are measured at their nominal amount and are normally settled within 30 days from the date of the invoice or date the invoice is first received.

Staff on-costs include superannuation contributions and payroll tax with respect to outstanding liabilities for salaries and wages, long service leave, annual leave and skills and experience retention leave.

(p) Staff benefits

These benefits accrue for staff as a result of services provided up to the reporting date that remain unpaid. Long-term staff benefits are measured at present value and short-term benefits are measured at nominal amounts.

No provision has been made for sick leave as all sick leave is non-vesting and the average sick leave taken in future years by staff is estimated to be less than the annual entitlement of sick leave.

Salaries, wages, annual leave and SERL

Liabilities for salaries, wages, annual leave and skills and experience retention leave have been recognised as the amount unpaid at the reporting date at remuneration rates current at reporting date. The annual leave liability and the SERL liability are expected to be payable within 12 months and are measured at the undiscounted amount expected to be paid.

Long service leave

The liability for long service leave is measured as the present value of expected future payments to be made in respect of services provided by staff up to the end of the reporting period using the projected unit credit method.

The estimated liability for long service leave is based on actuarial assumptions over expected future salary and wage levels, experience of staff departures and periods of service. These assumptions are based on employee data over SA Government entities. Expected future payments are discounted using market yields at the end of the reporting period on government bonds with durations that match, as closely as possible, the estimated future cash outflows.

On-costs

Staff benefit on-costs (payroll tax and superannuation) are recognised separately under payables.

Superannuation

The board makes contributions to several State Government and externally managed superannuation schemes. These contributions are treated as an expense when they occur. There is no liability for payments to beneficiaries as they have been assumed by the respective superannuation schemes. The only liability outstanding at balance date relates to any contributions due but not yet paid to the relevant superannuation schemes. The Department of Treasury and Finance centrally recognises the superannuation liability, for the schemes operated by the State Government, in the whole-of-government financial statements.

(q) Workers compensation provision

The workers compensation provision is an actuarial estimate of the outstanding liability as at 30 June 2016 provided by a consulting actuary engaged through the Office for the Public Sector. The provision is for the estimated cost of ongoing payments to staff as required under current legislation.

(r) Leases

The board has entered into a number of operating lease agreements for accommodation and motor vehicles where the lessors effectively retain all of the risks and benefits incidental to ownership of the items held under the operating leases. Operating lease payments are representative of the pattern of benefits derived from the leased assets and accordingly are charged to the Statement of Comprehensive Income on a straight-line basis over the lease term.

(s) Comparative information

The presentation and classification of items in the financial statements are consistent with prior periods except where specific Accounting Standards and/or Accounting Policy Statements have required a change.

Where presentation or classification of items in the financial statements have been amended, comparative figures have been adjusted to conform to changes in presentation or classification in these financial statements unless impracticable to do so.

The restated comparative amounts do not replace the original financial statements for the preceding period.

(t) Taxation

The Museum Board, the SA Museum Foundation Incorporated and SA Museum Foundation Fund are separate registered GST entities for taxation purposes.

The Museum Board is a deductible gift recipient member of the Arts SA GST Group. GST relating to the activities of the Museum Board are not recognised as a receivable/payable in the Statement of Financial Position as Arts SA is responsible for the remittance and collection of GST on behalf of the GST group.

The board is liable for payroll tax and the emergency services levy.

The Museum Board, the SA Museum Foundation Incorporated and SA Museum Foundation Fund are not subject to income tax.

Income, expenses, assets and liabilities are recognised net of the amount of GST. The amount of GST incurred by the board as a purchaser that is not recoverable from the Australian Taxation Office (ATO) is recognised as part of the cost of acquisition of an asset or part of an item of expense.

The net GST receivable by the SA Museum Foundation Incorporated and the SA Museum Foundation Fund is disclosed in note 16.

(u) Events occurring after the reporting date

Adjustments are made to amounts recognised in the financial statements, where an event occurs after 30 June and before the date the financial statements are authorised for issue, where those events provide information about conditions that existed at 30 June.

Note disclosure is made about events between 30 June and the date the financial statements are authorised for issue where the events relate to a condition which arose after 30 June and which may have a material impact on the results of subsequent years.

(v) State Government funding

The financial statements are presented under the assumption of ongoing financial support being provided to the board by the State Government.

(w) Rounding

All amounts in the financial statements and accompanying notes have been rounded to the nearest thousand dollars ($'000).

(x) Insurance

The board has arranged, through SAICORP, a division of the SA Government Financing Authority, to insure all major risks of the board. The excess payable is fixed under this arrangement.

(y) Unrecognised contractual commitments and contingent assets and liabilities

Commitments include operating, capital and outsourcing commitments arising from contractual or statutory sources and are disclosed at their nominal value.

Contingent assets and contingent liabilities are not recognised in the Statement of Financial Position, but are disclosed by way of a note and, if quantifiable, are measured at nominal value.

Unrecognised contractual commitments and contingencies are disclosed net of the amount of GST recoverable from, or payable to the ATO. If GST is not payable to, or recoverable from the ATO, the commitments and contingencies are disclosed on a gross basis.

3 New and revised accounting standards and policies

The board did not voluntarily change any of its accounting policies during 2015-16.

4 Staff benefits

	2016 $'000	2015 $'000
Salaries and wages	6 194	5 935
Long service leave	371	243
Annual leave	522	480
Skills and experience retention leave	36	31
Staff on-costs - superannuation	674	629
Staff on-costs - other	353	330
Board fees	22	18
Other staff related expenses	46	37
TVSPs	161	-
Total staff benefits	**8 379**	**7 703**

TVSPs	2016 $'000	2015 $'000
Amounts paid during the reporting period to separated staff:		
TVSPs	161	-
Annual leave, LSL and SERL paid to those staff	75	-
	236	**-**
Recovery from the Department of Treasury and Finance	-	-
Net cost to the board	**236**	**-**

The number of staff who received a TVSP during the reporting period	2	-

Remuneration of staff

The number of staff whose remuneration received or receivable falls within the following bands:

	2016 Number	2015 Number
$215 001 - $225 000	-	1
$265 001 - $275 000	1	-
Total	**1**	**1**

The table includes all staff who received remuneration equal to or greater than the base executive remuneration level during the year.

Remuneration of staff reflects all costs of employment including salaries and wages, payments in lieu of leave, superannuation contributions, salary sacrifice benefits and fringe benefits and any fringe benefits tax paid or payable in respect of those benefits. The total remuneration received by these staff for the year was $274 000 ($219 000).

5 Remuneration of board and committee members

Members during the 2015-16 financial year were:

Museum Board

Hon Dr J Lomax-Smith AM (Chairperson)	Ms H Carreker
Prof D Adelson (re-appointed 12 May 2016)	Mr P Hanlon (re-appointed 23 May 2016)
Ms J H Brown	Mr D Rathman AM PSM (re-appointed 12 May 2016)
Ms N Buddle (term ended 13 December 2015)	Mr A Noble

Aboriginal Advisory Committee

Mr D Rathman AM PSM (Chairperson)	Ms E Tongerie
Dr L O'Donoghue AC, CBE, DSG (resigned 18 November 2015)	Mr F Lampard OAM
Ms S Miller	

The number of members whose remuneration received or receivable falls within the following bands:

	2016 Number	2015 Number
$0 - $9 999	12	13
Total Number of Members	**12**	**13**

Remuneration of members reflects all costs of performing board/committee member duties including sitting fees and superannuation. Total remuneration received or receivable by members was $24 000 ($20 000).

Amounts paid or payable to a superannuation plan for board/committee members were $2 000 ($2 000)

Members of the Museum Foundation Board did not receive remuneration in 2015-16 or 2014-15.

6 Supplies and services

	2016 $'000	2015 $'000
Cost of goods sold	498	483
Insurance and risk	373	389
Marketing	414	270
Administration	470	442
IT	302	276
Maintenance	130	77
Artlab conservation work	412	362
Business services charge	207	172
Collections	64	56
Exhibitions	743	250
Research	275	313
Travel and accommodation	155	95
Contractors	70	151
Motor vehicle expenses	49	54
Minor equipment	66	78
Fees	85	163

Consultants	33	332
Hire, rent and equipment	31	39
Audit fees	64	52
Legal Fees	3	4
OHS&W	26	31
Bad and doubtful debts	20	16
Other	248	250
Total supplies and services	**4 738**	**4 355**

Consultants

The number and dollar amount of consultancies paid/payable (included in consultants expense shown above) fell within the following bands:

	2016 $'000	**2016 Number**	**2015 $'000**	**2015 Number**
Below $10 000	33	7	24	7
Above $10 000	-	-	308	8
Total	**33**	**7**	**332**	**15**

7 Accommodation and facilities

	2016 $'000	**2015 $'000**
Accommodation	851	910
Facilities	999	1 043
Security	956	932
Total accommodation and facilities	**2 806**	**2 885**

8 Depreciation and amortisation

	2016 $'000	**2015 $'000**
Depreciation		
Buildings and improvements	1 427	1,423
Plant and equipment	639	632
Computer equipment	3	10
Total depreciation	**2 069**	**2 065**
Amortisation		
Intangibles	18	15
Total amortisation	**18**	**15**
Total depreciation and amortisation	**2 087**	**2 080**

9 Grants

	2016	2015
	$'000	$'000
State Government	191	370
General	479	599
Commonwealth	335	389
Total Grants	**1 005**	**1 358**

10 Fees and charges

	2016	2015
	$'000	$'000
Admissions	337	236
Functions	121	115
Fees for service	61	93
Other	32	59
Total fees and charges	**551**	**503**

11 Sponsorships

	2016	2015
	$'000	$'000
Cash sponsorships	184	234
In-kind sponsorships	100	34
Total sponsorships	**284**	**268**

12 Interest and investment income

	2016	2015
	$'000	$'000
Interest	95	138
Investment income	60	45
Total interest and investment income	**155**	**183**

13 Net gain/(loss) from the disposal of non-current assets

	2016	2015
	$'000	$'000
Investments		
Proceeds from disposal	-	1 655
Less: Net book value of assets disposed	-	(1 376)
Net gain/(loss) from disposal of investments	**-**	**279**
Plant and equipment		
Proceeds from disposal	-	-
Less: Net book value of assets disposed	-	(15)
Net gain/(loss) from disposal of plant and equipment	**-**	**(15)**
Heritage assets		
Proceeds from disposal	-	-
Less: Net book value of assets disposed	(12)	(17)
Net gain/(loss) from disposal of heritage assets	**(12)**	**(17)**

Total assets		
Proceeds from disposal	-	1 655
Less: Net book value of assets disposed	(12)	(1 408)
Total net gain (loss) from disposal of total assets	**(12)**	**247**

14 Resources received free of charge

	2016 $'000	2015 $'000
Business services charge	207	172
Artlab conservation work	412	362
Total resources received free of charge	**619**	**534**

15 Other income

	2016 $'000	2015 $'000
Lab consumable recharge	160	152
Commission and royalties	67	27
Competition entry fees	75	68
Exhibition hire	11	26
Other	135	81
Total other income	**448**	**354**

16 Receivables

	2016 $'000	2015 $'000
Current receivables		
Receivables	669	424
Less: Allowance for doubtful debts	(35)	(15)
Prepayments	35	31
Accrued income	33	15
GST receivable	214	135
Total current receivables	**916**	**590**
Accrued revenue	-	1
Prepayments	10	2
Total non-current receivables	**10**	**3**
Total receivables	**926**	**593**

Allowance for doubtful debts

The allowance for doubtful debts is recognised when there is objective evidence that a receivable is impaired. Bad and doubtful debts expense has been recognised in supplies and services in the Statement of Comprehensive Income for specific debtors and debtors assessed on a collective basis for which such evidence exists.

	2016	2015
	$'000	$'000
Carrying amount at the beginning of the period	15	-
Increase in allowance	20	16
Amounts written off	-	(1)
Carrying amount at the end of the period	**35**	**15**

17 Property, plant and equipment

	2016	2015
	$'000	$'000
Land, buildings and improvements		
Land at fair value	5 300	5 300
Buildings and improvements at fair value	73 881	73 036
Less: Accumulated depreciation	(44 227)	(42 800)
Total land, buildings and improvements	**34 954**	**35 536**
Work in progress		
Work in progress at cost	-	465
Total work in progress	**-**	**465**
Plant and equipment		
Plant and equipment at cost (deemed fair value)	9 383	8 870
Less: Accumulated depreciation	(4 788)	(4 148)
Total plant and equipment	**4 595**	**4 722**
Computer equipment		
Computer equipment at cost (deemed fair value)	49	49
Less: Accumulated depreciation	(45)	(42)
Total computer equipment	**4**	**7**
Total property, plant and equipment	**39 553**	**40 730**

Valuation of Assets

The valuation of land and buildings was performed by a certified independent valuer from Valcorp Australia Pty Ltd as at 30 June 2014. The valuer arrived at fair value based on recent market transactions for similar land and buildings in the area taking into account zoning and restricted use.

2016	**Land $'000**	**Buildings & improv. $'000**	**Work in progress $'000**	**Plant and equip $'000**	**Comp equip $'000**	**Total Tangible assets $'000**	**Computer software $'000**	**WIP Intangible assets $'000**	**Total Intangible assets $'000**
Carrying amount at the beginning of the period	5 300	30 236	465	4 722	7	40 730	79	25	104
Additions	-	-	863	29	-	892	-	3	3
Depreciation and amortisation	-	(1 427)	-	(639)	(3)	(2 069)	(18)	-	(18)
Transfer between asset classes	-	845	(1 328)	483	-	-	28	(28)	-
Carrying amount at the end of the period	**5 300**	**29 654**	**-**	**4 595**	**4**	**39 553**	**89**	**-**	**89**

18 Intangible Assets

	2016	2015
	$'000	$'000
Computer software	132	104
Less accumulated amortisation	(43)	(25)
Total computer software	**89**	**79**
Work in progress		
Work in progress at cost	-	25
Total work in progress	**-**	**25**
Total intangible assets	**89**	**104**

19 Heritage collections

	2016	2015
	$'000	$'000
Social/industrial history	587	278
Australian Aboriginal ethnology	35 017	24 839
Foreign ethnology	26 980	8 470
Australian polar collection	8 953	4 808
Archives/artwork	18 339	16 839
Archaeology	10 018	69 301
Minerals	18 789	17 979
Malacology	5 258	7 752
Australian biological tissue bank	6 582	17 631
Australian helminthological collection	15 991	25 009
Entomology	53 418	80 186
Arachnology	6 319	11 481
Marine invertebrates	29 332	15 553
Ichthyology	3 435	5 053
Herpetology	4 270	6 520
Ornithology	9 103	12 526
Mammalogy	16 310	7 963
Palaeontology	14 932	25 470
Library	4 260	6 398
Public Program Collection	248	-
Total heritage collections	**288 141**	**364 056**

Reconciliation of carrying amounts of heritage collections

2016	Opening balance $'000	Additions $'000	Revaluations $'000	Disposals $'000	Closing balance $'000
Social/industrial history	278	-	309	-	587
Australian Aboriginal ethnology	24 839	159	10 019	-	35 017
Foreign ethnology	8 470	7	18 503	-	26 980
Australian polar collection	4 808	-	4 145	-	8 953
Archives/artwork	16 839	18	1 482	-	18 339
Archaeology	69 301	-	(59 283)	-	10 018
Minerals	17 979	1 482	(672)	-	18 789
Malacology	7 752	73	(2 567)	-	5 258
Australian biological tissue bank	17 631	385	(11 434)	-	6 582
Australian helminthological collection	25 009	151	(9 157)	(12)	15 991
Entomology	80 186	28	(26 796)	-	53 418
Arachnology	11 481	3	(5 165)	-	6 319
Marine invertebrates	15 553	-	13 779	-	29 332
Ichthyology	5 053	28	(1 646)	-	3 435
Herpetology	6 520	119	(2 369)	-	4 270
Ornithology	12 526	21	(3 444)	-	9 103
Mammalogy	7 963	-	8 347	-	16 310
Palaeontology	25 470	417	(10 955)	-	14 932
Library	6 398	-	(2 138)	-	4 260
Public Program Collection	-	-	248	-	248
Total	**364 056**	**2 891**	**(78 794)**	**(12)**	**288 141**

20 Investments

	2016 $'000	2015 $'000
Non-current		
Shares and other direct investments in companies	1 662	782
Total investments	**1 662**	**782**

The market value of investments as at 30 June 2016 is $1.564 million ($0.764 million).

Of the three investment accounts; Museum Board, Norman B Tindale Memorial and the Mawson Collection - there are restrictions in place for both the Norman B Tindale Memorial and Mawson Collection relating to funds totalling $1 042 million ($489 000).

21 Payables

	2016 $'000	2015 $'000
Current payables		
Creditors and accruals	840	644
Staff on-costs	137	120
Total current payables	**977**	**764**

Non-current payables		
Staff on-costs	152	125
Total non-current payables	**152**	**125**
Total payables	**1 129**	**889**

As a result of an actuarial assessment performed by the Department of Treasury and Finance, the percentage of the proportion of long service leave taken as leave has changed from the 2015 rate (37%) to 40%. The average factor for the calculation of employer superannuation cost on-cost has also changed from the 2015 rate (10.3%) to 10.2%. These rates are used in the staff on-cost calculation. The financial effect of the change in the superannuation on-cost rate on staff on-costs and employee benefit expense is immaterial.

22 Staff benefits

	2016 $'000	2015 $'000
Current		
Annual leave	563	492
Skills and experience retention leave	59	58
Long service leave	314	322
Accrued salaries and wages	92	45
Total current staff benefits	**1 028**	**917**
Non-current		
Long service leave	1 646	1 395
Total non-current staff benefits	**1 646**	**1 395**
Total staff benefits	**2 674**	**2 312**

AASB 119 contains the calculation methodology for long service leave liability. The actuarial assessment performed by the Department of Treasury and Finance has provided a set level of liability.

AASB 119 requires the use of the yield on long term Commonwealth bonds as the discount rate in the measurement of the long service leave liability. The yield on long term Commonwealth Government bonds has decreased in 2016 to 2.0% (3.0%), the resulting effect is immaterial.

The actuarial assessment performed by the Department of Treasury and Finance left the salary inflation rate at 4.0% for long service leave liability and 3% for annual leave and skills, experience and retention leave liability. As a result there is no net financial effect resulting from changes in the salary inflation rate.

23 Provisions

	2016 $'000	2015 $'000
Current		
Provision for workers compensation	6	8
Total current provisions	**6**	**8**
Non-current		
Provision for workers compensation	12	20
Total non-current provisions	**12**	**20**
Total provisions	**18**	**28**

Reconciliation of the provision for workers compensation		
Provision at the beginning of the financial year	28	47
Reductions resulting from re-measurement or settlement without cost	(10)	(19)
Carrying amount at the end of the period	**18**	**28**

24 Cash and cash equivalents

Reconciliation of cash

For the purposes of the Statement of Cash Flows, cash includes cash on hand, cash held for investments and cash at bank. Cash as at the end of the financial year as shown in the Statement of Cash Flows is reconciled to the items in the Statement of Financial Position as follows:

	2016	**2015**
	$'000	**$'000**
Deposits with the Treasurer	1 092	1 615
Cash other	2 728	2 977
Cash on hand	4	4
Cash as recorded in the Statement of Financial Position	**3 824**	**4 596**

Deposits with the Treasurer

Deposits with the Treasurer are a combination of funds held in the "Museum Board Account", an account held with the Treasurer of South Australia pursuant to section 21 of the Public Finance and Audit Act 1987, and funds held in the Arts SA Operating Account. This account is held with the Treasurer of South Australia pursuant to section 8 of the Public Finance and Audit Act 1987. There are stipulated restrictions on the use of the Zimmerman Bequest component of the cash funds available $109 000 ($107 000) and the Bonython Bequest component of the cash funds available $22 000 ($21 000).

Cash other

Cash other is term deposits, cash held for investments with Hood Sweeney and cash held by the SA Museum Foundation Incorporated and SA Museum Foundation Fund. There are restrictions in place for the cash accounts for Norman B Tindale Memorial and Mawson Collection $415 000 ($938 000).

Cash on hand

Cash on hand includes petty cash and floats.

Interest rate risk

Cash and cash equivalents are recorded at nominal value. Interest is calculated based on the average daily balances of the interest bearing funds. The interest bearing funds of the Board are held in the section 21 interest bearing account titled the "Museum Board Account" and in the accounts identified in cash other.

25 Unrecognised contractual commitments

Operating lease commitments

Commitments under non-cancellable operating leases at the reporting date not recognised as liabilities in the financial statements, are payable as follows:

	2016	2015
	$'000	$'000
Within one year	24	29
Later than one year but not later than five years	8	29
Total operating lease commitments	**32**	**58**

The operating lease commitments comprise non-cancellable motor vehicle leases, with rental payable monthly in arrears. No contingent rental provisions exist within the lease agreements and no options exist to renew the leases at the end of their terms.

Other commitments

	2016	2015
	$'000	$'000
No later than one year	1 049	1 155
Later than one year but not later than five years	217	702
Total other commitments	**1 266**	**1 857**

The board's other commitments are for agreements for security and cleaning.

Contingency provisions within the contracts require the minimum contract payments to be increased by variable operating costs and wage rises. Options exist to renew the contracts at the end of their terms.

26 Contingent assets and liabilities

The board is not aware of any contingent assets or liabilities as at 30 June 2016.

27 Financial instruments/financial risk management

27.1 Financial risk management

Risk management is managed by the board's corporate services section and board risk management policies are in accordance with the *Risk Management Policy Statement* issued by the Premier and Treasurer and the principles established in the Australian Standard *Risk Management Principles and Guidelines*.

The board's exposure to financial risk (liquidity, credit and market) is insignificant based on past experience and current assessment of risk.

The board is funded principally from appropriation from the SA Government. The Board works with the Department of Treasury and Finance to determine the cash flows associated with its Government approved program of work and to ensure funding is provided through SA Government budgetary processes to meet the expected cash flows.

There have been no changes in risk exposure since the last reporting period.

27.2 Categorisation of financial instruments

Details of the significant accounting policies and methods adopted including the criteria for recognition, the basis of measurement, and the basis on which income and expenses are recognised with respect to each class of financial asset and financial liability are disclosed in note 2 Summary of significant accounting policies.

The carrying amounts of each of the following categories of financial assets and liabilities: Held-to –maturity investments; loan and receivables; and financial liabilities measured at cost are detailed below.

Category of financial asset and financial liability	Statement of Financial Position line item	Notes	2016	
			Carrying amount $'000	Fair Value $'000
Financial assets				
Cash and cash equivalents	Cash	24	3 824	3 824
Investments	Investments	20	1 662	1 564
Loans and receivables	Receivables[(1)(2)]	16	637	637
Financial liabilities				
Financial liabilities at cost	Payables[(1)]	21	797	797

Category of financial asset and financial liability	Statement of Financial Position line item	Notes	2015	
			Carrying amount $'000	Fair Value $'000
Financial assets				
Cash and cash equivalents	Cash	24	4 596	4 596
Investments	Investments	20	782	764
Loans and receivables	Receivables[(1)(2)]	16	410	410
Financial liabilities				
Financial liabilities at cost	Payables[(1)]	21	608	608

[1] Receivable and payable amounts disclosed here exclude amounts relating to statutory receivables and payables. In government, certain rights to receive or pay cash may not be contractual and therefore in these situations, the requirements will not apply. Where rights or obligations have their source in legislation such as levy receivables/payables, tax equivalents, commonwealth tax, audit payables etc they would be excluded from the disclosure. The standard defines contract as enforceable by law. All amounts recorded are carried at cost (not materially different from amortised cost).

[2] Receivables amount disclosed here excludes prepayments. Prepayments are presented in note 16 as trade and other receivables in accordance with paragraph 78(b) of AASB 101. However, prepayments are not financial assets as defined in AASB 132 as the future economic benefit of these assets is the receipt of goods and services rather than the right to receive cash or another financial asset.

28 Events after balance date

There are no known events after balance date that affect these financial statements in a material manner.