

# Annual Report 2009-2010



Board of the Botanic Gardens and State Herbarium

# people • plants • culture

Annual Report of the Board of the Botanic Gardens and State Herbarium  
2009–2010



"Grove" by Fiona Hall. Santos Museum of Economic Botany

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ISSN 0728-7704  
ISBN 978-0-9807021-3-2  
ABN 36 702 093 234



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# Letter of Transmittal



Government of South Australia  
Department of Environment  
and Natural Resources

Board of the  
Botanic Gardens and  
State Herbarium



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30 September 2010

Hon. Paul Caica, MP  
Minister for Environment and Conservation  
Parliament House  
North Terrace  
ADELAIDE  
South Australia 5000

Dear Minister

The Board of the Botanic Gardens and State Herbarium is pleased to present its Annual Report for the year ended 30 June 2010, as required by section 23 of the *Botanic Gardens and State Herbarium Act 1978*.

A handwritten signature in black ink, appearing to read 'Judy Potter'.

Judy Potter  
**Chair**  
**Board of the Botanic Gardens and State Herbarium**

# Chair's Foreword

The accreditation by the American Association of Museums of the Board of the Botanic Garden and State Herbarium (the Board) is a remarkable achievement. Our institution is the first outside North America to be accredited and signifies the excellence of our gardens, collections, education and research programs.

It is credit to the dedication and inspirational work of everyone connected to the gardens and herbarium – the staff, volunteers, Friends, Board members, Foundation members, South Australian government, and those who visit the gardens.

Our work on the accreditation began in 2005. It has been a long process, but it has been more than just a successful submission. It has been a time for us to deeply and critically examine our place, our progress and our endeavours. Such evaluation must also continue if we are to remain worthy of our accreditation and maintain our standing with the community that we continue to serve. Just as the plants we nurture in our gardens grow, so must we.

Our role is far more than mere display. Even those who visit the gardens for a short respite from the stresses of modern life—and most of our visitors do come to look, learn and relax—could be enlightened or inspired by a certain theme, composition or display in any part of the gardens. On completion, the new western entrance will open up the Adelaide Garden to the business, education and cultural boulevard of the city and provide greater opportunity for the community to also experience and learn about the global role of botanic gardens.

We have an impressive array of more formal interpretive and educational programs and tools. The education and outreach program is engaging future gardeners and carers for our environment. They are being taught well.

Our role as exemplars of sustainability is critically important, particularly in our arid state. The water-saving projects coming to fruition in the gardens, such as the wetlands capture, storage and reuse of stormwater, are valuable in themselves and as educators for our community.

Our taxonomic, genetic and ecological research is making a significant contribution to creating a more botanically sustainable future as we face a global challenge of a changing climate.

Our considerable achievements in all three of our glorious gardens and in the herbarium throughout 2009–10 were possible only through dedication, hard work and support of many. The Board values the support of the Friends of the Botanic Gardens, Adelaide Botanic Gardens Foundation, volunteers and honorary associates, the ongoing support and generosity of our donors and sponsors and the industry, government and community bodies that make an important contribution to various committees. Special thanks to Mr Allan Holmes, Chief Executive Department for Environment and Heritage and the Hon. Paul Caica, Minister for the Environment and Conservation and previous Minister Hon. Jay Weatherill for their continued support and investment in the gardens and State herbarium. I extend my appreciation and deep thanks, to previous Chairs, Kym Winter-Dewhirst and Ian Little for their support, Stephen Forbes Director of Botanic Gardens and staff. Each and every one has played an invaluable role in a very successful year.



Judy Potter  
Chair

# Director's Report

All forward-looking organisations aspire to benchmark themselves against their peers nationally and internationally. In this, the Botanic Gardens and State Herbarium is no exception.

The American Association of Museums (AAM) is the only body worldwide that offers botanic gardens and herbaria (as collections-based scientific and cultural institutions or 'museums' for AAM purposes) the opportunity for accreditation. It is the field's primary vehicle for quality assurance, self-regulation and public accountability.

Three years ago the Botanic Gardens and State Herbarium set itself the ambitious target of becoming the first international institution to be accredited by the AAM. The process is self-motivated and is no small task, involving a self-study and a site visit by a team of peers.

In congratulating everyone concerned for achieving what is the highest recognition achievable, I can do no better than echo the words of AAM President Ford W Bell who, when announcing the three museums joining the distinguished list of accredited institutions in 2010, stated: 'Accreditation is clearly a significant achievement. But put simply, it means the citizens of the communities served by these "museums" have in their midst a truly outstanding "museum".'

In formulating the Strategic Plan to take the Botanic Gardens and State Herbarium through to 2012, we reflected on the importance of the Gardens to the South Australian community over 150 years.

Throughout its history the Gardens has maintained significant roles in recreation, culture and education for South Australians. Our high visitor numbers aside, the Gardens' place in the hearts of the community was never more obvious than in the generosity demonstrated by so many as part of the Gardens 150 celebrations. Although these ended in October 2007, progress towards completing the associated capital program continues, and includes the Western Entry and the Garden of Health.

Our focus continues on collections development, including living, herbarium and cultural collections. Our purpose in this is to continue to develop a platform that brings enjoyment to visitors, that inspires and educates through events, interpretative information and schools' education programs and that supports scientific and conservation programs.

The proposed First Creek wetland is a great example. At one level the project will divert stormwater from First Creek as it enters the Adelaide Botanic Garden before being stored in and subsequently recovered from the underlying aquifer to provide water security for the Gardens. The wetland will include the development of an aquatic living plant collection that will be interpreted to illustrate plant adaptation and ecosystem function. On another level the

project explores the challenges associated with water scarcity and interprets the importance of water for people and the links to projected climate change scenarios.

The State Herbarium has made significant advances in collections development and providing online information to the scientific community. Exceeding one million specimens, the Herbarium's collection and online database management systems are opening up their work and vast scientific knowledge to the world. The upgrade of the Australian Virtual Herbarium, preparation of the new electronic edition of Flora SA and digitisation of all volumes of the Marine Benthic Flora are but a few of the initiatives progressed this year that will advance the scientific community's understanding and conservation of our biodiversity.

Our Strategic Plan sets out this shift in emphasis in planning for the Gardens and Herbarium and for programs associated with their collections, to planting and connecting with people. It also articulates our values of trust, connect, discover, which reflect our internal aspiration—to interact with each other within the organisation and with the broader community.

These values and the clear directions for collections development and for the themes and messages to be communicated, provide us with a solid foundation from which to prosper and build on our achievements to date. Further, it provides us with an environmental leadership mandate: helping our community learn about and hence take on the 21st century challenges associated with water, energy, food security and the conservation of ecosystems and landscapes.

I extend thanks to the Hon. Paul Caica, Minister for Environment and Conservation and previous Minister Hon. Jay Weatherill; Ms Judy Potter, Chair of the Board of the Botanic Gardens and State Herbarium, and previous chairs Mr Kym Winter-Dewhirst and Mr Ian Little; and Mr Allan Holmes, Chief Executive, Department for Environment and Heritage for their ongoing support. Of course, our achievements over the past year are attributable to the unwavering dedication of the Gardens' community, including staff, volunteers, the Friends of the Botanic Gardens of Adelaide, the Adelaide Botanic Gardens Foundation and our sponsors who all generously contribute to the Gardens in so many ways. I particularly thank Mrs Helena Jenkinson, President of the Friends, and Mrs Ruth Hemmerling, Chair of the Foundation, for their support.



**Stephen Forbes**  
Director, Botanic Gardens and State Herbarium

# Three Great Gardens and State Herbarium

## Adelaide Botanic Garden

The best known of the three gardens, Adelaide Botanic Garden, is one of the state's most loved cultural institutions. Established in 1885, the Garden has developed with the city, to become a rich source of leisure, tourism, cultural, educational and scientific opportunities. Situated on 20 hectares, the Garden has significant cultural heritage values, and is easily accessible from the city centre. It is part of the North Terrace cultural precinct; is in close proximity to the state's other major cultural institutions; and is part of the Living End Precinct, along with the Adelaide Zoo and Botanic Park. The 26 hectares of Botanic Park were established in 1870 as an arboretum. Today it is a significant heritage landscape and an established venue for major events, family reunions and picnics.

## Mount Lofty Botanic Garden

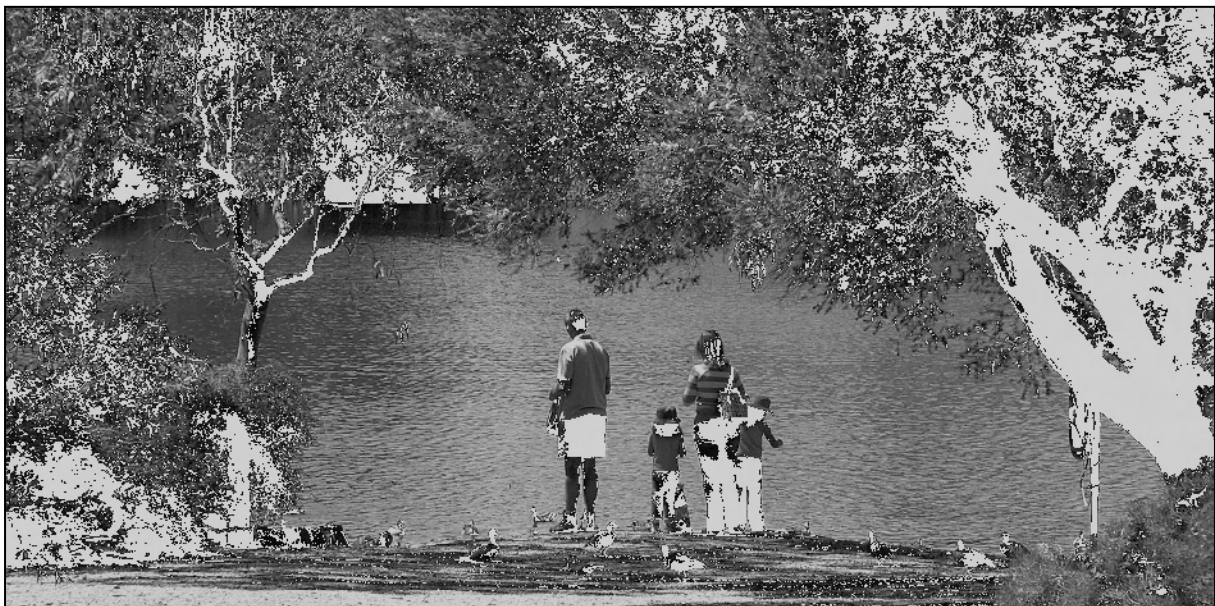
Mount Lofty Botanic Garden's is devoted to the cultivation of plants from cool temperate parts of the world. The Board purchased the estate of Thomas S Backhouse in 1952. Then, it was thick with regrowth Stringy Bark forest and Radiata Pine plantations. A significant development program established landscaping, visitor amenities and the cool-climate collections before the garden opened to the public in 1977. The garden now occupies 97 hectares and its collections of magnolias, rhododendrons, ferns and the ATCO Heritage Rose Garden, are now a major Adelaide Hills tourist attraction.

## Wittunga Botanic Garden

An intimate and beautiful garden on 14 hectares, Wittunga highlights the relationship between South African and Australian shrub and tree species. The garden's displays of South African and Australian plants are especially spectacular in spring, and include rich collections of *Erica*, *Leucadendron* and *Protea*, which are complemented by exotic and unusual bulbs and colourful annuals. The majority of the plants from South Africa come from the Cape Province district, which has a climate similar to that of Adelaide.

## State Herbarium of South Australia

The State Herbarium is the fourth largest herbarium in Australia with just over one million pressed plant specimens. It houses a collection of international importance, including specimens from the first explorations of the State of South Australia, and is an internationally recognised institution, dedicated to research and its advisory role in plant systematics for South Australia. It has, since its inception, had a strong state, national and international profile. In South Australia it plays a key role in undertaking botanical surveys, has been instrumental in the foundation of conservation parks across the state, and has established strong links with the University of Adelaide through postgraduate teaching of plant systematics.



Wittunga Botanic Gardens

# Corporate Governance

## Role

Since 1855, the Board has provided recreational, educational, horticultural and scientific benefits to the South Australian community.

## Vision

The Board will lead, inspire and engage the community in creating a botanically sustainable future in a changing environment.

## Mission

On behalf of the people of South Australia, the Board's mission is to advance plant appreciation, knowledge and conservation through its natural and cultural collections and programs.



Specimens from the State Herbarium

## Principles

The Board:

- respects horticultural and botanical knowledge and skills, and seeks to ensure that staff and community knowledge contribute to high-level horticultural and botanical endeavour applied to the plant collections
- respects garden and landscape design knowledge and skills, and seeks to ensure that sound design advice contributes to a high standard of landscape aesthetics within the Gardens
- supports programs with careful planning, sound marketing and appropriate evaluation; promotes public awareness and understanding of the Board's role; and communicates with and is responsive to visitors and stakeholders
- contributes to biodiversity conservation and scientific research through education and integrated plant conservation programs
- ensures that the Board's operations model effective environmental management to the community
- ensures that it can demonstrate improving effectiveness and efficiency in resource use.

## Legislative Responsibility

The Board is established pursuant to section 6 of the *Botanic Gardens and State Herbarium Act 1978* (the Act). The Board is subject to the general direction and control of the Minister of Environment and Conservation.

The Board is responsible for administration of the Act and has responsibility for the State Herbarium and three garden sites: Adelaide Botanic Garden and Botanic Park; Mount Lofty Botanic Garden; and Wittunga Botanic Garden.



## Functions and Objectives

Functions of the Board are set out in section 13 of the Act as follows:

- a) to establish and maintain botanic and other gardens for the use and enjoyment of members of the public on land vested in or placed under the control of the Board;
- b) to establish and manage in, or in connection with, its gardens exhibitions of interest in the fields of botany, horticulture, biology, conservation of the natural environment or history;
- c) to establish and maintain a herbarium and, subject to this Act, to retain original specimens included in the herbarium;
- d) to accumulate and care for specimens (whether living or preserved), objects and things of interest in the fields of botany, horticulture, biology, conservation of the natural environment or history;
- e) to accumulate and classify data in regard to any such matters;
- f) to manage all lands and premises vested in, or placed under the control of, the Board;
- g) to manage all funds vested in, or under the control of, the Board and to apply those funds in accordance with the terms and conditions of any instrument of trust or other instrument affecting the disposition of those funds;
- h) to carry out or promote research into matters of interest in the fields of botany, horticulture, biology, conservation of the natural environment or history;
- i) to disseminate information of interest in the fields of botany, horticulture, biology, conservation of the natural environment or history;
- j) to provide consultant services; and
- k) to perform any other functions of scientific, educational or historical significance that may be assigned to the Board by regulation.

Pursuant to section 23 of the Act, the Board is required to present a report to the Minister prior to 30 September each year on the operations of the Board during the past financial year.

## Board Membership and Organisation

The Board is responsible for the management of its gardens and the State Herbarium in accordance with the *Botanic Gardens and State Herbarium Act 1978*. Its overarching aim is to balance recreation, education and tourism needs with the need to conserve and enhance the living and herbarium collections and conduct vital conservation research.

The Board consists of eight members appointed by the Governor, pursuant to section 7 of the Act. During the 2009–2010 reporting period, the Board met on eight occasions (Table 1).

The Board has two standing committees:

- Finance Committee (chaired by Mr Jim Kouts) which met twice during the year
- Marketing Committee (chaired by Ms Karen Cross), which met three times during the year.

No Board members have either a direct or indirect pecuniary interest in any firm, trust or company with which the Board has entered into arrangements during the year.

**Table 1:** Board members and meetings 2009–10

Board Member	Meetings held in term of office	Number of meetings attended
Judy Potter (appointed 21 Jan 2010)	3	3
Kym Winter-Dewhirst	8	7
Jim Kouts	8	8
Ian Little	8	8
Karen Cross	8	7
Anne Howe	8	5
Ann Levy	8	5
David Knox (appointed 10 Dec 2009)	4	2

# Contribution to South Australia's Strategic Plan 2008

The Board has a role to play in achieving South Australia's Strategic Plan (SASP) and aligns the strategic themes and aspirations of the Board's Strategic Plan 2009–2012 with SASP objectives.

## Objective 1 Growing Prosperity

As part of an ongoing commitment to enhancing visitor experiences, the Board conducts an annual visitor perception and satisfaction survey (SASP Target 1.7). The results of the survey are analysed and appropriate actions taken to ensure the Gardens continue to provide outstanding visitor experiences and remain one of the most visited cultural institutions in South Australia.

As South Australia's most visited cultural and scientific institution, the Board's gardens contribute significant economic and social benefits to the community. The inclusion of a visit to the gardens as part of a tourism itinerary very often results in a prolonged stay in the state or region, with direct economic benefit to local businesses (SASP Target 1.15). The multiplier effect from this activity, together with the significant investment in capital programs and services, contributes to economic growth while making the Gardens more accessible and enjoyable.

## Objective 2 Improving Wellbeing

As the gardens are a beautiful, tranquil and friendly refuge that accommodate visitor needs for recreation in a highly urbanised environment, they directly contribute to community wellbeing. Consistently demonstrated in visitor surveys, the primary reasons for visiting the gardens are to view plants, walk and relax. The gardens encourage passive outdoor recreation and provide facilities and activities to assist in increasing healthy South Australians (SASP Target 2.4) and increasing psychological wellbeing (SASP Target 2.7). The Garden of Health, as part of the new Frome Road western entrance redevelopment, is becoming a reality that will open opportunities for visitors to learn more about the importance of plants to our health and wellbeing.

## Objective 3 Attaining Sustainability

The Board's role in plant conservation contributes to the survival of plant species in nature—locally, nationally and globally—with a particular emphasis on South Australian rare and threatened plants. The Board pursues an integrated approach to plant conservation, by combining long-term ex

*situ* (conservation of plant species away from their natural areas of occurrence) with *in situ* programs.

The State Herbarium and Seed Conservation Centre directly contribute to Lose No Species (SASP Target 3.1), the five biodiversity corridors (SASP Target 3.2) and Marine Biodiversity (SASP Target 3.4), through increasing knowledge, scientific research and *ex situ* seed collections of South Australia's native species.

The Sustainable Landscapes project demonstrates and promotes appropriate park and garden design, plant species selections and sustainable horticultural practices for South Australian environments, including effective, efficient and appropriate water use (SASP Target 3.9).

## Objective 4 Fostering Creativity

Australian flora knowledge continues to be expanded through taxonomic research at the State Herbarium and a broad range of collaborative national and global research conservation projects. Joint initiatives and funding, received through the Australian Research Council with South Australian and interstate universities and private enterprise, contributes directly to public expenditure on research (SASP Target 4.9) and Australian Government research and development resources (SASP Target 4.10).

## Objective 5 Building Communities

The representation of women on the Board in 2009–10 was 50% (SASP Target 5.1). In 2009–10, numbers of volunteers in the gardens and State Herbarium were maintained and there was an increased focus on the development of volunteer training and recognition programs (SASP Target 5.6).

The Botanic Gardens of Adelaide and State Herbarium has a role to play in achieving Department for Environment and Heritage's (DEH) Corporate Plan goals of:

- Move South Australia towards a sustainable future
- Conserve, value and celebrate South Australian natural and cultural heritage
- Foster debate on the environment and engage the community
- Secure the future of South Australia's coastal and marine environment
- Maximise organisational performance.

As with the South Australia's Strategic Plan Objectives, the Botanic Garden and State Herbarium contribute towards these goals.

# The Board's Strategic Plan 2009–2012

Throughout its 150-year history, the Botanic Gardens of Adelaide has played a significant role in the South Australian community: for its research into and collections of botany, ecology and horticulture; as a place for peace, relaxation, entertainment and recreation; and for education.

In the 21st century, the role of botanic gardens is more important than ever before. They are beacons of the ability to sustain life in an age of ecological crisis. The Board, using its botanical collections, its practices and its programs looks to advance plant appreciation, knowledge and conservation practices and thus address the challenges of climate change and water sustainability.

There is no doubt of the place of the gardens in the hearts of South Australians—as our annual visitor numbers of 1.8 million and the success of the Board's programs attest. The restoration of the Santos Museum of Economic Botany, Western Entry and the Garden of Health development, the redevelopment of Botanic Park and the interface with the Zoo are just a few examples of major capital works.

Further to local pre-eminence, the Board's accreditation by the American Association of Museums is formal acknowledgment internationally of the scientific research, conservation and education efforts of the Board that are contributing to a plan to safeguard the earth's plants.

In formulating its strategic plan 2009–2012, the Board considered all of the interconnecting elements that make up a botanic garden and the complex network of interdependence that underlies it. The end result of the comprehensive planning process has been a shift in emphasis in planning for the gardens and the State Herbarium and for the programs associated with their collections. This new focus gives clear direction for collections development and for the themes and messages to be communicated.

*Gardens for Life: Botanic Gardens and State Herbarium of South Australia Strategic Plan 2009–2011* will guide the activities of the Board over the next three years and forms a framework for priority setting and reporting. Five strategic themes reflect the key challenges of sustainability, health and wellbeing, collections management, and connecting with people.

Through the plan the Board aspires to:

- enable and influence the community and government to minimise the ecological footprint of public and private urban landscapes
- advance community understanding of the relations between plants, people, gardens and human health and wellbeing
- increase accessibility to, and demonstrate the excellence of, the gardens and herbarium collections
- advance the scientific understanding and conservation of the state's biodiversity
- engage with different communities to encourage greater social inclusion and community development.

This report sets out achievements to date against the plan's highlight objectives, with further actions scheduled over the life of the plan.



*Aloe Barberae* - Tree Aloe, Adelaide Botanic Garden

# Sustainability

## **We aspire to ...**

*enable and influence community and government to minimise the ecological footprint of public and private urban landscapes*

## **Highlight objectives**

- By 2012, 50% of all water used in the Botanic Gardens of Adelaide is derived from non-mains sources
- By 2012, sustainable landscapes principles are guiding land management practices within 10 South Australian government and industry entities.
- By 2020, the Botanic Gardens of Adelaide will be at least carbon neutral.

## **Highlight achievements 2009–2010**

- First Creek wetland funding secured and planning commenced
- Comprehensive suite of Sustainable Landscapes brochures produced
- Irrigation system replacement program expanded
- Biological pest management successes
- Greenhouse Gas Assessment conducted
- Australian Native Garden demonstrating sustainable horticultural practices opens
- Inaugural Native Garden Design Awards

Sustainability is the first of the themes set out in the Strategic Plan 2009–2012, reflecting its importance as the issue of the time. By incorporating sustainable practices into every area of its operations, the Board is reducing its environmental footprint and demonstrating good corporate citizenship. But more than this, it is a living demonstration of water-saving plants and sustainable horticultural practices for the South Australian environment.

## Reducing mains water usage

### **New wetland to reduce demand on River Murray water**

Planning began for the First Creek Wetland, which will include a water aquifer storage and recovery system. The project will give the Adelaide Botanic Garden access to a secure water supply and contribute to the state's targets for reduced potable water use and increased stormwater use.

The system, located in the southeast corner of the Garden, will gradually replace the use of potable water over a five-to-seven year period, with an anticipated usable capacity of about 100 megalitres a year. The scheme will allow some

stormwater to be diverted from First Creek, as it enters the Botanic Garden, and stored in, and subsequently recovered from, the underlying aquifer. The project incorporates wide-reaching aims, beyond the achievement of water savings. Through educative programs, visitor pathways and displays explaining each part of the system, the project will connect the community to the fundamental importance of water for people and the environment and as a climate-change related issue. A water-based plant collection will be developed, and the use of stormwater in Adelaide's urban environment will be promoted.

The wetland will include indigenous plant species, and will develop an understanding of indigenous values, as they relate to the environment, and the spiritual connection between Indigenous people and water and land.

The South Australian and Australian governments are funding the project, as part of the National Urban Water and Desalination Plan. Construction is set to begin in early 2011 and be completed in June 2012.

### **Irrigation system replacement program expanded**

DEH continued its investment in and support to the Board for improvements to irrigation efficiency across the Adelaide Botanic Garden. Antiquated impact irrigation systems were removed and replaced by drip irrigation pressure-regulated sprinkler systems. Systems upgraded this year include additions in the International Rose Garden, Northern Palm Garden, Botanic Park and the Australian Cycad collection.

### **Accessing recycled water**

Part of the Glenelg to Adelaide pipeline, a south Australian Government initiative to recycle water for parkland use with access points into the Adelaide Garden and Botanic Park, was installed within Botanic Gardens land in 2008-09. Further infrastructure works were progressed during the year. Further works will be completed in 2010–2011.

### **Sustainable water practices**

In response to the ongoing drought and continued water restrictions, more than 30% of selected lawn areas in the Adelaide Botanic Garden were again allowed to 'dry off' and water schedules were adjusted. These areas were deemed capable of recovery with natural rainfall.

Mount Lofty Botanic Garden continued to liaise with the Department of Water, Land and Biodiversity Conservation (DWLBC) to determine a suitable water allocation based on the requirements of different plant collections.

Collections were reviewed in all three Gardens for water usage and reviews of plant selection, water usage and collections development will continue.

## Sustainable horticulture trials

Mulching programs continued as a water-saving measure and for weed-control purposes across the botanic gardens. Different types of mulch have been trialled, and further work will continue to determine the most appropriate types of mulch for specific collections.

Herbicide and fertiliser application rates and alternative strategies have been trialled and continue to be monitored for effectiveness.

## Biological pest management

Annual integrated pest management programs included parasitic wasp and ladybug trials for the International Rose Garden at Adelaide Botanic Garden and lacewings in the Rhododendron collection at Mount Lofty. Red mites and wood swallows were used for biological control in the Bicentennial Conservatory and mites were used in the Amazon Waterlily Pavilion following trials the previous year. Hypoaspis, a small mite that feeds on fungus gnat pupae, was trialled in the nursery with great success in preventing plant losses. Both Hypoaspis and Vectobac (*Bacillus thuringiensis*) will be used in ongoing programs.

## Greenhouse Gas Assessment

As a first step in the longer term aspiration of achieving carbon neutrality, the Board conducted a greenhouse gas assessment for 2008–09. The assessment included scope 1 and 2 emissions sources such as vehicles, bulk liquid fuels, bulk and mains gas and electricity, and will be used to provide a baseline for emissions for future comparisons. Recommendations will provide a framework for the development of a more detailed extensive Sustainability Strategy.

## Sustainable Landscapes Project & Native Gardens Initiative

The Sustainable Landscapes project demonstrates and promotes appropriate garden and park design, helps to provide advice about plant species selections and sustainable horticulture practices specifically for South Australian environments, including the efficient use of water. By setting up display sites around the state, the Sustainable Landscape Project aims to improve the sustainability of urban environments throughout South Australia.

Building upon the existing work and achievements of the project, a range of brochures have been produced—*Native gardens.... unearthing the secrets*, *Conserving water in the garden*, *Minimising harmful chemicals in the garden*, *Choosing sustainable products and materials*, *Growing food in our gardens sustainably*, *Designing gardens for people and place*, *Creating garden homes for wildlife*.

The Sustainable Landscapes Project is a collaborative partnership between the Botanic Gardens of Adelaide, DEH, Land Management Corporation, Adelaide and Mount Lofty Ranges Natural Resources Management Board, Innovations and Economic Opportunities Group (through the Mawson Lakes Economic Development Project) and SA Water.

## Native Garden officially opened

The then Minister for Environment and Conservation, Jay Weatherill officially opened the Australian Native Garden in the Adelaide Botanic Garden in November 2009.

The new Native Garden is the culmination of an initiative that began in early 2009 in response to an increasing number of people looking to conserve and celebrate their own local plants, and save water at the same time.

The design and installation of the Garden showcases innovative and artistic ways of incorporating sustainable horticultural principles and use of native plants on a domestic scale. The garden brings together the expertise, experience and passion of native plant botanists, horticulturists, growers, retailers and landscape design professionals.

## Native Gardens Initiative and Design Awards 2010

The inaugural statewide Native Gardens Awards 2010 for home, school and public gardens were judged. Subsequent Native Garden Initiative events and activities included the Birds, Bugs & Banksias Family Fun Day in the Adelaide Botanic Gardens; the Native Garden Student Design Awards, in association with the University of Adelaide and TafeSA; and publication of the Native Garden Trail and brochure, a selection of public space native gardens in South Australia; and a series of displays and presentations at expos and public events throughout the year.

## Health & Wellbeing

### We aspire to ...

*advance community understanding of the relationship between plants, people, gardens and human health and wellbeing*

### Highlight objectives

- By 2011, Western Entrance and Garden of Health is completed in the Adelaide Botanic Garden
- By 2010, progress a kitchen garden initiative to support community health and education programs

### Highlight achievements

- Western Entrance commences
- Garden of Health commences
- Kitchen Garden Program funding secured and programs developed
- *Kitchen gardens – A Beginners Guide* published

The relevance of biodiversity to human health is now on the international agenda, as scientific evidence builds on the health implications of biodiversity loss. This issue is also linked with climate change, as many of the anticipated health risks are associated with changes in biodiversity, for example, scarcity of fresh water, impacts on agricultural biodiversity and food resources. Some of the health issues influenced by biodiversity include diet, nutrition, and social and psychological health.

The Board has an important role to play through conservation, displays and education programs to educate visitors and reinforce the relationship between climate change and plants and biodiversity, and the role of plants in health and wellbeing. In so doing, the aim is for people to change their practices to positively influence both.

## New Western Entrance for Adelaide Botanic Garden

The Board gives strength to the unique relationship between botanic gardens and the arts in the new Western Entrance. The centrepiece of the entrance is the hand-rendered bronze Ginkgo Gate designed by renowned South Australian artists Hossein and Angela Valamanesh.

Inspired by the aesthetic qualities of the Ginkgo leaf, the ornate design is specifically intended to allow visitors to see through to the garden even when it is closed.

A \$100,000 Public Art and Design: Major Commission grant from Arts SA towards the design of a new piece of public artwork supported the funding. The gate and new fencing was installed and surrounding landscaping significantly progressed.

The Western Entrance establishes an east-west route through the Gardens, from Frome Road to Hackney Road ), to complement the existing north-south route and links the Garden to the business, cultural and educational precinct of North Terrace—thus increasing the Garden's visibility and accessibility.

The new entrance is also a link to the past, re-establishing an entrance to the Adelaide Botanic Garden that used to exist between it and the former Exhibition Grounds on Frome Road. Work is proceeding on redeveloping these grounds as a new Frome Road Parkland, a project of the Adelaide City Council.

## Garden of Health

For thousands of years people have used plants to cure disease, fight infection and ease the mind. The Garden of Health, adjacent to the new Western Entrance, has been designed as a place of restful retreat and through interpretive signage, reveals the power of plants to heal the body, mind and spirit. It will serve as an important community and medicinal resource, assessing not only the history of plants and medicine, but also plant-related cures, as well as other issues associated with plant-based medicines, including patenting and biopiracy.

The southern half of the garden is devoted to wellbeing, encouraging contemplation and reflection. It will include an *Orchard of Earthly Delight*, featuring edible plants essential to our health and representing the diet traditions of a range of cultures including Indigenous Australians. The *Garden of Mind's Ease* will feature plants used to promote calm and sleep, as well as relieving anxiety and mental illness. *The Tranquil Garden* will demonstrate how gardens can still be beautiful, even in a changing climate. The northern half of the garden is devoted to physical health and showcases the development of modern Western medicine and non-Western medicines and beliefs from Africa, the Middle East, China, India, the Americas, Mediaeval Europe and Indigenous Australia.

Planning, interpretation and landscape design were significantly progressed during the year and works commenced.

## Kitchen Garden Program

The Kitchen Garden Program promotes the link between plants and food and will provide a variety of opportunities to improve community understanding of the connections between culture, people, plants, and a healthy environment, and encourage healthy eating.

A Kitchen Garden Initiative Steering Committee was established to foster innovation and partnership opportunities and develop a strategic framework to guide the Kitchen Garden Program. Its wide membership includes representatives from the Department of Education and Children's Services, SA Health, Community and Neighbourhood Houses and Centres Association Inc, Nursery and Garden Industry Association, NRM Education of Adelaide and Mount Lofty Ranges Natural Resources Management Board, Save the Children Melbourne, Stephanie Alexander Kitchen Garden Foundation (SA Officer) .

A Community Kitchen Garden Project Officer, funded by Health SA, commenced planning to deliver training initiatives about community based, environmentally sustainable kitchen garden design, maintenance and use across metropolitan and regional South Australia.

Funding is being sought to establish a Kitchen Garden in the Adelaide Garden to further encourage and support the public, in particular children, to participate in the growing, harvesting and cooking of fresh seasonal produce.



Santos Museum of Economic Botany Book

## Collections

### We aspire to ...

*as custodians of the state's primary botanical collections, demonstrate excellence in their quality, management and accessibility*

### Highlight objectives

- By 2012, three garden areas developed with plant species indigenous to the local area
- By 2012, plant 150 trees in Adelaide Botanic Garden to preserve the mature tree canopy
- By 2012, herbarium, living and cultural collections information and knowledge is available on-line
- By 2012, the Santos Museum of Economic Botany is established as a major exhibition space, with at least 5 major exhibitions held

### Highlight achievements 2009–2010

- International Accreditation: American Association of Museums
- 8600 records added to herbarium specimen database
- Total herbarium collections exceed 1 million
- Eremophila Garden completed
- Grey Box Woodland Stage 2 completed
- Australian Cycad collection completed
- Tree Removal Policy finalised
- More than 30 trees planted in Adelaide Botanic Gardens and Botanic Park
- Staged planting of 2000 trees and shrubs commenced
- First Creek Sustainable Landscape project commenced
- Interpretive master plan commenced
- *Catalogue of Plants* published
- ATCO Heritage Rose Garden completed
- More than 44,000 visitors to Gardens exhibition program
- *The Museum of Economic Botany at the Adelaide Botanic Gardens* published
- Horticultural collaborations expanded
- 15 volumes of *Bank's Florilegium* donated to Library

The Board holds a unique collection of living, preserved and cultural items that represent the botanical heritage of South Australia.

The State Herbarium collection is Australia's fourth largest institutional herbarium, having grown during the last year to exceed one million specimens. This rich

sample of native and naturalised vascular and lower plants, algae, fungi and lichens of South Australia is the principal foundation of knowledge of present and past distribution in the State and the prime resource for taxonomic research in these groups.

The living collections of the Board's three botanic gardens make places of aesthetic appeal, of inspiration and of enjoyment for the many people who step into the three gardens. Beyond that they are also places where children and adults learn about the diversity of plant life, climate change and sustainability practices.

The Board is the custodian of a research library, archive, economic botany museum and an art collection. It comprises artworks on paper, paintings, an economic botany collection, statues, sculptures, memorials, artefacts, medals, photographs and other items falling under the umbrella of cultural collections. Their purpose is far more than aesthetic; they connect people to the history and core business of the Board. They promote its educational, historical, cultural, scientific and recreational values.

In caring for and managing its collections, and displaying them, the Board is enhancing society's appreciation of our mutual environmental and cultural heritage. Further, in preserving these valuable assets it is fulfilling its important functions of scientific research, conservation and education and sustaining the ongoing tranquillity of the gardens.

#### American Association of Museums Accreditation

Accreditation by the AAM is a significant achievement, the AAM being the only international body to accredit botanic gardens as collections-based institutions.

This formal acknowledgement by the AAM signifies commitment to excellence, accountability, high professional standards in collections management and continued institutional improvement. It also recognises the scientific research, conservation and education efforts of the Board that are contributing to a plan to safeguard the earth's plants.

### *Herbarium Collection*

The State Herbarium collection supports scientific methodologies, including modern technologies in molecular biology and microscopy, in a wide range of botanical areas. It contributes to several national projects, including Australia's Virtual Herbarium, the only online database depicting plant distributions for an entire continent.

During the year, an additional 9300 specimens were added to the State Herbarium collection from staff, external sources, and from activities relating to DEH's Biological Survey program.

A combination of restricted access, a sophisticated fire prevention system and a pest-monitoring program secure the longevity of this unique collection.

**Table 2:** State Herbarium collection key statistics

State Herbarium function	2009-10	2008-09	2007-08	Average
Specimens identified (est.) (determined/confirmed)*	6000	6700	4500	5733
Specimens nomenclature updated* (est.)	2000	2000	2000	2000
Specimens mounted	8700	9700	12,500	10,300
Database additions	8600	8997	48,278	21,958
Total in specimen database ADHERB	698,200	689,500	680,000	
AD specimens sent on loan	2403	4697	1788	2963
AD specimens returned from loan	6296	2822	6068	5062
Incoming loan specimens received	754	108	2556	1139
Incoming loan specimens returned	8	896	3428	1444
Exchange specimens sent	496	94	981	524
Exchange specimens received	1870	1706	1972	1849
Specimens added to the collections	9323	13,663	15,436	12,807
Estimated total specimens in State Herbarium collection	1,000,000	989,000	976,000	
Estimated replacement value of the State Herbarium collection	\$57,000,000	\$57,000,000	\$53,000,000	
Calculated value per specimen	\$57.00	\$56.58	\$54.30	



## Data collection

Over the last 15 years data and information associated with the Herbarium collection have been made accessible to more people by an extensive data capture program resourced by DEH and commonwealth and state funds. This data, and the resultant knowledge and information on plant distribution, historic and current scientific names, descriptions and illustrations, can be accessed through the State Herbarium's Electronic Flora of South Australia ([www.flora.sa.gov.au](http://www.flora.sa.gov.au)) and Australia's Virtual Herbarium (AVH) ([www.flora.sa.gov.au/avh/](http://www.flora.sa.gov.au/avh/)) developed by the Council of Heads of Australasian Herbaria.

The 8600 records added to the Herbarium specimen database during the year bring the total computerised herbarium specimen records to 698,200. Targets set during the year allow for upgrading 8100 records, most related to changing knowledge (see Table 2). This activity was predominantly internally funded. External funding for the State Herbarium Weeds Project enabled additional specimen processing and data capture.

The State Herbarium's database management systems and ability to deliver data and information online was advanced throughout the year. A key activity was participation in project management with eResearchSA, based at the University of Adelaide, for the upgrade of Australia's Virtual Herbarium web delivery system, and strategic planning for the AVH. Major efforts included: developing a system to present taxonomic accounts prepared for the new edition of the *Flora of SA* electronically via the internet; digitising all volumes of the *Marine Benthic Flora* for internet publication, and facilitating upload of fungal collection data to the main Herbarium database.

## Census compilation

The State Herbarium compiles censuses of South Australia's plants, algae and fungi to summarise current taxonomic knowledge of these groups, their regional distribution and native or naturalised status. Authoritative data on conservation and proclaimed (weed) status are added from external sources.

About 80 name changes were recorded for South Australia's vascular plants during the year. Some were the result of taxonomic revisions, with the names of known species changing because of a better knowledge of their circumscription; others represented taxa completely new to the state, many of which were weeds.

Herbarium staff continued participation in the Australian Plant Census Working Group. The aim is to develop a single consensus summary of Australia's native and naturalised plants to facilitate delivery of state censuses and Australia's Virtual Herbarium.

### Plant identification

Identifications by Herbarium staff, associates and volunteers, included a large number of new identifications, resulting from public enquiries and incoming collections; the continuous upgrading of names of material already housed in the collection; and participating in the identification for specific endeavours, such as the State Herbarium Weeds project and the Biological Survey of SA.

## Living Collections

### Planning and management

The Board's Living Collections Policy supports the following 12 focus collections:

1. Dryland palms and cycads
2. Rhododendrons
3. Flowering trees
4. Southern conifers
5. South Australian indigenous flora
6. Madagascan flora
7. Roses
8. *Victoria amazonica* and associated flora
9. Charismatic plants within orchids, carnivorous plants, bromeliads, ferns, cacti and succulents and water plants
10. Mediterranean garden flora
11. Botanic gardens and ideas—how botanic gardens changed the world, including systems gardening, Museum of Economic Botany
12. Perennial and herbaceous displays.



Australian Native Garden

The Site Master Plans, finalised in 2006, guide the overall development of the Adelaide and Mount Lofty Gardens. Collections objectives and species lists have continued to be developed throughout the year for future education and interpretation programs. Collections development initiatives undertaken include:

- Completion of stage two of the Grey Box Woodland project at Wittunga Botanic Garden, which displays rare and endangered *Eucalyptus microcarpa* (Grey Box). The collection was developed in partnership with the Urban Biodiversity Unit.
- The Eremophila Garden in Adelaide completed.
- The Australian Cycad collection was planted to the east of the Santos Museum of Economic Botany.
- Plantings at the Botanic Park–Zoo interface have increased native plantings in Botanic Park, helping in returning local native plants along the River Torrens to improve the health of the river and the habitat along this important biodiversity corridor.
- First Creek Sustainable Landscape project commenced with removal of feral tree species along the creek bed, hydro seeding and programmed tree planting. On completion the area will include seating, a lookout and interpretive signage and provide an important habitat for native birds and animals.
- ATCO Heritage Rose Garden at Mount Lofty Botanic Garden was completed. The collection includes many parent species from which modern garden roses have been bred over hundreds of years and showcases the evolution of the rose. Designed to resonate with colour and perfume in the spring and early summer and provide a spectacular display of rose hips in the autumn, the garden tells a unique and entertaining story.

#### **Tree Study recommendations implemented**

Throughout all three gardens, new plantings and removals continued. Replacement and new plantings are consistent with the Site Master Plan and collection development criteria. Annual tree assessments are part of a scheduled maintenance program and to manage public risk. Arboriculture risk management of high-risk collections was audited in Botanic Park and at Mount Lofty.

A comprehensive Tree Removal Policy guides the living collections development, and is compliant with Significant Tree legislation.

During 2009–10 several trees were lost (due to age and storm damage). A few were removed, either to facilitate the development of the collections or for public safety. None of these trees were required or a valued species, and their removal was supplemented by new planting.

Sixty large Flame Trees *Brachychiton acerifolius* were sourced to complete the Salvation Army Memorial Avenue on Botanic Drive, with planting to begin in September 2010.

A staged planting of 2000 trees and shrubs began on the banks of the Torrens and First Creek, focused on local known provenance specimens.

#### **Interpretive master plan**

Initial research has begun for the interpretive master plan outlining interpretive strategies and priorities, which is anticipated to be delivered in 2011.

Outcomes from a master plan workshop were formulated into an action plan for delivery. Joint garden working parties were established to progress the focus collections, initially Flowering Trees, Southern Hemisphere Conifers and the Amazon Waterlily Pavilion. Workshops with the Mount Lofty and Wittunga Botanic Gardens considered areas of modification of collections and their maintenance requirements.

Collections descriptors were applied to plant records to indicate the outcomes of each collection. These include the required or prescriptive taxa to allow sustainable development and include regular reviews to assess the viability of each taxon.

#### **Collaborations**

Collaboration with external societies and horticultural industry bodies brings a wealth of knowledge to collection curation. During the year, staff collaborated with wide-ranging organisations to develop the gardens as a centre of excellence for horticultural training. They included:

- Australian Carnivorous Plant Society
- Australians Camellia Research Society (Adelaide Hills Branch)
- Australian Plant Society (SA Branch)
- Australian Rhododendron Society
- Bromeliad Society of South Australia
- Cacti and Succulent Society of South Australia
- Dahlia Society of South Australia
- Fern Society of South Australia

- Herb Society of South Australia
- Heritage Rose Australia
- Liliium Society of South Australia
- Nursery and Landscape Industry of SA
- Palm and Cycad Society of SA
- Rose Society of SA and National Rose Trial Council
- South Australian Branch of the Mediterranean Garden Society
- South Australian Geranium and Pelargonium Society
- State Flora

### Catalogue of Plants

The Catalogue of Plants, published in January 2010, lists for the first time all taxa growing in the three botanic gardens of Mount Lofty, Wittunga and Adelaide. The catalogue has been distributed to botanic and scientific institutions of Australia and the world.

## Cultural Collections

### Museum of Economic Botany

The Santos Museum of Economic Botany, the last surviving colonial museum of its kind in Australia, has been renovated, restoring its place as an institution with a notable cultural and scientific collection.

The focus this year was completion of renovations to the external façade, and the publication of a book documenting the revival of this Victorian icon—*The Museum of Economic Botany at the Adelaide Botanic Gardens—a souvenir*. Part history, guide and souvenir, this illustrated book unravels the story of a remarkable museum and its curious collection.

Present at the book's launch was Dr Himadri S Debnath, Joint Director of the Botanical Survey of India and the Indian Botanic Garden, and Head of the Industrial Section of the Indian Museum, which has an extraordinary economic botany collection. His visit (funded by the Australia India Council and supported by the Indian Consul Generals Office and the Australia India Business Council) has led to preliminary discussions on the potential for collaboration between the two countries.

### Exhibitions

The permanent displays and the two travelling exhibitions hosted in the Santos Museum of Economic attracted more than 44,000 visitors.

*Replant: a new generation of botanical art* (April–June 2010) was an excursion through the eyes of six artists—Fiona Hall, Judy Watson, Debra Wurrkidj, Winsome Jobling, Marita Sambono, Irene Mungatopi and photographer Peter Eve—into the remarkable world of plants in the tropical north of Australia. The folio of limited edition etchings explored the unique characteristics of species that survive and prosper through the climatic extremes of monsoonal rains, dry weather and wild fires. *Replant* reflected the traditional role of women as gatherers of food and holders of knowledge, combined with the rise of printmaking as a significant medium for Indigenous artists.

*Hidden in Plain View—the Forgotten Flora* (September–December 2009). Visitors discovered that Australia's forgotten flora—fungi, mosses and lichens—are not only beautiful and delicate, but also they impact on our lives in many ways. Over 100 rarely seen objects, including original paintings, books, textiles and sculpture travelled to Adelaide as part of this touring exhibition put together by the Royal Botanic Gardens Melbourne.

Visions of Australia, an Australian Government program that provides funding assistance for the development and touring of Australian cultural material across Australia, supported these exhibitions.

### Library

The Board's library rare book collection has been enriched by the significant donation of the 15 volumes of *Banks's Florilegium* of Australian plants. This set is one of 100 produced worldwide and adds to both the scientific and cultural strengths of the collection.

The library holds material collected over the past 145 years, including original copies of botanical publications with hand-coloured plates. The oldest volume in its collection of 24,000 individual items is a Greek publication from 1516.

**Table 3:** Library Statistics

	2009-2010	2008-2009	2007-2008	2006-2007	2005-2006
Staff use: including enquiries, loans and inter library loan requests	1192	1054	1108	1238	1258
Public use	56	102	33	67	186
Internet statistics: page views	184,736	184,901	213,612	149,555	130,516

## Biodiversity

### We aspire to . . .

*advance the scientific understanding and conservation of our biodiversity*

### Highlight objectives

- By 2012, taxonomic, genetic and ecological research informs biodiversity management, No Species Loss and Naturelinks programs
- By 2012, the Flora of South Australia is published in print and online
- By 2020, establish *ex situ* conservation collections for 90% of South Australian threatened species
- By 2020, 25% of threatened plant species in seed bank collections used in restoration or revegetation programs

### Highlight achievements 2009–2010

- Major taxonomic revisions completed
- Three significant DNA barcoding initiatives progressed
- Major plant identification tools released online
- Seeds from 16 seedbank collections added to Millennium Seedbank Project
- Science Resource Centre established
- Blackberry data made available by Herbarium for multistate biocontrol project
- *Flora of South Australia* (Fifth edition) progresses toward online delivery
- Research collaborations developed

In holding documented collections of living plants for the purposes of scientific research, conservation, public display and education, the Board is helping to fulfil a fundamental role of botanic gardens globally. That is, by exploring the world of plants and their relationships, protect and sustain biodiversity for human wellbeing and the planet.

In the International Year of Biological Diversity, 2010, the Board continued to advance the scientific understanding and conservation of the biodiversity that supports all life.

## Taxonomic revisions

Taxonomic revisions that examine collections from Australian and overseas herbaria are responsible for the most significant changes to knowledge of Australian genera and families. Revisional studies published or being undertaken by State Herbarium staff

and Associates over the last 20 years have produced increases of 10% to 600% in species recognised within the studied groups. These studies have contributed greatly to the recognition of 1000 additional vascular plant species in South Australia over that period.

Major taxonomic revisions were completed and published in *Hibbertia* (Dilleniaceae), almost completed for *Euphrasia sect—Anagosperrae* (Scrophulariaceae) in New Zealand (partly funded by New Zealand Landcare Research), and advanced in Australia's naturalised Cactaceae and in Stackhousiaceae. Taxonomic accounts were updated for Australian *Sida* and *Abutilon* (Malvaceae), and expanded for Australian Acanthaceae. Research continued into Zygophyllaceae and Rhamnaceae, and the systematics of the order Gracilariales, molecular systematics of the genus *Hypnea* (Rhodophyta), and marine algal flora of the Great Australian Bight, and *Acacia* complexes in South Australia.

Computerised interactive identification tools for Solanaceae and *Hakea* (Proteaceae) were completed and published electronically. Many detailed fact-sheets to aid identification of marine algae published electronically. *Flora of Australia* accounts of genera of Pottiaceae (Bryophyta) also advanced. Surveys included the floras of the Great Barrier Reef and Ningaloo for improved knowledge, and fungal hotspots, macrofungi and phoenicoid ascomycetes of Kangaroo Island.

## Input to the DNA Global Barcode of Life program

Three significant DNA barcoding initiatives progressed this year. Tree barcoding of Life (TreeBoL) coordinates efforts to determine genetic fingerprints for all tree species in the world and feeds into the International Barcode of Life Project (iBOL). Funding was also received to further a DNA tracking methodology for illegally logged timber.

The Grass Barcoding of Life Project (GrassBoL) was initiated by State Herbarium staff to coordinate national and international initiatives to obtain DNA barcodes for all the world's grasses. This project will provide data potentially useful for other major projects in Australia, including the Terrestrial Ecosystem Research Network (TERN) and TRansect for ENvironmental monitoring and Decision making (TREND) projects, initiated through DEH collaborations. The GrassBoL project could play a major role in global ecological and systematic projects.

DNA barcoding projects on a range of South Australian seaweeds, particularly to track invasions and climate-mediated shifts in species composition, also progressed

### Seed Conservation Centre

The Board is a partner in the Millennium Seed Bank project (coordinated by the Royal Botanic Gardens, Kew through the Seed Conservation Centre) which is an international conservation project designed to insure against the extinction of plants in the wild by storing seeds for future use.

The Board's Seed Conservation Centre collected seed from 147 native plant species of which 83 (56%) are considered threatened in their natural environment.

The centre has collected and stored over 175 million seeds since the South Australian Centre for Rare and Endangered seeds project began in 2003, and now holds collections for 41% (1436) of South Australia's native plant species, including seeds from 406 (51%) of our State's threatened flora.

Seeds from 16 seedbank collections collected during the last year were used to grow plants for restoration projects in the South East of the State.

Seed biology research at the Seed Conservation Centre focused on developing germination methods for native plant species, particularly for species that are considered difficult to propagate. More than 50% of the 147 plant species collected during the last 12 months were screened for germination capacity.

In 2008 seed hunters from the Conservation Seed Centre helped rediscover the Port Lincoln Speedwell (*Veronica parnkalliana*) in the Southern Flinders Ranges. Research is now underway to understand the role that fire plays in the recruitment of this threatened species, combining experiments both in the field at Mt Remarkable National Park and under laboratory conditions at the seed centre.



Collecting seed in arid zone Australia

Work has also continued on

- monitoring long-term field trials and populations for some of our most critically threatened plant species including the Corunna daisy (*Brachyscome muelleri*), Monarto mint bush (*Prostanthera eurybioides*) Prickly raspwort (*Haloragis eyreana*) and Spiny Daisy (*Acanthocladium dockeri*)
- studying the reproductive biology of threatened species including the Spiny Daisy (*Acanthocladium dockeri*) and pink-lipped spider orchid (*Caladenia behrii*) in an effort to understand why these species are threatened in their natural environment
- developing a screening tool to determine if germination can be used to identify plant species that may become affected in the future by environmental changes associated with climate change (with a focus on changes in temperature and altered rainfall patterns). This project was supported by the Native Vegetation Council and Australian Flora Foundation.

A three-year collaborative project between the Board's Seed Conservation Centre, Iluka Resources Ltd and the University of Adelaide was completed. This project investigated the seed ecology dynamics of 14 plant species that are representative of the key vegetation type associated with a mineral sand mine in the far west of the State. The research improved our understanding about these species and will be used to develop restoration procedures for the mine site.

### Science Resource Centre

DEH, through its Vision 2012 initiative and previous reviews of the role of science, established a Science Resource Centre (SRC) in its Information, Science and Technology Directorate comprising the State Herbarium, Bioknowledge SA, a GIS analysis team and a Science Coordination unit.

The SRC aims to support environmental management decisions based on good science and create a more connected science community within and beyond DEH. The SRC actively seeks partnerships with research institutes and other government agencies to instil a broader understanding of science into environmental management decisions. A Research Prospectus was prepared to showcase the SRC's research capacity and potential as a research partner.

A complementary new internet presence for science makes the knowledge, information and data more generally accessible. It includes sections dedicated to the State Herbarium and its business. The SRC, the new

website and the Research Prospectus were launched by the Minister during National Science Week, August 2009.

## Weed survey and identification

The Herbarium's weeds taxonomist is improving basic knowledge of taxonomy and distribution of weedy plants in South Australia. Naturalised species were prioritised by economic and environmental threat, and many collections of invasives made, primarily in the Mount Lofty Ranges and South East regions. Funding from the State Natural Resources Management program targeted regional landscape surveillance for new weed threats, in collaboration with the Animal and Plant Control Commission and Department of Water, Land and Biodiversity Conservation. Collaborative funding was also sourced through the Victorian Department of Primary Industries as part of a much larger Caring for our Country project, *Community implementation of biological control of weeds across south-eastern Australia*. The Herbarium identified and mapped blackberry taxa, extending into aspects of wider biological control projects.

The State Herbarium weeds project improved resources for future applied research into ecological and biological aspects of invasive weeds, which impact considerably on both agricultural and native ecosystems. Several projects investigated the mechanisms of weed invasion.

## Fungi in fire management

In the wake of the 2009 Victorian bushfires, the Victorian National Parks Association commissioned several reports to collect data towards best practice fire management regimes that take the whole biota into account. Data on cryptogams, insects and microbes were lacking. The Herbarium was invited to join the fungi study group, along with researchers from the National Herbarium of Victoria, Department of Environment and Conservation WA, and the University of Melbourne. This significant work is currently awaiting publication.

## Flora of South Australia (Fifth edition)

The Flora of South Australia describes all known native and naturalised vascular plant species in the State. Most species are illustrated with line drawings. It is the basic taxonomic work on which many other researchers, agencies and the general public rely.

The 1986 edition of the Flora (now long out of print) contained 3639 taxa in four volumes. The updated five-

volume fifth edition will include more than 1000 new taxa recorded since then. About 25% of all family treatments have been received for editing.

Overall, more than 50 botanists will contribute to the text for the new Flora, which will progressively be released online in the form of family treatments.

## Building biodiversity knowledge and climate change research

The Australian Centre for Ancient DNA, a joint research project with the University of Adelaide, continued its studies on evolution and environmental change using preserved genetic records on human, animal, plant and sedimentary material. Staff and associates contributed to the supervision of postgraduate and postdoctoral research projects (see Appendix 4: Research Students).

Researchers associated with the Herbarium are part of several collaborative research projects investigating aspects of plant distribution patterns (biogeography) and morphological and phenological changes resulting from climate change.

## Research Partnership, Consolidation and Extension

The Board's research and scientific advisory capability can be found at [www.environment.sa.gov.au/science/index.html](http://www.environment.sa.gov.au/science/index.html) in *DEH Science Achievements 2009*, *Science Directions 2010–2015* and *State Herbarium Research Prospectus (2008/09)*. *The State Herbarium Research Outputs (2008)* summary paper is being revised for 2009 to focus promotion of the State Herbarium regionally, nationally and globally.

There has been consolidation of the State Herbarium's relationships with new science initiatives in DEH, other government departments and South Australian universities. This includes the Environment Institute, an initiative of the University of Adelaide, which combines expertise in biodiversity, marine, water, energy and natural resources. It aims to develop an applied interface to bring research expertise to bear on key societal issues of interest to the government and industry. A component of the Environment Institute is the Australian Centre for Evolutionary Biology and Biodiversity, which combines key expertise of the University of Adelaide, State Herbarium/Science Resource Centre and the South Australian Museum. Other fields included are ancient DNA, water, marine, landscapes, energy and climate change.

Collaboration with researchers elsewhere in the state, Australia and overseas is critical to good research outcomes. Gardens and Herbarium collaborations are listed in Appendix 2: Research Collaborations.

## Connecting People

### We aspire to . . .

*continually engage with different communities to learn from and to inspire one another, and to encourage greater social inclusion and community development*

### Highlight objectives

- By 2012, volunteer participation increased by 10%
- By 2012, at least 60 scientific and other publications are produced each year (10% peer reviewed) and publicly available
- By 2012, increased participation of disadvantaged schools sector in education programs
- By 2012, 100,000 people participate in Botanic Garden public events annually
- By 2012, Indigenous reconciliation and inclusion initiatives are imbedded in visitor interpretation and education programs
- By 2012 establish three web-based initiatives connecting the Gardens' collections with the community

### Highlight achievements

- Volunteers contributed over 30,000 hours
- Landscapes Alive Plant Selector received up to 80,000 visits per month
- Four issues of the events calendar released
- 67 community education events conducted
- Three new self-guided trails released
- Innovative schools water education program
- More than 22,000 students participated in education programs
- 108 disadvantaged schools participated in school education programs
- More than 125,000 visitors attended major cultural events program
- Publications target (60) exceeded
- Four books and *Journal of the Adelaide Botanic Gardens* published
- Nine volunteers recognised by the Board as Honorary Research Associates
- 1.8 millions visitors to the Adelaide, Mount Lofty, Wittunga Gardens and Botanic Park
- Indigenous Culture for Kids program commenced.

The Board aims for everyone to benefit on many levels from their experience—in the gardens, at events, online, and through books so that they learn from and inspire one another, but also to encourage greater social inclusion and community development. More than this it looks to engage people in fundamental messages around sustainability, biodiversity, health and wellbeing.

## A committed and diversified volunteer base

Volunteers contributed more than 30,000 hours to the gardens and herbarium programs in 2009–2010. They conducted free guided walks, provided information in the Visitor Information Centre, assisted with documentation in the State Herbarium, supported the Gardens exhibitions and Library programs and the Library collection, and undertook conservation research. Specialist horticultural societies continued to share invaluable advice and assistance to maintain the excellence of the Board's botanical collection. The Friends of the Botanic Gardens continued to provide support with Garden Guides, the Growing Group, and other valuable contributions.

During the year, 15 volunteers played a vital role in the State Herbarium's collections maintenance program; nine others performed highly significant research contributions, and were given official recognition by the Board as Honorary Research Associates.

A volunteer stocktake in 2009–2010 is informing a new volunteer strategy, to be delivered in 2011.

**Table 4:** Volunteer contribution

Group	Hours
BGA volunteers	5,115
FBGA volunteers	14,032
Societies	710
Herbarium—General	3,365
Herbarium—honorary research associated	7,950

In recognition of the commitment of the many volunteers and in support of International Volunteer Day, the Board hosted its annual acknowledgement function to thank volunteers.

The Adelaide Fungal Studies Group, coordinated through the Herbarium, is made up of members of the community interested in learning about fungi. At weekends they visit selected sites and then identify their specimens against the State Herbarium collection. This

community-based group has contributed to many new records or extensions that are important additions to both the State Herbarium collection and the national Fungimap project.

## Community education

Four issues of the community education and events calendar, *A Season in the Gardens*, were released this year. A total of 67 community education events in the Gardens were attended by more than 6500 people. Highlights of the community education calendar were a sustainable gardening program delivered in partnership with *Workers' Educational Association* (WEA); school holiday programs such as *Mediterranean Magic*, *Patterns from Nature* and *Get Growing*; and programs with an indigenous focus, such as *Harvest: Making Fire*, *Making Glue* and the Aboriginal Food and Plant trails and activities conducted by Tauondi guides.

Wider public education programs include the Sustainable Landscapes Project, which promotes appropriate park and garden design, plant selection and horticultural practices. It's playing a leading role in demonstrating how to conserve water, rediscover native plants, grow food sustainably, minimise the use of harmful chemicals and design functional gardens. The Landscapes Alive Plant Selector online tool has been expanded to include several regional areas of the state, such as parts of the Riverland and Eyre Peninsula. The highly regarded Plant Selector received up to 80,000 visits per month.

Three new self-guided trails were released in 2009–10: *Symbols and Celebrations*, *Aboriginal Use of Plants* and *Feral Plants*.

## Schools Education Service

The Adelaide Botanic Garden Education Service delivers curriculum-linked learning programs, events and performances to South Australian schools using the gardens as a living museum for learning about the plants, people and culture.

The service is managed by the Schools Education Manager; a seconded officer from the Department of Education and Children's Services (DECS). This year, in excess of 50000 students participated in education programs provided by the service.

A total of 6077 students, in 249 classes from 108 different disadvantaged schools participated in education

service developed programs. Strategies to increase the participation of disadvantaged schools included a number of free major events and programs, subsidised program support through SA Water partnership, cost recovery pricing and special discounts for presenter delivered programs to disadvantaged schools.

The education service works with Indigenous Culture for Kids to provide an Aboriginal cultural educator to schools using the gardens to learn about traditional Aboriginal culture through plants. A total of 5670 students visited the gardens for Aboriginal Studies. Of this group, 67% used the service of the cultural educator, an increase of 13% over 2008–09 figures. Other groups used various web and print resources provided by the education service.

The education service maintained a high-quality resource-rich website for schools to download materials required for successful self guiding visits to the gardens and inform themselves of special events and education programs. The resources are updated to match the changing collections. A new resource on plant biodiversity has been posted for schools celebrating the International Year of Biodiversity.

The water education event program attracted in excess of 17,000 students. This included World Environment Day Quiz Trail (more than 15,000 students) and SA Water partnership program 'Water around the World' and National Water Week event (held over four days in the Garden for 1100 students).

Other Schools education events that attracted in excess of 7500 students included; *Aboriginal Plant Use*, *Minibeasts of the Rainforest*, *Singing in the Rainforest*, *Rainforest in a Box* and *Symbols & Celebrations*

Special events like National Water Week, World Environment Day, the Talented and Gifted program, teacher professional development workshops have all included an Aboriginal perspectives delivered by an Aboriginal presenter. The education service provided an Aboriginal food plant tour of the Adelaide Botanic Garden as a prize for the Young Gourmet Challenge as a part of its participation in the Tasting Australia program.

Interpretive and education planning for the First Creek Wetlands project began in parallel with the wetlands civil works planning, and includes an indigenous perspective as one of the interpretive themes for the project.



## Events in the Gardens

The Board's events program once again delivered a diverse and dynamic range of public events. During 2009–10 more than 125,000 visitors experienced the gardens as unique entertainment venues. The key highlights of the program included:

- *Hidden in Plain View* Exhibition
- *Replant* Exhibition
- Four celebrated books which reinforce the Gardens' horticultural and botanical expertise and authority: *Citrus: A Gardener's Guide*, *Kitchen Garden: a Beginner's Guide* *Museum of Economic Botany at the Adelaide Botanic Garden: a Souvenir*, and the *Catalogue of Plants*
- SALA 2009; The Friends of the Botanic Gardens showcased local artisans craft
- ParkLife, a popular dance music festival aimed at 18–35 year olds, went from strength to strength in October 2009 with record audience numbers
- Moonlight Cinema in Botanic Park screens popular, cult and traditional movies six evenings a week, had its best season ever with record audience numbers.
- The Adelaide Symphony Orchestra's Alfresco evening concert of classics was once again popular with over 2000 people attending at Mount Lofty Botanic Garden in January 2010.
- Wittunga Under the Stars, in February 2010, run by the Blackwood Lions Club, included jazz and other genre performances.
- Fringe Festival
  - Splash Theatre ran *Wind in the Willows*, and due to popular demand extended
  - Theatre Simple's performance of Gerda's Journey was extremely well received with over 600 patrons for the two performances.
  - Two emerging sculpture artists also exhibited their works of ceramic foot prints and botanical sugar stencilling.
- WOMADelaide 2010 presented a four-day festival for the first time and attracted over 81,000 to Botanic Park in March. This music, arts and dance festival showcased a unique mix of artists in a distinctive and family-friendly atmosphere.



Sustainable Landscapes, Birds, Bugs and Banksias



Sustainable Landscapes, Birds, Bugs and Banksias



World Environment Day

- Native Gardens Initiative (NGI) *Birds, Bugs and Banksias*, successfully engaged in excess of 4000 South Australians of all ages in diverse activities and events, promoting and encouraging the benefits and beauty of Australian native plants and gardens. Activities included public talks from native garden experts and floral art demonstrations, guided walks and bush tucker tours, and 12-metre diameter floral mandala.
- Community programs promoted edible gardening in the community and generated support for the Kitchen Garden Program:
  - An interpreted edible garden display and associated community events celebrated Tasting Australia
  - *Santa's Salad Patch* program for children in partnership with *the Sunday Mail*
  - *Kitchen Garden: A Beginner's Guide* published to high acclaim
  - The school holiday program and Family Funday program, including edible gardening activities, with *Get Growing!* and other kid-focused activities being very popular.
- Tasting Australia. The Board's inaugural participation included:
  - Visiting international media guided tour of the Santos Museum of Economic Botany.
  - Edible display garden in the Economic Garden, *Food for Thought*, that illustrated the impact that different waves of immigrants, and the food they brought with them, and impact they have had on the food we eat in South Australia.
  - Friends of the Botanic Gardens' daily guides
  - Free family fun-day activities with children able to plant edible seeds to take home for their own edible garden.
- National Rose Trial public judging: This popular event encourages the general public to visit the garden and cast their votes for their favourite roses. The results inform the rose industry on the most popular types of roses.
- Bicentennial Conservatory 20th Anniversary: Special tours of this tropical conservatory were conducted by the Friends of the Botanic Gardens of Adelaide to celebrate the anniversary.

## Journal of the Adelaide Botanic Gardens

The *Journal* publishes research articles in systematic botany, botanical history and related fields. The journal is peer-reviewed, meeting current international standards. It is distributed mainly by exchange to interstate and overseas institutions. Volume 23 was published in February 2010. This contains a single large revisional paper, which describes 50 new taxa.

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## Human Resource Management

### Board members fees

Board member fees are paid in accordance with the recommendation of the Chief Executive of the Department of the Premier and Cabinet, and pursuant to the DPC Circular PC016: Remuneration for Government Appointed Part-time Boards and Committees. The Board received the following fees during the year: Chair \$18,574, members \$12,382.

### Staffing

The Board has no staff of its own and utilises the services of DEH. Reporting on this matter is contained in the DEH Annual Report 2009–10.

### Equal opportunity

Members are aware of and abide by the equal opportunity policies and programs of DEH. Reporting on this matter may be viewed in the DEH Annual Report 2009–10.

### Occupational health, safety and injury management

As a user of the DEH facilities and equipment, the Board is aware of and abides by DEH occupational health, safety and welfare (OHSW) policies. DEH Management monitors and reports to the Board against OHSW targets each month. Reporting on this matter is contained in the DEH Annual Report 2009–10.

The Board continues to improve regular OHSW management through staff engagement in policy development and implementation.

Regular OHSW meetings and building compliance audits were conducted throughout the year. Other initiatives included:

- An external audit of OHSW records and management of the DEH Hazard Management Procedure
- Mount Lofty Botanic Gardens emergency response training with Fire Drill training
- Review of Lost Time Injury which resulted in a review of pruning techniques, and the implementation of annual Heat Stress Management and Step Back risk assessment training programs for staff
- Review and modification of the Gardens Injury Management Plan
- Development of mandatory OHWS training for all staff positions

Further development of the top five OHS&W issues: fire management, safe use of vehicles, induction and training for students and volunteers, personal safety and security and training and engaging staff in OHWS.

### **Herbarium staff alignment**

As part of efforts within DEH to better position its science areas for development of collaborative partnerships with other government agencies and universities, day-to-day management of the State Herbarium occurs as part of the Science Resource Centre, within the Department's Information, Science and Technology Directorate

### **Fire management**

Mount Lofty and Wittunga Botanic Gardens staff undertook emergency response and fire evacuation training during the year. To reduce fuel load, a prescribed control burn, managed in consultation with the DEH Fire Management branch, and annual fire-slashing program around the Gardens perimeters were conducted. As an extension of the fire and emergency response, an audit of Mount Lofty Garden's boundary and emergency access and egress points was also conducted. Other fire management initiatives undertaken include key staff attending front-line fire fighting training and participating in pre-season burnoff with the Cleland and Piccadilly Country Fire Service.

---

## **Our Partners**

The Board sincerely thanks its sponsors for their generous support throughout the year, which has enabled the Board's gardens to flourish and to advance plant knowledge, species and landscape conservation and sustainable horticultural practices.

### **Major sponsors**

News Limited

Santos Limited

SA Water Corporation

BHP Billiton

### **Sponsors**

ATCO Company

Orlando Wines

Land Management Corporation

Adelaide and Mount Lofty Ranges Natural Resources Management Board

Neutrog Fertilisers

Bank SA

Haigh's Chocolates

The Board also works closely with State Government agencies, and acknowledges and thanks:

- DEH and The Department for Transport, Energy and Infrastructure (DTEI)—for continuous support, advice and assistance with the Board's capital works program.
- DECS for providing a seconded Education Officer to manage the Board's schools outreach program.
- Health SA for funding support for the Community Kitchen Garden program and Coordinator.

The Board is proud to be associated with Santos which continued its valuable contribution to the Gardens in the:

- exhibition program at the Santos Museum of Economic Botany
- development of a Kitchen Garden pilot program
- conservation of threatened species and landscape reconstruction.

## Adelaide Botanic Gardens Foundation

The Adelaide Botanic Gardens Foundation supports the Board to conserve what has been inherited from the past, and to support what is currently happening and new opportunities for the future of the Botanic Gardens of Adelaide.

The Foundation is the trustee of the not-for-profit Adelaide Botanic Gardens Fund, which has deductible gift recipient status for taxation purposes and is governed by an independent Foundation Committee.

The Foundation supports the commitment of the Board to remain at the forefront of community interests ensuring relevancy and innovation within its projects that enhance the gardens for all South Australians and our visitors.

In 2009–10, Foundation funds were used to support the final project from the G150 Appeal—the Western Entrance, which will open the Adelaide Botanic Gardens to Frome Road.

The Foundation introduced an annual calendar of events and activities to assist and fund new Board endorsed projects including the Garden of Health and the proposed Kitchen Garden. These events, including supporter luncheons and Home Grown Gala Dinner, were well supported by existing and new Foundation supporters.

The Board sincerely thanks Foundation Committee Chair, Mrs Ruth Hemmerling, the Foundation Committee, the Committee of Management and Cultivating Change Committee for their commitment to the gardens and State Herbarium. We especially thank resigning Foundation Committee Members Mr Ken Cowley AO and Mrs Lesley Hawkins for their significant contribution.

The Board also thank the loyal and generous Ambassadors, supporters and volunteers of the Foundation who contribute so much each year.



SA Water Mediterranean Garden

### Foundation Committee

Mrs Ruth Hemmerling, Chair  
Dr Chris Laurie, Deputy Chair  
Mr Tom Verco, Treasurer  
Mrs Jan Angas  
Mr Ken Cowley AO  
Mr Peter Cundall AM  
Mrs Lesley Hawkins,  
Friends of the Botanic Gardens of Adelaide  
Mrs Helena Jenkinson,  
Friends of the Botanic Gardens of Adelaide  
Mrs Fiona MacLachlan OAM

### Ex Officio

Mr Stephen Forbes, Botanic Gardens of Adelaide  
Nominated Board Representative  
Ms Kate Punshon, Botanic Gardens of Adelaide

### Foundation Ambassadors

Ambassadors for the Adelaide Botanic Gardens Foundation share an enthusiastic commitment to the Botanic Gardens of Adelaide. We thank them for their support.

### Garden of Health Ambassadors

Mr Peter Cundall AM  
Mr Hieu Van Le AO, Lieutenant Governor of South Australia  
Mrs Jane Doyle

### Kitchen Garden Ambassadors

Mr Michael Keelan  
Mr Ian Parmenter  
Daniel Lutz, Youth Ambassador  
Mr Simon Bryant

### Foundation Supporters

Our corporate partners, private donors, friends and community groups make it possible for the Adelaide Botanic Gardens Foundation to support an ongoing range of important projects and are recognised through our Lotus Circle and Directors Circle.

### Directors Circle – Francis Principal

Our thanks to Santos as the Francis Principal Supporter

### Schomburgk Circle

The Advertiser  
SA Water  
BHP Billiton

### Morley Circle

Coopers

### Holtze Circle

ABC, ABN AMRO Morgans, Adelaide Bank, Adelaide Brighton, Adelaide Casino, Adelaide Festival Centre, Adelaide Crows, Adelaide Showground Farmers Market, AMJ Produce Co, Arkaba Station, asbCreative, Assaggio Restaurant, Barossa Living, Botanica World Discoveries, Built Environs, Bush Tucker Icecream, Cannelle, Carrick Hill, Chooks & Veggies, CMV Foundation, Coles, Commonwealth Bank of Australia, Corban&Blair, Ottaways, Deck of Secrets, Design By Ciotola, Dolphin Bewley, ElectraNet, Endota Spa, Envestra, Fairmont Homes Group Pty Ltd, Finlaysons, FiveAA, Flinders University [Dept of Screen & Media], Friends of the Botanic Gardens of Adelaide, Fun Food Focus, Futuris Corporation Limited, Garden Rooms, Greenhill Galleries Adelaide, Grieve Gillett, Haigh's Chocolates, Hardy Milazzo Architecture, Hills, Hilton Adelaide, Hi-Tech, International Power, Jacob's Creek, Jam, Jasmin Indian Restaurant, Johnson Winter Slattery, Jumbuck Olive Oil, Kendacraft Jewellery, Klemich Real Estate, KPMG, Lithe, Locher Human Resources, Luxe

City Guides, Madame Flavour, Maggie Beer, Macquarie Group Foundation, Marshall Brougham, Melbourne International Flower & Garden Show, Mitolo Group, Mulots, Murdoch Hill Wines, Murray Chambers, NAB, Neutrog, Nippy's, Norman Waterhouse Lawyers, Northcote Pottery, Orlando Wines, Outback Pride, P&A Organic Meats, Paul Bangay Garden Design, Peats Soil & Garden Supplies, Perks, Perryman's of North Adelaide, Pickard Group, Pitcher Partners, Rider Levell Buchnall SA Pty Ltd, R&M Champion de Crespigny Foundation, RM Williams, RAA, Richard Gunner's Fine Meats, Royal Adelaide Golf Club, SA Gardens, San Remo, Sarah Group Holdings Pty Ltd, Savings & Loans, SEA Gas Pty Ltd, Shoot the Moon, Slow Food Australia, The Organic Market & Café Stirling, Surfing South Australia, Sustainable Landscapes, Tasting Australia, Temptation Sailing, The Buffalo Restaurant, The Heritage Garden, The Little Cookie, The Printing Hub, Vibe Hotels, Wallbridge & Gillbert Consulting Engineers, Westpac, Whisk Patisserie, Woodhead International, Wusthof.

The Foundation also thanks donors who supported the Board's work through bench dedications in the Adelaide and Mount Lofty Botanic Gardens. Numerous uncommitted gifts were made through the newly developed Endowment Program of the Foundation.

## Friends of the Botanic Gardens of Adelaide

The Board gratefully acknowledges the continuing enthusiasm and support from the Friends of the Botanic Gardens. Founded in 1977, the Friend's active support enables the Board to provide a range of visitor services that would not otherwise be available. The Friends volunteers contributed in excess of 14,000 hours of services to program delivery. This included, guided walks in the three gardens and the development of specialised themed walks to further support the Board events program and supporting the visitor information centre, library, Santos Museum of Economic Botany Exhibition and conservations programs. In 2009-10 the Friends membership remained strong with an extensive social and educational program of

activities and provided continuing financial support for the development of the Library and the Gwen Thomas Bursary for staff development. The Australian Cycad Collection was completed during the year, principally from the Friends funding.

As the Friends strong tradition continues with the Board, the Friends continue to play an important role in assisting the Board to achieve its strategic priorities. The Friends 2009-10 program is provided in Appendix 6.

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## Reconciliation Statement

The Board acknowledges that the land on which it meets is the traditional lands for the Kurna people. It respects their special relationship with this land. The Board also acknowledges the Kurna people's belief as to their custodial roles for the land of the greater Adelaide region,

and notes that their cultural and heritage beliefs are still important to many Kurna people today. In fulfilling its functions, the Board is aware of the cultural heritage of the traditional owners and strives to achieve mutually satisfying outcomes wherever these matters are concerned.

# Mandatory Reporting

## Use of consultants

The Board did not engage any consultants in the reporting period.

## Overseas travel

It is declared that no member of the Board travelled overseas on the business of the Board during the reporting period. Overseas travel by DEH staff on Board related activities is contained in the DEH Annual Report 2009-10.

## Disability action plan reporting

The Board uses the facilities and services of the staff of DEH. The members of the Board are aware of and abide by their obligations under the Commonwealth *Disability Discrimination Act 1992* and the *State Equal Opportunity Act 1984*. The Board of the Botanic Gardens and State Herbarium also supports South Australia's Strategic Plan Objective 6—Expanding Opportunity.

All the educational programs within the Gardens are adaptable to people with disability, aiming to anticipate, adapt and respond flexibly as needs arise. Further reporting on this matter is contained in the DEH Annual Report 2009-10.

## Asbestos management

The Board confirms that no building vested in the Board represents an asbestos management risk.

## Urban design charter

No events occurred in 2009-10 that required the Board to consider the principles of urban design contained in the South Australian Urban Design Charter.

## Freedom of information statement and statistics

The Board participates in and abides by the arrangements outlined in the DEH Freedom of Information regime. Reporting on this matter is available on the DEH website: [www.environment.sa.gov.au](http://www.environment.sa.gov.au)

## Energy efficiency action plan reporting

Reporting on this matter is contained in the DEH Annual Report 2009-10.

## Greening of Government operations reporting

The GoGO Framework relates to waste, energy and water. Management of the Gardens is environmentally focused and all events are organised to minimise any impact on the environment. Further reporting on the GoGO framework is contained in the DEH Annual Report 2009-10.

## Regional impact assessment statement

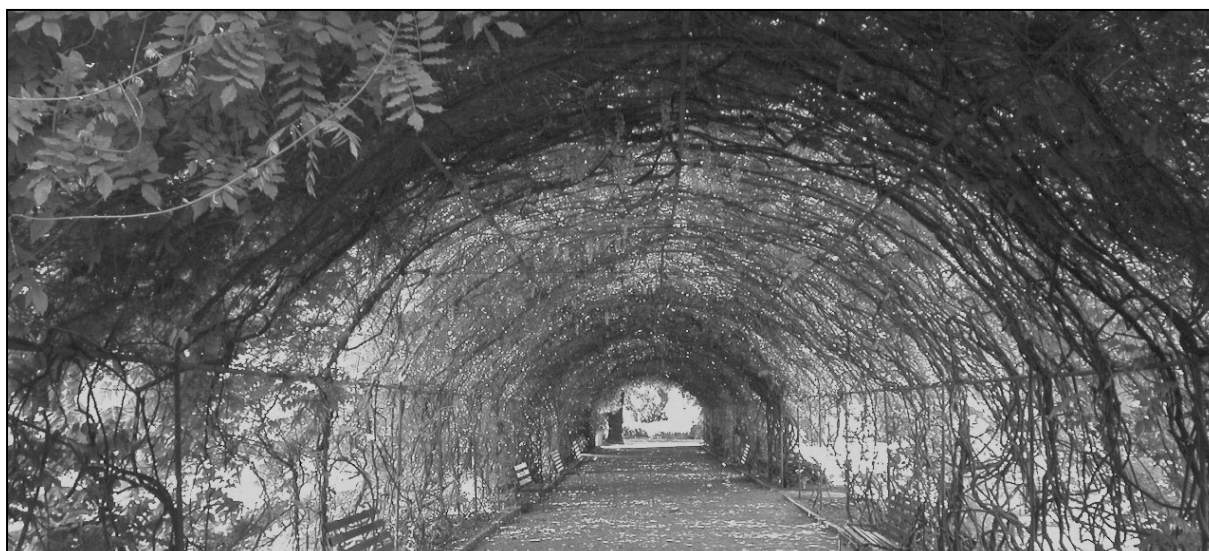
No Regional Impact Assessment Statements were undertaken by the Board in 2009-10.

## Fraud

There were no instances of fraud detected in the activities undertaken by the Board. Financial services are provided to the Board by DEH. Strategies to detect instances of fraud are reported in the DEH Annual Report 2009-10.

## Whistleblowers

Reporting requirements against the *Whistleblowers Protection Act 1993* require the Board to report on the number of occasions on which public interest information has been disclosed to a Responsible Officer of the agency. There were no disclosures made during the 2009-2010 financial year.



Wisteria Arbour

# Financial Report

## Financial Performance

The Board is a body corporate under section 6 of the Act and is required to cause proper accounts to be kept of its financial affairs. The Auditor-General may at any time, and at least once in each year, audit the accounts of the Board. The Board must, on or before 30 September in each year, present a report to the Minister on the operations of the Board during the preceding financial year. This report must include the audited statement of accounts of the Board for the financial year to which the report relates.

### **Account Payment Performance**

DEH provides administrative resources for processing account payments for the Board. Reporting on this matter is contained in the DEH Annual Report 2009–10.

### **Contractual Arrangements**

The Board did not enter into any contractual arrangements exceeding \$4 million in value and extending beyond a single year during the reporting period.

Board of the Botanic Gardens and State Herbarium

Annual Financial Statements  
For the year ended 30 June 2010





Our Ref: A10/026

20 October 2010

Ms J Potter  
Chair  
Board of the Botanic Gardens and State Herbarium  
North Terrace  
**ADELAIDE SA 5000**

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audgensa@audit.sa.gov.au  
www.audit.sa.gov.au

Dear Ms Potter

**The audit of the Board of the Botanic Gardens and State Herbarium  
for the year ended 30 June 2010**

The audit of the accounts of the Board of the Botanic Gardens and State Herbarium (the Board) for the year ended 30 June 2010 has been completed.

The audit covered the principal areas of the financial operations of the Board and included the test review of systems and processes and internal controls and financial transactions.

The audit coverage and its conduct is directed to meeting statutory audit responsibilities under the *Public Finance and Audit Act 1987* and also the requirements of Australian Auditing Standards.

Returned herewith are the financial statements of the Board together with the IAR, which is unmodified.

Finally, I would like to express my appreciation to the management and staff of the Board in providing assistance during the year to my officers in the conduct of the annual audit.

Yours sincerely

A handwritten signature in black ink, appearing to read 'S O'Neill', with a horizontal line underneath.

**S O'Neill  
AUDITOR-GENERAL**



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**To the Members  
Board of the Botanic Gardens and State Herbarium**

As required by section 31 of the *Public Finance and Audit Act 1987* and section 22(2) of the *Botanic Gardens and State Herbarium Act 1978*, I have audited the accompanying financial statements of the Board of the Botanic Gardens and State Herbarium for the financial year ended 30 June 2010. The financial statements comprise:

- A Statement of Comprehensive Income
- A Statement of Financial Position
- A Statement of Changes in Equity
- A Statement of Cash Flows
- Notes to and forming part of the Financial Statements
- A Certificate from the Chair, Executive Director Botanic Gardens and Chief Finance Officer, Department for Environment and Heritage.

**The responsibility of the Board for the financial statements**

The Members are responsible for the preparation and the fair presentation of the financial statements in accordance with the Treasurer's Instructions promulgated under the provisions of the *Public Finance and Audit Act 1987* and Australian Accounting Standards. This responsibility includes establishing and maintaining internal controls relevant to the preparation and fair presentation of the financial statements that are free from material misstatement, whether due to fraud or error; selecting and applying appropriate accounting policies; and making accounting estimates that are reasonable in the circumstances.

**Auditor's responsibility**

My responsibility is to express an opinion on the financial statements 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 complies with relevant ethical requirements relating to audit engagements and plans and performs the audit to obtain reasonable assurance whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgement, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements 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 Board, as well as the overall presentation of the financial statements.

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

**Auditor's opinion**

In my opinion, the financial statements present fairly, in all material respects, the financial position of the Board of the Botanic Gardens and State Herbarium as at 30 June 2010, 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.



**S O'Neill**  
**AUDITOR-GENERAL**  
20 October 2010

# Certification of the Financial Report

## Board of the Botanic Gardens and State Herbarium

### Certification of the Financial Report

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

- comply with any relevant Treasurer's Instructions issued under Section 41 of the *Public Finance and Audit Act 1987*, and any relevant *Australian Accounting Standards*;
- are in accordance with the accounts and records of the Board; and
- present a true and fair view of the financial position of the Board as at 30 June 2010 and the results of its operations and cash flows for the financial year.


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

  
\_\_\_\_\_  
Judy Potter  
Chair

12 October 2010

  
\_\_\_\_\_  
Stephen Forbes  
Executive Director  
Botanic Gardens

12 October 2010

  
\_\_\_\_\_  
Rob Denton-Brown  
Chief Finance Officer  
DEH

12 October 2010



**Board of the Botanic Gardens and State Herbarium**

**Statement of Comprehensive Income**

**For the year ended 30 June 2010**

	<b>Note</b>	<b>2010</b> \$'000	<b>2009</b> \$'000
<b>Expenses:</b>			
Board member remuneration and other costs	5	91	77
Supplies and services	6	564	253
Depreciation	7	2,180	2,258
Grants and subsidies	8	1,376	1,469
Net loss from the disposal of non-current assets	9	86	235
Other expenses	10	(40)	42
<b>Total expenses</b>		<b>4,257</b>	<b>4,334</b>
<b>Income:</b>			
Fees and charges	11	982	938
Grants and contributions	12	180	138
Interest revenue	13	119	113
Resources received free of charge	14	3,081	1,925
Other income	15	1,307	1,393
<b>Total income</b>		<b>5,669</b>	<b>4,507</b>
<b>Net result</b>		<b>1,412</b>	<b>173</b>
<b>Other comprehensive income</b>			
Changes in property, plant and equipment asset revaluation surplus	21	(201)	2,690
<b>Total other comprehensive income</b>		<b>(201)</b>	<b>2,690</b>
<b>Total comprehensive result</b>		<b>1,211</b>	<b>2,863</b>

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

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



**Board of the Botanic Gardens and State Herbarium**  
**Statement of Financial Position**  
**As at 30 June 2010**

	Note	2010 \$'000	2009 \$'000
<b>Current assets:</b>			
Cash and cash equivalents	16	3,456	2,841
Receivables	17	26	123
Inventories	18	207	154
<b>Total current assets</b>		<u>3,689</u>	<u>3,118</u>
<b>Non-current assets:</b>			
Property, plant and equipment	19	60,040	57,678
<b>Total non-current assets</b>		<u>60,040</u>	<u>57,678</u>
<b>Total assets</b>		<u>63,729</u>	<u>60,796</u>
<b>Current liabilities</b>			
Payables	20	84	39
<b>Total current liabilities</b>		<u>84</u>	<u>39</u>
<b>Total liabilities</b>		<u>84</u>	<u>39</u>
<b>Net assets</b>		<u>63,645</u>	<u>60,757</u>
<b>Equity</b>			
Asset revaluation surplus	21	23,878	24,079
Retained earnings	21	39,767	36,678
<b>Total equity</b>		<u>63,645</u>	<u>60,757</u>
The total equity is attributable to the SA Government as owner			
Expenditure commitments	24		
Contingent liabilities	25		

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

*ra*

**Board of the Botanic Gardens and State Herbarium**

**Statement of Changes in Equity**

**For the year ended 30 June 2010**

	<b>Note</b>	<b>Asset Revaluation Surplus \$'000</b>	<b>Retained Earnings \$'000</b>	<b>Total \$'000</b>
<b>Balance at 1 July 2008</b>	21	<b>21,389</b>	<b>36,683</b>	<b>58,072</b>
Asset adjustments - first time recognition of assets	21	-	10	10
Asset adjustments - asset attribute revisions	21	-	(188)	(188)
<b>Restated balance as at 1 July 2008</b>		<b>21,389</b>	<b>36,505</b>	<b>57,894</b>
Net result for 2008/09	21	-	173	173
Gain on revaluation of property, plant and equipment	21	2,690	-	2,690
<b>Total comprehensive result for 2008/09</b>		<b>2,690</b>	<b>173</b>	<b>2,863</b>
<b>Balance at 30 June 2009</b>		<b>24,079</b>	<b>36,678</b>	<b>60,757</b>
Net result for 2009/10	21	-	1,412	1,412
Loss on revaluation of property, plant and equipment	21	(201)	-	(201)
<b>Total comprehensive result for 2009/10</b>		<b>(201)</b>	<b>1,412</b>	<b>1,211</b>
Asset adjustments - first time recognition of assets	21	-	282	282
Asset adjustments - ARAMIS revisions	21	-	1,395	1,395
<b>Total asset adjustments</b>		<b>-</b>	<b>1,677</b>	<b>1,677</b>
<b>Balance at 30 June 2010</b>	21	<b>23,878</b>	<b>39,767</b>	<b>63,645</b>

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

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

**Board of the Botanic Gardens and State Herbarium**

**Statement of Cash Flows**

**For the year ended 30 June 2010**

	Note	2010 \$'000	2009 \$'000
<b>Cash flows from operating activities</b>			
<b>Cash outflows:</b>			
Board member remuneration payments		(91)	(77)
Supplies and services payments		(519)	(245)
Grants and subsidies payments		(1,376)	(1,469)
<b>Cash used in operations</b>		<u>(1,986)</u>	<u>(1,791)</u>
<b>Cash inflows:</b>			
Fees and charges		1,083	924
Grant and contributions		180	138
Interest received		115	122
Other receipts		1,307	1,393
<b>Cash generated from operations</b>		<u>2,685</u>	<u>2,577</u>
<b>Net cash provided by operating activities</b>	22	<u>699</u>	<u>786</u>
<b>Cash flows from investing activities</b>			
<b>Cash Outflows</b>			
Purchase of property, plant and equipment		(84)	(70)
<b>Net cash used in investing activities</b>		<u>(84)</u>	<u>(70)</u>
<b>Net increase in cash and cash equivalents</b>		<u>615</u>	<u>716</u>
<b>Cash and cash equivalents at the beginning of the financial year</b>		2,841	2,125
<b>Cash and cash equivalents at the end of the financial year</b>	16	<u>3,456</u>	<u>2,841</u>

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

*2010*



**Board of the Botanic Gardens and State Herbarium**

**Note Index**

**For the year ended 30 June 2010**

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**Board of the Botanic Gardens and State Herbarium**  
**Notes to and forming part of the Financial Statements**  
**For the year ended 30 June 2010**

**1 Objectives of the Board**

**(a) Strategic Context**

The Board of the Botanic Gardens & State Herbarium (the Board) was established under Section 6 of the *Botanic Gardens and State Herbarium Act 1978* (the Act).

The objectives of the Board are to ensure the maintenance and development of the South Australian Botanic Gardens and State Herbarium by:

- (a) establishing and maintaining botanic and other gardens for the use and enjoyment of members of the public on land vested in or placed under the control of the Board; and
- (b) establishing and managing in, or in connection with, its gardens exhibitions of interest in the fields of botany, horticulture, biology, conservation of the natural environment or history; and
- (c) establishing and maintaining a herbarium and, subject to this Act, retaining original specimens included in the herbarium; and
- (d) accumulating and caring for specimens (whether living or preserved), objects and things of interest in the fields of botany, horticulture, biology, conservation of the natural environment or history; and
- (e) accumulating and classifying data in regard to any such matters; and
- (f) managing all lands and premises vested in, or placed under the control of, the Board; and
- (g) managing all funds vested in, or under the control of, the Board and applying those funds in accordance with the terms and conditions of any instrument of trust or other instrument affecting the disposition of those funds; and
- (h) carrying out, or promoting, research into matters of interest in the fields of botany, horticulture, biology, conservation of the natural environment or history; and
- (i) disseminating information of interest in the fields of botany, horticulture, biology, conservation of the natural environment or history; and
- (j) undertaking the commercial exploitation of knowledge acquired by the Board in the course of conducting research; and
- (k) selling or propagating and selling (whether alone or in partnership or joint venture with a nursery business) hybrids or cultivated varieties of plants that:
  - (i) have occurred spontaneously in the Board's gardens or been developed in the course of its research activities; and
  - (ii) are not widely commercially available in the State; and
- (l) providing consultant services; and
- (m) performing any other functions of scientific, educational or historical significance that may be assigned to the Board by regulation.

The Board is required to prepare a separate set of audited annual financial statements in accordance with Section 22 of the Act.

**(b) Financial Arrangements**

The financial arrangements of the Board are administered through the Botanic Gardens Endowment and Commercial Fund (the Fund) in accordance with the Act. The Fund is an interest bearing Deposit Account with the Department of Treasury and Finance (DTF) pursuant to Section 21(1) of the *Public Finance and Audit Act 1987*.

The Fund's sources of revenue include:

- donations
- grants and bequests
- sponsorships
- retail sales
- fees and charges for services to the public

The Department for Environment & Heritage (DEH) conducts a large number of activities directed towards meeting the Board's responsibilities under the Act. Due to DEH receiving appropriation funding, and directing and controlling the expenditure for these activities, the revenue and expenditure relating to those activities are recognised in DEH's financial statements rather than the Board's. Activities undertaken by DEH in support of the administration of the Act and Board are disclosed in Note 29.

In accordance with the provisions of the Act, the Board has delegated certain functions to officers within DEH who provide certain technical and administrative support including the use of certain plant and equipment, office accommodation and various administrative services. The cost of the services provided that are identifiable with the activities of the Board and can be measured reliably, are met by the Board. Other support services that are not identifiable and/or cannot be measured reliably are provided free of charge and have not been recognised in these financial statements.

**2 Summary of significant accounting policies**

**(a) Statement of compliance**

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

Except for AASB 2009-12, which the Board has early adopted, Australian accounting standards and interpretations that have recently been issued or amended but are not yet effective have not been adopted by the Board for the reporting period ending 30 June 2010.

**(b) Basis of preparation**

The preparation of the financial statements requires:

- the use of certain accounting estimates and management to exercise its judgement in the process of applying the Board's accounting policies. 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; and
- compliance with accounting policy statements issued pursuant to Section 41 of the *Public Finance and Audit Act 1987*. In the interest of public accountability and transparency the accounting policy statements require the following note disclosures, that have been included in these financial statements:
  - (a) revenues, expenses, financial assets and financial liabilities where the counterparty/transaction is with an entity within the SA Government as at reporting date, classified according to their nature. A threshold of \$100,000 for separate identification of these items may be utilised. The Board has elected to utilise this threshold in relation to transactions applicable to revenue and expense items. The threshold has not been applied to financial assets and financial liabilities. All financial assets and financial liabilities relating to SA Government have been separately disclosed.
  - (b) 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 is prepared on a cash basis.

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

The accounting policies set out below have been applied in preparing the financial statements for the year ended 30 June 2010 and the comparative information presented for the year ended 30 June 2009.

**(c) Reporting entity**

The Board is a reporting entity, established pursuant to the *Botanic Gardens and State Herbarium Act 1978*.

**(d) 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.

The restated comparative amounts do not replace the original financial statements for the preceding period.

**(e) Rounding**

All amounts in the financial statements have been rounded to the nearest thousand dollars (\$'000).

**(f) Taxation**

The Board is not subject to income tax. The Board is liable for fringe benefits tax, emergency services levy, land tax equivalents and local government rate equivalents.

DEH prepares a Business Activity Statement on behalf of the Board under the grouping provisions of the GST legislation. Under these provisions, DEH is liable for the payments and entitled to the receipts associated with GST.

**(g) Events after the reporting period**

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.

**(h) Income**

Income is recognised to the extent that it is probable that the flow of economic benefits to the Board will occur and can be reliably measured.

Income has been aggregated according to its nature and has not been offset unless required or permitted by a specific accounting standard, or where offsetting reflects the substance of the transaction or other event.

The following are specific recognition criteria:

*Fees and Charges*

Revenues from fees and charges are derived from the provision of goods and services to other SA government agencies and to the public. This revenue is recognised upon delivery of the service to the clients or by reference to the stage of completion.

*Contributions received*

Contributions are recognised as an asset and income when the Board obtains control of the contributions or obtains the right to receive the contributions and the income recognition criteria are met (i.e. the amount can be reliably measured and the flow of resources is probable).

Generally, the Board has obtained control or the right to receive for:

- Contributions with unconditional stipulations - this will be when the agreement becomes enforceable ie the earlier of when the receiving entity has formally been advised that the contribution (eg grant application) has been approved; agreement/contract is executed; and/or the contribution is received.
- Contributions with conditional stipulations - this will be when the enforceable stipulations specified in the agreement occur or are satisfied; that is income would be recognised for contributions received or receivable under the agreement.

All contributions received by the Board have been contributions with unconditional stipulations attached and have been recognised as an asset and income upon receipt.

*Resources received free of charge*

Resources received free of charge are recorded as revenue in the Statement of Comprehensive Income at their fair value. Contributions of services are recognised only when a fair value can be determined reliably and the services would be purchased if they had not been donated.

*Net gain on non-current assets*

Gains from the disposal of non-current assets are recognised when the control of the asset has passed to the buyer and are determined by comparing proceeds with carrying amount. When revalued assets are sold, the revaluation surplus is transferred to retained earnings.

*Other income*

Other income consists of sponsorships, donations, commissions and bequests. This revenue is recognised upon receipt.

*2*

**(i) Expenses**

Expenses are recognised to the extent that it is probable that the flow of economic benefits from the Board will occur and can reliably measured.

Expenses have been aggregated 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.

The following are specific recognition criteria:

**Board Remuneration Expense**

Board remuneration expense includes all board fees and other costs including superannuation. These are recognised when incurred.

**Superannuation**

The amount charged to the Statement of Comprehensive Income represents the contributions made by the Board to the superannuation plan in respect of current services of current Board Members. The Department of Treasury and Finance centrally recognises the superannuation liability in the whole of government general purpose financial statements.

**Grants and subsidies**

For contributions payable, the contribution will be recognised as a liability and expense when the entity has a present obligation to pay the contribution and the expense recognition criteria are met.

**(j) Current and non-current classification**

Assets and liabilities are characterised as either current or non-current in nature. Assets and liabilities that are sold, consumed or realised as part of the normal operating cycle even when they are not expected to be realised within twelve months after the reporting date have been classified as current assets or current liabilities. All other assets and liabilities are classified as non-current.

Where asset and liability line items combine amounts expected to be realised within twelve months and more than twelve months, the Board has separately disclosed the amounts expected to be recovered or settled after more than twelve months.

**(k) Cash and cash equivalents**

Cash and cash equivalents in the Statement of Financial Position includes cash at bank and on hand.

For the purposes of the Statement of Cash Flows, cash and cash equivalents consist of cash and cash equivalents as defined above.

Cash is measured at nominal value.

**(l) Receivables**

Receivables include amounts receivable from goods and services provided and other accruals.

Receivables arise in the normal course of selling goods and services to other government agencies and to the public. Receivables are generally settled within 30 days after the issue of an invoice.

Collectability of trade 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.

**(m) Inventories**

Inventories include goods and other property held either for sale or distribution at no or nominal cost in the ordinary course of business. It excludes depreciating assets.

Inventories held for distribution, for no or nominal consideration, are measured at cost and adjusted when applicable for any loss of service potential. Inventories (other than those held for distribution at no or nominal consideration) are measured at the lower of cost or their net realisable value.

Bases used in assessing loss of service potential for inventory held for distribution at no or minimal cost include current replacement cost and technological or functional obsolescence.

Cost for all inventory is measured on the basis of the first-in, first-out method. Net realisable value is determined using the estimated sales proceeds less costs incurred in marketing, selling and distribution to customers.

The amount of any inventory write-down to net realisable value or inventory losses are recognised as an expense in the period the write-down or loss occurred. Any write-down reversals are recognised as an expense reduction.

**(n) Non Current Asset Acquisition and Recognition**

Non-current assets are initially recorded at cost or at the value of any liabilities assumed, plus any incidental costs involved with the acquisition. Non-current assets are subsequently measured at fair value less accumulated depreciation.

Where assets are acquired at no value, or minimal value, they are recorded at their fair value in the Statement of Financial Position. However, if the assets are acquired at no or nominal value as part of a restructuring of administrative arrangements then the assets are recorded at the value recorded by the transferor prior to transfer.

**Assets deemed to be at fair value**

Revaluation of a non-current asset 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.

Asset classes that did not satisfy this criteria and are therefore deemed to be at fair value include:

- \* Furniture and fittings;
- \* Plant and equipment.

### **State Herbarium Collection**

The State Herbarium is the State's major provider of authoritative data and information on the plants, algae and fungi of South Australia. The collections of the State Herbarium comprise a large sustainable sample of the flora of South Australia, Australia and the world, particularly Mediterranean regions. These specimens, of which there are approximately 1,000,000, provide a unique scientific resource although require considerable maintenance. The State Herbarium Collection is a heritage asset which is considered so unique that it is not capable of reliable measurement. Hence, the value of the collection has not been recognised in the Financial Statements in accordance with APF III Asset Accounting Framework.

#### **(o) Revaluation of Non Current Assets**

All non-current tangible assets are valued at written down current cost (a proxy for fair value). Revaluation of a non-current asset is only performed when its fair value at the time of acquisition is greater than \$1 million and estimated useful life is greater than 3 years.

The Board revalues its property, plant and equipment on at least a three year rolling basis. However, if at any time management considers that 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 tangible assets that are acquired between revaluations are held at cost until the next valuation, when they are revalued to fair value.

Property, Plant and Equipment assets due for revaluation are assessed to determine whether they should be classified as generic or unique.

Generic building, infrastructure and road assets are valued using a data dictionary approach. Plant and equipment were also valued using a data dictionary approach for the first time as at 30 June 2008. The data dictionary model is contained within the DEH's ARAMIS system. The data dictionary model calculates a value for an asset based on description, grade/composition, condition and size/quantity. For buildings, infrastructure and roads, the model value is adjusted by a locality factor to take into account climatic conditions. The calculation model itself is reviewed every 3 years.

Unique assets are items which cannot be categorised within standard data dictionary groups. Assets that are deemed to be unique are externally valued by independent professional valuers.

The valuers used by the Board are as follows:

- Data dictionary: Buildings, Infrastructure and Roads  
1 July 2008, Valcorp Australia Pty Ltd, Mr F Taormina, BAppSc(Val), AAPI
- Data dictionary: Plant and equipment  
30 June 2008, Valcorp Australia Pty Ltd, Mr F Taormina, BAppSc(Val), AAPI
- Independent professional valuation  
1 July 2008, Valcorp Australia Pty Ltd, Mr A.J. Lucas, MBA, BAppSc(Val), DipAcc, AAPI
- Other (Books and Artefacts)  
1 July 2008, Antiquarian Books, D. A. Horn (Books)  
1 July 2008, Valcorp Australia Pty Ltd, Stephen Sinclair (Artefacts)

The fair value of unique items was determined by identifying a market buying price, estimated as written down modern equivalent replacement cost. The fair value of land and buildings was based on recent market transactions for similar land and buildings in the area taking into account zoning and restricted use.

Any revaluation increment is credited to the asset revaluation surplus, except to the extent that it reverses a revaluation decrease of the same asset class previously recognised as an expense, in which case the increase is recognised as income. Any revaluation decrease is recognised as an expense, except to the extent that it offsets a previous revaluation increase for the same asset class, in which case the decrease is debited directly to the asset revaluation surplus to the extent of the credit balance existing in the revaluation surplus for that asset class.

Upon disposal or derecognition, any revaluation surplus relating to that asset is transferred to retained earnings.

#### **(p) Impairment**

All non-current tangible and intangible assets are tested for indications of impairment at each reporting date. Where there is an indication of impairment, the recoverable amount is estimated. An amount by which the asset's carrying amount exceeds the recoverable amount is recorded as an impairment loss.

For revalued assets, an impairment loss is offset against the respective asset revaluation surplus.

#### **(q) Depreciation of non-current assets**

All non-current assets, having a limited useful life, are systematically depreciated over their useful lives in a manner that reflects the consumption of their service potential.

Assets' residual values and useful lives are reviewed and adjusted if appropriate, on an annual basis.

Changes in the expected useful life or the expected pattern of consumption of future economic benefits embodied in the asset are accounted for prospectively by changing the time period or method, as appropriate, which is a change in accounting estimate.

Land assets are not depreciated.

Depreciation is calculated on a straight line basis over the estimated useful life of the following classes of assets:

<u>Class of Asset</u>	<u>Useful Life</u>
Park Infrastructure	7-60 years
Plant and Equipment	3-20 years
Roads, Tracks and Trails	6-35 years
Furniture and Fittings	1-10 years
Buildings and Improvements	15-90 years
Other	5-45 years
Moveable Vehicles	3-9 years

#### **(r) Payables**

Payables include creditors, accrued expenses and employment on-costs.

Creditors represent the amounts owing for goods and services received prior to the end of the reporting period that are unpaid at the end of the reporting period. Creditors include all unpaid invoices received relating to the normal operations of the Board.

Accrued expenses represent goods and services provided by other parties during the period that are unpaid at the end of the reporting period and where an invoice has not been received.

All payables are measured at their nominal amount and are normally settled within 30 days from the date of the invoice or the date the invoice is first received.

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 South Australian Superannuation Board.

**(s) Employee benefits**

The Board has no employees. Services to the Board are provided by personnel employed by DEH, hence no employee benefits or related provisions are included in the Board's financial statements. Employee benefits relating to relevant employees are reflected in the financial statements of DEH.

**(t) Unrecognised expenditure 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 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.

**3 New and revised accounting standards and policies**

The Board did not change any of its accounting policies during 2009/10.

Except for AASB 2009-12, which the Board has early-adopted, the Australian accounting standards and interpretations that have recently been issued or amended but are not yet effective, have not been adopted by the Board for the period ending 30 June 2010. The Board has assessed the impact of the new and amended standards and interpretations and considers there will be no impact on the accounting policies or the financial statements of the Board.

**4 Programs of the Board**

In achieving its objectives the Board conducts its services through a single program, Botanic Gardens Management. The purpose of this program is managing the natural and cultural resources of the Botanic Gardens and State Herbarium to advance plant conservation and sustainable horticulture practices, and to enrich society.

**Board of the Botanic Gardens and State Herbarium**  
**Notes to and forming part of the Financial Statements**  
**For the year ended 30 June 2010**

**5 Board member remuneration and other costs**

	2010	2009
	\$'000	\$'000
Board and committees fees	80	68
Remuneration on-costs - superannuation	6	4
Remuneration on-costs - other	4	4
Other employment related expenses:	1	1
<b>Total: Board member remuneration</b>	<b>91</b>	<b>77</b>

**6 Supplies and services**

	2010	2009
	\$'000	\$'000
Accommodation and property management expenses	77	25
Contractors	4	-
External auditors remuneration	27	20
Fee for service	261	105
General administration	91	87
Information technology & communication expenses	7	-
Minor works, maintenance & equipment	70	13
Travel and accommodation	5	2
Other	22	1
<b>Total: Supplies and services</b>	<b>564</b>	<b>253</b>

**Supplies and services provided by entities within the SA Government**

External auditors remuneration	27	20
<b>Total: Supplies and services provided by entities within the SA Government</b>	<b>27</b>	<b>20</b>

**Auditor's remuneration**

External auditor's remuneration (included in the External's auditors remuneration expense amount shown above) represents amounts paid/payable to the Auditor-General's Department for audit services. No other services were provided by the Auditor-General's Department.

	2010	2009
	\$'000	\$'000
Audit fees paid/payable to the Auditor-General's Department	27	20
<b>Total audit fees</b>	<b>27</b>	<b>20</b>

**7 Depreciation**

	2010	2009
	\$'000	\$'000
Buildings and improvements	887	889
Furniture and fittings	179	69
Moveable Vehicles	1	-
Park infrastructure	959	1,121
Roads, tracks and trails	104	127
Plant and equipment	50	37
Other	-	15
<b>Total Depreciation</b>	<b>2,180</b>	<b>2,258</b>

**Revision of accounting estimates**

During the year, the Board reassessed the useful lives of property, plant and equipment assets, resulting in an increase in the estimated useful life of certain assets. This has resulted in a decrease of \$0.365m in the amount of depreciation calculated on these assets in 2009/10 compared to the amount that would have been expensed based on previous estimates of useful lives. The lower depreciation expense will also be reflected in future years.

The change in the useful lives has had the effect of increasing / (decreasing) depreciation expense in the financial year as follows:

	2010	2009
	\$'000	\$'000
Buildings and Improvements	(7)	3
Park Infrastructure	(305)	(21)
Roads, Tracks and Trails	(25)	2
Plant and Equipment	(15)	1
Other	(13)	-
	<b>(365)</b>	<b>(15)</b>

**8 Grants and subsidies**

	2010	2009
	\$'000	\$'000
State government	1,376	1,469
<b>Total: Grants and subsidies</b>	<b>1,376</b>	<b>1,469</b>

**Grants and subsidies paid/payable to entities within the SA Government**

Department for Environment and Heritage	1,376	1,469
<b>Total: Grants and subsidies paid/payable to entities within the SA Government</b>	<b>1,376</b>	<b>1,469</b>



**Board of the Botanic Gardens and State Herbarium**  
**Notes to and forming part of the Financial Statements**  
**For the year ended 30 June 2010**

<b>9 Net gain/(loss) from the disposal of non-current assets</b>	<b>2010</b>	<b>2009</b>
	<small>\$'000</small>	<small>\$'000</small>
<b>Buildings</b>		
Proceeds from disposal	-	-
Less: Net book value of assets disposed	(40)	(226)
<b>Net gain/(loss) from disposal</b>	<u>(40)</u>	<u>(226)</u>
<b>Park infrastructure</b>		
Proceeds from disposal	-	-
Less: Net book value of assets disposed	(40)	(9)
<b>Net gain/(loss) from disposal</b>	<u>(40)</u>	<u>(9)</u>
<b>Roads, tracks and trails</b>		
Proceeds from disposal	-	-
Less: Net book value of assets disposed	(6)	-
<b>Net gain/(loss) from disposal</b>	<u>(6)</u>	<u>-</u>
<b>Total: Assets</b>		
Total proceeds from disposal	-	-
Less: total value of assets disposed	(86)	(235)
<b>Total: Net gain/(loss) from disposal of non-current assets</b>	<u>(86)</u>	<u>(235)</u>
<b>10 Other expenses</b>	<b>2010</b>	<b>2009</b>
	<small>\$'000</small>	<small>\$'000</small>
Revaluation Decrements	13	47
Inventory adjustments	(53)	(5)
<b>Total: Other expenses</b>	<u>(40)</u>	<u>42</u>
<b>11 Fees and charges</b>	<b>2010</b>	<b>2009</b>
	<small>\$'000</small>	<small>\$'000</small>
Admissions and guided tours	104	106
Expiation fees	75	61
Property rental and related income	131	134
Sale of goods	29	42
Car Parking	445	347
Garden Functions	198	243
Other	-	6
<b>Total: Fees and charges</b>	<u>982</u>	<u>938</u>
<b>12 Grants and contributions</b>	<b>2010</b>	<b>2009</b>
	<small>\$'000</small>	<small>\$'000</small>
Grants received from other entities within the SA Government	180	138
<b>Total: Grants and contributions</b>	<u>180</u>	<u>138</u>
<b>Grants and contributions received/receivable from entities within the SA Government</b>		
Department for Environment & Heritage *	103	79
Other state government grants	77	59
	<u>180</u>	<u>138</u>
* Department for Environment and Heritage contributions:	<b>2010</b>	<b>2009</b>
	<small>\$'000</small>	<small>\$'000</small>
Room hire	3	3
Sitting Fee reimbursement	90	76
Project work reimbursement	10	-
	<u>103</u>	<u>79</u>
<b>13 Interest revenue</b>	<b>2010</b>	<b>2009</b>
	<small>\$'000</small>	<small>\$'000</small>
Interest on deposit accounts	119	113
<b>Total: Interest revenue</b>	<u>119</u>	<u>113</u>
<b>Interest revenue received/receivable from entities within the SA Government</b>		
Interest on deposit accounts	119	113
	<u>119</u>	<u>113</u>

**Board of the Botanic Gardens and State Herbarium**  
**Notes to and forming part of the Financial Statements**  
**For the year ended 30 June 2010**

<b>14 Resources received free of charge</b>	<b>2010</b>	<b>2009</b>
	<small>\$'000</small>	<small>\$'000</small>
Park infrastructure	1,639	452
Roads, tracks and trails	1,241	-
Moveable vehicles	44	-
Furniture and fittings	-	1,364
Plant and equipment	157	106
Other	-	3
<b>Total: Resources received free of charge</b>	<b><u>3,081</u></b>	<b><u>1,925</u></b>

The above figures relate to assets transferred free of charge from DEH to the Board. In 2009/10, these assets primarily relate to the upgrade of Botanic Park (\$1.774m) and Western Entrance Infrastructure (\$0.989m).

<b>15 Other income</b>	<b>2010</b>	<b>2009</b>
	<small>\$'000</small>	<small>\$'000</small>
Sponsorships, donations, commissions and bequests	1,306	1,394
Other sundry revenue	1	(1)
<b>Total: Other Income</b>	<b><u>1,307</u></b>	<b><u>1,393</u></b>

<b>16 Cash and cash equivalents</b>	<b>2010</b>	<b>2009</b>
	<small>\$'000</small>	<small>\$'000</small>
Deposits with Treasurer	3,456	2,841
<b>Total Cash and Cash Equivalents</b>	<b><u>3,456</u></b>	<b><u>2,841</u></b>

**Interest rate risk**  
Cash deposits are recognised at their nominal amounts and interest is credited to revenue as it accrues. The Board invests surplus funds with the Treasurer at call.

<b>17 Receivables</b>	<b>2010</b>	<b>2009</b>
	<small>\$'000</small>	<small>\$'000</small>
<b>Current:</b>		
Receivables	14	115
Less: Allowance for doubtful debts	-	-
	<u>14</u>	<u>115</u>
Accrued revenues	12	8
<b>Total: Current Receivables</b>	<b><u>26</u></b>	<b><u>123</u></b>
<b>Receivables from entities within the SA Government</b>		
Receivables	-	8
Less: Allowance for doubtful debts	-	-
	<u>-</u>	<u>8</u>
Accrued revenues	12	8
	<u>12</u>	<u>16</u>

<b>18 Inventories</b>	<b>2010</b>	<b>2009</b>
	<small>\$'000</small>	<small>\$'000</small>
<b>Current inventories held for resale - at cost</b>		
Finished goods held for resale - at cost	207	154
<b>Total: Current inventories held for resale - at cost</b>	<b><u>207</u></b>	<b><u>154</u></b>
<b>Total: Current inventories</b>	<b><u>207</u></b>	<b><u>154</u></b>

<b>19 Property, plant and equipment</b>	<b>2010</b>	<b>2009</b>
	<small>\$'000</small>	<small>\$'000</small>
<b>Land</b>		
Independent valuation (iii)	2,292	2,292
<b>Total: Land</b>	<b><u>2,292</u></b>	<b><u>2,292</u></b>
<b>Buildings and improvements</b>		
Independent valuation (iii)	47,573	47,895
At cost (ii)	3,500	3,500
Less: Accumulated depreciation	(14,172)	(13,745)
<b>Total: Buildings and improvements</b>	<b><u>36,901</u></b>	<b><u>37,650</u></b>
<b>Park infrastructure</b>		
Independent valuation (iii)	49,168	49,163
At cost (ii)	2,859	2,108
Less: Accumulated depreciation	(40,754)	(41,816)
<b>Total: Park infrastructure</b>	<b><u>11,273</u></b>	<b><u>9,455</u></b>
<b>Roads, tracks and trails</b>		
Independent valuation (iii)	2,962	3,334
At cost (ii)	1,472	90
Less: Accumulated depreciation	(2,674)	(2,932)
<b>Total: Roads, tracks and trails</b>	<b><u>1,760</u></b>	<b><u>492</u></b>

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**Board of the Botanic Gardens and State Herbarium**  
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<b>Moveable vehicles</b>		
Independent valuation (iii)	15	-
At cost (ii)	44	-
Less: Accumulated depreciation at the end of the period	(15)	-
<b>Total: Moveable vehicles</b>	<b>44</b>	<b>-</b>
<b>Furniture and fittings</b>		
At cost (deemed fair value) (i)	1,783	1,783
Less: Accumulated depreciation	(370)	(191)
<b>Total: Furniture and fittings</b>	<b>1,413</b>	<b>1,592</b>
<b>Plant and equipment</b>		
Independent valuation (iii)	210	213
At cost (deemed fair value) (i)	396	227
Less: Accumulated depreciation	(155)	(121)
<b>Total: Plant and equipment</b>	<b>451</b>	<b>319</b>
<b>Other - Books and Artefacts</b>		
Independent valuation (iii)	5,857	5,826
At cost (ii)	50	77
Less: Accumulated depreciation	(1)	(25)
<b>Total: Other</b>	<b>5,906</b>	<b>5,878</b>
<b>Total: Property, plant and equipment</b>	<b>60,040</b>	<b>57,678</b>

**Carrying amounts of property, plant and equipment**

Classes of property, plant and equipment are valued as follows:

i At cost (deemed fair value):

These assets have an acquisition cost below \$1m and are deemed held at fair value pursuant to Accounting Policy Framework III.

ii At cost (acquisition cost):

This class includes one or more items that have an acquisition cost exceeding \$1m. All assets within this class are temporarily held at cost pending revaluation that occurs no later than three years from acquisition date.

iii Independent valuation:

Generic assets are valued using the Data Dictionary model. Unique assets are items which can not be categorised within the standard Data Dictionary groups. These assets are valued separately by independent professional valuers. Refer to Note 2(o) for further details.

**Restrictions on Use - Land**

Section 14 of the *Botanic Gardens and State Herbarium Act 1978* states that the Board may not dispose of any interest in land vested in it, nor may it be divested of the control of any land placed under its control, except in pursuance of a resolution passed by both Houses of Parliament.

Given the restrictions on the use and disposal of Board land, Valcorp Pty Ltd adopted an income approach in estimating the fair value of land assets. This value is significantly less than the proceeds that would be obtained in an open market for land of a comparable size and location.

**Movement reconciliation of property, plant and equipment:**

	Land	Buildings	Park infra- structure	Roads, tracks & trails	Moveable Vehicles	Furniture & fittings	Plant & equipment	Other	Total
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
<b>2010</b>									
Carrying amount at the start of period	2,292	37,650	9,455	492	-	1,592	319	5,878	57,678
Transfers between classes	-	39	(45)	6	-	-	4	(4)	-
Additions	-	-	-	-	-	-	34	50	84
Depreciation expense	-	(887)	(959)	(104)	(1)	(179)	(50)	-	(2,180)
Net revaluation increment/(decrement)	-	-	(148)	(35)	-	-	(1)	(17)	(201)
Assets received for nil consideration	-	-	1,639	1,241	44	-	157	-	3,081
Asset - First time recognition	-	42	232	3	1	-	4	-	282
Disposals	-	(40)	(40)	(6)	-	-	-	-	(86)
Aramis revisions upwards/(downwards)	-	97	1,139	163	-	-	(3)	(1)	1,395
Revaluation Decrement - expensed in the current period	-	-	-	-	-	-	(13)	-	(13)
Carrying amount at the end of period	2,292	36,901	11,273	1,760	44	1,413	451	5,906	60,040
<b>2009</b>									
Carrying amount at the start of period	1,667	36,787	10,645	709	-	297	380	5,226	55,711
Transfers between classes	-	(1)	1	-	-	-	(1)	1	-
Additions	-	-	12	-	-	-	54	4	70
Depreciation expense	-	(889)	(1,121)	(127)	-	(69)	(37)	(15)	(2,258)
Net revaluation increment/(decrement)	625	1,979	(476)	(97)	-	-	-	659	2,690
Assets received for nil consideration	-	-	452	-	-	1,364	106	3	1,925
Asset - First time recognition	-	-	3	7	-	-	-	-	10
Disposals	-	(226)	(9)	-	-	-	-	-	(235)
Aramis revisions upwards/(downwards)	-	-	(52)	-	-	-	(136)	-	(188)
Revaluation Decrement - expensed in the current period	-	-	-	-	-	-	(47)	-	(47)
Carrying amount at the end of period	2,292	37,650	9,455	492	-	1,592	319	5,878	57,678

**Board of the Botanic Gardens and State Herbarium**  
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**20 Payables**

	2010	2009
	\$'000	\$'000
<b>Current:</b>		
Accruals	24	21
Creditors	60	18
<b>Total: Current Payables</b>	<b>84</b>	<b>39</b>
<b>Payables to entities within the SA Government</b>		
Accruals	23	20
Creditors	-	4
	<b>23</b>	<b>24</b>

**21 Equity**

Equity represents the residual interest in the net assets of the Board. The State Government holds the equity interest in the Board on behalf of the community. The asset revaluation surplus is used to record increments and decrements in the fair value of property, plant and equipment to the extent that they offset one another. Relevant amounts are transferred to retained earnings when an asset is derecognised.

**2010**

	Asset Revaluation Reserve	Retained Earnings	Total
	\$'000	\$'000	\$'000
<b>Balance at 1 July 2009</b>	<b>24,079</b>	<b>36,678</b>	<b>60,757</b>
<b>Adjustments - First-time recognition of assets: <sup>(i)</sup></b>			
<i>Buildings and improvements</i>	-	42	42
<i>Park infrastructure</i>	-	232	232
<i>Roads, tracks and trails</i>	-	3	3
<i>Moveable Vehicles</i>	-	1	1
<i>Plant and equipment</i>	-	4	4
<i>Sub-total: First time recognition of assets errors</i>	-	282	282
<b>Asset adjustments - ARAMIS revisions: <sup>(ii)</sup></b>		1,395	1,395
<b>Net result for the year</b>	-	1,412	1,412
<b>Net decrement related to revaluations: <sup>(iii)</sup></b>			
<i>Park Infrastructure</i>	(148)	-	(148)
<i>Roads, Tracks and Trails</i>	(35)	-	(35)
<i>Plant and Equipment</i>	(1)	-	(1)
<i>Other</i>	(17)	-	(17)
<i>Sub-total: Net decrement related to revaluations</i>	(201)	-	(201)
<b>Balance at 30 June 2010</b>	<b>23,878</b>	<b>39,767</b>	<b>63,645</b>

<sup>(i)</sup> **First-time recognition of assets**

Physical inspections of fixed assets data during the year identified a number of pre-existing assets that were not recognised, in error, in prior reporting periods. These assets have been recognised for the first time in the current year.

<sup>(ii)</sup> **ARAMIS revisions**

ARAMIS revisions occur as a result of infrastructure stocktakes and park re-surveys resulting in an asset's description, grade/composition, condition or size/quantity being altered on the Data Dictionary System to correctly reflect the asset's current attributes.

<sup>(iii)</sup> **Assets previously recognised at cost updated to data dictionary valuation**

Asset purchases are temporarily held at cost pending revaluation that occurs no later than three years from acquisition date. If assets are generic in nature, they are valued using the data dictionary model once the three year period has expired. The revaluation adjustments reflect the change in relevant generic asset valuations from cost to data dictionary amounts during the financial year.

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**Board of the Botanic Gardens and State Herbarium**  
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**2009**

	Asset Revaluation Reserve	Retained Earnings	Total
	\$'000	\$'000	\$'000
<b>Balance at 1 July 2008</b>	<b>21,389</b>	<b>36,683</b>	<b>58,072</b>
<b>Adjustments - First-time recognition of assets:</b> <sup>(i)</sup>			
<i>Park infrastructure</i>	-	3	3
<i>Roads, tracks and trails</i>	-	7	7
<i>Sub-total: First time recognition of assets errors</i>	-	10	10
<b>Asset adjustments - ARAMIS revisions:</b> <sup>(ii)</sup>		(188)	(188)
<b>Net result for the year</b>	-	173	173
<b>Net increment related to revaluations:</b> <sup>(iii)</sup>			
<i>Land</i>	625	-	625
<i>Buildings and Improvements</i>	1,979	-	1,979
<i>Park Infrastructure</i>	(476)	-	(476)
<i>Roads, Tracks and Trails</i>	(97)	-	(97)
<i>Other</i>	659	-	659
<i>Sub-total: Net increment related to revaluations</i>	2,690	-	2,690
<b>Balance at 30 June 2009</b>	<b>24,079</b>	<b>36,678</b>	<b>60,757</b>

**(i) First-time recognition of assets**

Physical inspections of fixed assets data during the year identified a number of pre-existing assets that were not recognised, in error, in prior reporting periods. These assets have been recognised for the first time in the current year.

**(ii) ARAMIS revisions**

ARAMIS revisions occur as a result of infrastructure stocktakes and park re-surveys resulting in an asset's description, grade/composition, condition or size/quantity being altered on the Data Dictionary System to correctly reflect the asset's current attributes.

**(iii) Revaluation of assets - professional valuation process undertaken**

During the year the Board revalued items of property, plant and equipment due for revaluation in accordance with its three year revaluation cycle. Valuations used have been obtained from the DEH's Data Dictionary System and also from Valcorp, Certified Practising Valuers. Professional valuations have been arrived at via reference to arms length or market transactions for similar items of property, plant and equipment and take into account any zoning or other restrictions on use.

**22 Cash flow reconciliation**

	2010 \$'000	2009 \$'000
<b>Reconciliation of cash and cash equivalents at the end of the reporting period</b>		
Cash at year end as per:		
Cash and cash equivalents disclosed in the Statement of Financial Position	3,456	2,841
Cash and cash equivalents disclosed in the Statement of Cash Flows	3,456	2,841
<b>Reconciliation of net cash provided by operating activities to net result</b>		
<b>Net cash provided by operating activities</b>	<b>699</b>	<b>786</b>
<b>Add/(less) non-cash items:</b>		
Depreciation and amortisation	(2,180)	(2,258)
Assets received free of charge	3,081	1,925
Revaluation Decrement	(13)	(47)
Net loss on sale of assets	(86)	(235)
<b>Movement in assets and liabilities</b>		
(Decrease)/increase in receivables	(97)	5
Increase in inventories	53	5
Increase in payables	(45)	(8)
<b>Net result</b>	<b>1,412</b>	<b>173</b>

**Board of the Botanic Gardens and State Herbarium**  
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**23 Restrictions on contributions received**

The Board is engaged in a variety of funding programs involving State and Commonwealth sources who provide monies to the Board on the premise that these funds are expended in a manner consistent with the terms of the agreement. At reporting date the Board had the following outstanding funding commitments:

	2010	2009
	<small>\$'000</small>	<small>\$'000</small>
Books and publications	81	117
Garden improvements	1,271	1,222
Research	204	204
Other	196	-
	1,752	1,543

**24 Expenditure commitments**

The Board had no expenditure commitments as at 30 June 2010. All capital commitments associated with the Board are managed by the Department for Environment and Heritage and reflected in their financial statements.

**25 Contingent liabilities**

The Board is not aware of the existence of any contingent liabilities as at 30 June 2010.

**26 Remuneration of Board and Committee Members**

Members that were entitled to receive remuneration for membership during the 2009/2010 financial year were:

**Board of the Botanic Gardens & State Herbarium**

Little I B  
 Cross K (nee Porter)  
 Kouts J C  
 Winter-Dewhurst K  
 Levy A  
 Knox, D - (Appointed 10/12/09)  
 Potter, J - (Appointed 21/1/10)

The number of members whose remuneration received or receivable falls within the following bands:

	2010	2009
	<small>No. of employees</small>	<small>No. of employees</small>
\$0 - \$9,999	2	-
\$10,000 - \$19,999	5	5
	7	5

*Remuneration of members reflects all costs of performing board/committee member duties including sitting fees and super contributions. The total remuneration received or receivable by members was \$85,736 (2009: \$76,775).*

*During the 2009/10 financial year, members of the Board were paid superannuation of \$5,487 (2009: \$4,179).*

*In accordance with the Department of the Premier and Cabinet's Circular Number 16, government employees did not receive any remuneration for board/committee duties during the financial year.*

*Unless otherwise disclosed, transactions between members and the Board are on conditions no more favourable than those that it is reasonable to expect the Board would have adopted if dealing with the related party at arm's length in the same circumstances.*

**27 Events subsequent to reporting date**

There are no known events after balance date that affect these general purpose financial statements in a material manner.

**28 Financial instruments / Financial risk management**

**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, financial liability and equity instrument are disclosed in Note 2 "Summary of Significant Accounting Policies".

Balance Sheet line item	Note number	2010		2009	
		Carrying amount	Fair value	Carrying amount	Fair value
		<small>\$'000</small>	<small>\$'000</small>	<small>\$'000</small>	<small>\$'000</small>
<b>Financial assets</b>					
Cash and cash equivalents	16	3,456	3,456	2,841	2,841
Receivables	17	26	26	123	123
<b>Financial liabilities</b>					
Payables	20	84	84	39	39

**Credit risk**

Credit risk arises when there is the possibility of the Board's debtors defaulting on their contractual obligations resulting in financial loss to the Board. The Board measures credit risk on a fair value basis and monitors risk on a regular basis.

The Board has minimal concentration of credit risk. The Board has policies and procedures in place to ensure that transactions occur with customers with appropriate credit history. The Board does not engage in high risk hedging for its financial assets.

Allowances for impairment of financial assets are calculated on past experience and current and expected changes in credit rating. Currently the Board does not hold any collateral as security for any of its financial assets. At reporting date, there is no evidence to indicate that any of the financial assets are impaired.

**Board of the Botanic Gardens and State Herbarium**  
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**Ageing analysis of financial assets**

The following table discloses the ageing of financial assets, past due, including impaired assets past due.

Financial assets item	Current (Not overdue)	Overdue for < 30 days	Overdue for 30–60 days	Overdue for > 60 days	Total
	\$'000	\$'000	\$'000	\$'000	\$'000
<b>2010</b>					
Not impaired Receivables	19	5	1	1	26
<b>2009</b>					
Not impaired Receivables	122	1	-	-	123

**Maturity analysis of financial assets and liabilities**

All financial assets and liabilities are due to mature in 1 year.

**Liquidity risk**

Liquidity risk arises where the Board is unable to meet its financial obligations as they are due to be settled. 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. The Board settles undisputed accounts within 30 days from the date of the invoice or date the invoice is first received. In the event of a dispute, payment is made 30 days from resolution.

The Board's exposure to liquidity risk is insignificant based on past experience and current assessment of risk.

**Market risk**

The Board has no interest bearing liabilities as at the end of the reporting period. There is no exposure to foreign currency or other price risks.

A sensitivity analysis has not been undertaken for the interest rate risk of the Board as it has been determined that the possible impact on profit and loss or total equity from fluctuations in interest rates is immaterial.

**29 Activities undertaken by Department for Environment and Heritage**

The following details the expenses and revenues incurred by the Department for Environment and Heritage in performing activities associated with the Board.

	2010 \$'000	2009 \$'000
<b>Expenses from ordinary activities</b>		
Employee benefits	5,255	4,061
Supplies and services	3,028	2,297
Grants and subsidies	90	76
Depreciation	87	99
Other	103	38
<b>Total: Expenses from ordinary activities</b>	<u>8,563</u>	<u>6,571</u>
<b>Revenues from ordinary activities</b>		
Fees and charges	571	75
Grants and contributions	1,903	1,674
Other	27	53
<b>Total: Revenues from ordinary activities</b>	<u>2,501</u>	<u>1,802</u>
<b>Net cost of activities undertaken by Department for Environment and Heritage</b>	<u>6,062</u>	<u>4,769</u>

# Appendix 1: Publications

Staff or associates assigned to the business of the Board are in **bold**. \* refereed publication.

Abdul Raheem, IAA, **Conran, JG** and **Toelken, HR**. 2009. Variation in hair types and stamen patterns between species of the south-eastern Australian clade of *Hibbertia* subgen. *Hemistema* (Dilleniaceae). In ASBS Conference Team (eds) Systematic botany: from science to society, Conference proceedings of Australian Systematic Botany Society 2009 National Conference, UNE, Armidale, 1–4 Dec 2009, pp 63. ASBS: Armidale, NSW.

**Ainsley, P** and **Pill, A**. 2010. Adelaide Botanic Gardens first creek wetland aquifer storage and recovery project. *Australasian Plant Conservation* 18(4): 22–23.

\*Bacles, CFE, Brooks, J, Lee, DJ, Schenk, P, **Lowe, A** and Kremer, A. 2009. Reproductive biology of *Corymbia citriodora* subsp. *variegata* and effective pollination across its native range in Queensland, Australia. *Southern Forests* 71:125–132.

**Baker, JL** and **Gurgel, CFD**. 2010. Biodiversity and conservation of macroalgae in the Adelaide & Mt Lofty Ranges NRM region. Department for Environment and Heritage, Adelaide.

**Baldock, RN**. 2010. Algae revealed: Identification factsheets of the marine benthic flora (algae) of South Australia. [www.flora.sa.gov.au/algae\\_revealed/index.shtml](http://www.flora.sa.gov.au/algae_revealed/index.shtml) (185 factsheets).

Bannister, JM, Lee, DE, **Conran, JG** and Mildenhall, DC. 2009. A review of the flora of the Foulden diatomite. In D Barrell and A Tulloch (eds) Joint Geological and Geophysical Societies Conference, 2009: programme and abstracts. Oamaru, New Zealand, 23–27 November 2009. Vol 128A, p 9. Geological Society of New Zealand, Oamaru NZ.

**Barker, RM**. 2010. Australian *Hakea* species: identification and information. Version 1. An interactive Lucid key and information system. [www.flora.sa.gov.au/lucid\\_keys/Hakea/index.shtml](http://www.flora.sa.gov.au/lucid_keys/Hakea/index.shtml) (1 genus and 168 species fact sheets).

**Barker, RM**. 2010. Australian Solanaceae species: identification and information. Version 1. An interactive Lucid key and information system. [www.flora.sa.gov.au/lucid\\_keys/Solanaceae/index.shtml](http://www.flora.sa.gov.au/lucid_keys/Solanaceae/index.shtml) (49 generic and subgeneric fact sheets, 288 species fact sheets).

**Barker, WR** and **Lowe, AJ**. 2010. The State Herbarium of South Australia: advancing knowledge on Australia's plant biodiversity. *Journal of the Adelaide Botanic Gardens* Supplement 2: xxvi–xxvii. [Botanic Gardens of Adelaide catalogue of plants].

\*Biffin, E, Hill, R and **Lowe, AJ**. 2010. Did *Agathis* (Araucariaceae: Coniferales) really survive the Oligocene drowning of New Zealand. *Systematic Biology*. Published online doi: 10.1093/sysbio/syq030.

**Catcheside, PS** and Catcheside, DEA. 2009. Profiles of fungi: *Tricharina gilva*. *South Australian Naturalist* 83(1): 44–45.

**Catcheside, PS** and Catcheside, DEA. 2010. The larger fungi in Flinders Chase National Park, Kangaroo Island, Surveys 2009.

Report for Wildlife Conservation Council.

**Catcheside, PS** and May, TW. 2010. *Inocybe violaceocaulis* in South Australia. *Fungimap Newsletter* 40: 5–6.

Catcheside, PS. 2010. Adelaide Fungal Studies Group Report, July 2008 – June 2009. *South Australian Naturalist* 83: 91–97.

Cavers S et al. (including **Lowe, AJ**–2009. 4th year report for SEEDSOURCE - Developing best practice for seed sourcing for planting and natural regeneration in the neotropics EU 6th Framework, International Cooperation – Developing Countries.

\*Conn, BJ and **Duval, DJ**. 2010. *Mentha atrolilacina* (Lamiaceae), a new species from South Australia. *Telopea* 12(4): in press.

\***Conran, JG**, Bannister, JM and Lee, DE. 2009. Earliest orchid macrofossils: Early Miocene *Dendrobium* and *Earina* (Orchidaceae: Epidendroideae) from New Zealand. *American Journal of Botany* 96: 466–474.

**Conran, JG**, Bannister, JM and Lee, DE. 2009. A review of the New Zealand macrofossil monocot flora. In D Barrell and A Tulloch (eds) Joint Geological and Geophysical Societies Conference, 2009: programme and abstracts. Oamaru, New Zealand, 23–27 November 2009. Vol 128A p 44. Geological Society of New Zealand, Oamaru NZ.

**Conran, JG**, Bannister, JM and Lee, DE. 2009. Earliest fossil *Dendrobium* and *Earina* from Early Miocene NZ. *New Zealand Native Orchid Group Journal* 112: 17–20.

\***Conran, JG**, Carpenter, RJ and Jordan, GJ. 2009. Early Eocene Ripogonum (Liliales: Ripogonaceae) leaf macrofossils from southern Australia. *Australian Systematic Botany* 22: 219–228.

\***Conran, JG** and Coles, RB. 2009. Germination in Western Cape Bridal Creeper (*Asparagus asparagoides* (L.) Druce: Asparagaceae). *Transactions of the Royal Society of South Australia* 133: 361–364.

\***Conran, JG**, Kaulfuss, U, Bannister, JM, Mildenhall, DC and Lee, DE. 2010. *Davallia* (Polypodiales: Davalliaceae) macrofossils from Early Miocene Otago (New Zealand) with in situ spores. *Review of Palaeobotany and Palynology* 162: 84–94.

\*Davies, SJ, Cavers, S, Finegan, B, Navarro, C and **Lowe, AJ**. 2010. Genetic consequences of multigenerational and landscape colonisation bottlenecks for a neotropical forest pioneer tree, *Vochysia ferruginea*. *Tropical Plant Biology* 3: 14–27.

Emmett, P and **Kanellos, T** (eds). 2010. The Museum of Economic Botany at the Adelaide Botanic Garden: A souvenir. Board of the Botanic Gardens and State Herbarium: Adelaide.

Staff or associates in **bold**. \* refereed publication

\*Fredericq, S, Cho, TO, Earle, SA, **Gurgel, CFD**, Krayesky, DM, Mateo-Cid, LE, Gonzáles, CAM, Norris, JN and Suárez, AM. 2009. Seaweeds (Rhodophyta, Chlorophyta, and Phaeophyceae) of the Gulf of Mexico. In DL Felder and DK Camp (eds) Gulf of Mexico: Its Origins, Waters, and Biota: Biodiversity, pp. 187–260. Texas A&M University Press, College Station, USA.



Staff or associates in **bold**. \* refereed publication

**Guerin, J, Te, T, Thorpe, M, Duval, D and Ainsley, P.** 2010. Developing a tool to identify plant species at risk of climate change. Department for Environment and Heritage, Adelaide.

**Gurgel, CFD.** 2010. The Status of the genus *Sargassum* in the Great Australian Bight (AW NRM). Department for Environment and Heritage, Adelaide.

\*Hardner, C, Peace, C, **Lowe, AJ**, Neal, J, Pisanu, P, Powell, M, Schmidt, A, Spain, C and Williams, K. 2009. Genetic Resources and Domestication of Macadamia. *Horticultural Reviews* 35:1–125.

\*Hartwich, S, **Conran, JG**, Bannister, JM, Lindqvist, JK and Lee, DE. 2010. Calamoid fossil palm leaves and fruits (Arecaceae: Calamoideae) from Late Eocene Southland, New Zealand. *Australian Systematic Botany* 23: 131–140.

\*Jamnadass, R, **Lowe, AJ** and Dawson, IK. 2009. Molecular markers and the management of tropical trees: the case of indigenous fruits. *Tropical Plant Biology* 2: 1–12.

\*Johnson, SB, Hosking, JR, **Chinnock, RJ** and Holtkamp, RH. 2009. The Biology of Australian Weeds. 53. *Cylindropuntia rosea* (DC.) Backeb. and *Cylindropuntia tunicata* (Lehm.) F.M.Knuth (Cactaceae). *Plant Protection Quarterly* 24: 42–49.

**Jusaitis, M and Ainsley, P.** 2009. Plant conservation research at Adelaide Botanic Gardens: addressing threats to critically endangered species. *Australasian Plant Conservation* 18(2): 6–7.

\***Jusaitis, M** and Freebairn, A. 2010. Habitat manipulation stimulates natural regeneration of Prickly Raspwort (*Haloragis eyreana*) on Eyre Peninsula (South Australia). *Ecological Management & Restoration* 11: 81–82.

**Lowe, AJ.** 2009. Plant bar code soon to become reality [interview], *Science* 31 July 2009, p 526. Available at [barcoding.si.edu/PDF/Science-Claire%20ThomasPWG.pdf](http://barcoding.si.edu/PDF/Science-Claire%20ThomasPWG.pdf)

**Kellermann, J** [ed]. 2010. *Journal of the Adelaide Botanic Gardens*, Volume 23.

\*Keppel, G, **Lowe, AJ.** and Possingham, H. 2009. Changing perspectives on the biogeography of the tropical South Pacific: influences of dispersal, vicariance and extinction. *Journal of Biogeography* 36: 1035–1054.

\*Leakey RRB (and 60 other authors including **Lowe, AJ.**). 2009. Impacts of AKST on development and sustainability goals. In BD McIntyre, H Herren, J Wakhungu and R Watson (eds) International Assessment of Agricultural Science and Technology for Development: Global Report. Chapter 3. Island Press, New York.

\*Lebel, T and **Catcheside, PS.** 2009. The truffle genus *Cribbea* (Phyalacriaceae, Agaricales) in Australia. *Australian Systematic Botany*. 22: 33–59.

Lee, DE, Bannister, JM, Kaulfuss, U, **Conran, JG** and Lindqvist, JK. 2009. Late Eocene palms, ferns and fungi, Late Oligocene podocarps, proteaceans and epacrids, Early Miocene orchids, fish and insects: How exceptional fossil deposits in Otago and Southland are expanding what we know about the history of

the New Zealand terrestrial biota. In *Geology and genes IV*. Christchurch, NZ. Vol 126, pp 28–30. (GSNZ Miscellaneous Publications: [available at securepages.net.nz/~gsnz/siteadmin/uploaded/gs\\_downloads/abstracts/GeogenesIV.pdf](http://availableatsecurepages.net.nz/~gsnz/siteadmin/uploaded/gs_downloads/abstracts/GeogenesIV.pdf))

Lee, DE, Lindqvist, JK, Cieraad, E, Bannister, JM, Raine, JI, Kennedy, EM and **Conran, JG.** 2009. Late Eocene climate of southern New Zealand: insights from the in situ Pikopiko fossil forest. In CP Strong, EM Crouch, C Hollis (eds) Climatic and biotic events of the Paleogene. Wellington, NZ, 12–15 Jan 2009, pp 112. GNS Science Miscellaneous Series 16: Te Papa, Wellington, New Zealand. Available at [www.gns.cri.nz/cbep2009/](http://www.gns.cri.nz/cbep2009/)

Lee, DE, Lindqvist, JK, **Conran, JG**, Bannister, JM, Kaulfuss, U and White, JDLW. 2009. Exceptional preservation of fossil plants, fish and insects from a laminated, diatomite filled, Early Miocene maar lake in New Zealand. In Third International Maar Conference. Malargüe, Argentina, pp 91–92. IAVCEI-CVS-IAS.

\*Lemes, MR, Dick, CW, Navarro, C, **Lowe, AJ**, Cavers, S and Gribel, R. 2010. Chloroplast DNA microsatellites reveal contrasting phylogeographic structure in mahogany (*Swietenia macrophylla* King, Meliaceae) from Amazonia and Central America. *Tropical Plant Biology* 3: 40–49.

\***Lowe, AJ**, Harris, D, Dormontt, E and Dawson, IK. 2010. Testing putative African tropical forest refugia using chloroplast and nuclear DNA Phylogeography. *Tropical Plant Biology* 3: 50–58.

**Lowe, AJ** and Keppel, G. 2009. Final report – Genetic dynamics of lowland rainforest trees on islands in the tropical Southwest Pacific. Australian and Pacific Science Foundation.

**Lowe, AJ.** 2009. Composite provenancing – progressing the ‘local is best’ paradigm for seed sourcing. *Wingspan*.

**Lowe, AJ** et al. 2009. Final report – Quantifying rates of long distance dispersal and genomic evolution in divergent plant lineages of the SW Pacific region. ARC Discovery.

**Lowe, AJ** et al. 2009. Final report – Why do some exotics become invasive? Using ecological and genomic approaches to test alternative hypotheses in an Australian weed, fireweed. ARC Discovery.

\*MacGillivray, F, Hudson, I and **Lowe, AJ.** 2009. Herbarium collections and photographic images: Alternative data sources for phenological research. In MR Keatley and I Hudson (eds) Phenological Research: Methods for environmental and climate change analysis, Chapter 19, pp 425–461. Springer.

Maciunas, E, **Conran, JG**, Paull, R, Lee, DE and Bannister, JM. 2009. *Phormium* and Asteliaceae macrofossils from New Zealand: using leaf cuticular details to determine phylogenetic affinities. Joint Geological and Geophysical Societies Conference, 2009: programme and abstracts. Oamaru, New Zealand, 23–27 November 2009. Volume 128A p 129. Geological Society of New Zealand, Oamaru NZ.

\*Medan, D, **Kellermann, J**, Aagesen, L and Hilger, HH. 2009. The validity of *Ochetophila* Poepp. ex Endl. (Rhamnaceae: Colletieae). *Feddes Repertorium* 120: 218–220.

Staff or associates in **bold**. \* refereed publication

**Morphett, B.** 2010. *Kitchen Garden: A beginner's guide*. Board of the Botanic Gardens and State Herbarium, Adelaide.

**Morphett, B** and Tolley, I. 2009. *Citrus: A gardener's guide*. Board of the Botanic Gardens and State Herbarium, Adelaide.

\*Ottewell, KM, Donnellan, SC, **Lowe, AJ** and Paton, DC. 2009. Predicting reproductive success of insect - versus bird-pollinated scattered trees in agricultural landscapes. *Biological Conservation* 142: 888–898.

\*Pauku, RL, **Lowe, AJ** and Leakey, RRB. 2010. Domestication of indigenous fruit and nut trees for agroforestry in the Solomon Islands. *Forests, Trees and Livelihoods* 19: 269–287.

\*Pavlacky, DC, Goldizen, AW, Prentis, PJ, Nicholls, JA and **Lowe, AJ.** 2009. A landscape genetics approach for quantifying the relative influence of historic and contemporary habitat heterogeneity on the genetic connectivity of a rainforest bird. *Molecular Ecology* 18: 2945–2960.

\*Petit, S, **Jusaitis, M** and Bickerton, D. 2009. Effect of pollen load, self-pollination and plant size on seeds and germination in the endangered pink-lipped spider orchid, *Caladenia behrii*. *Australian Journal of Botany* 57: 307–314.

**Pitman, SD.** 2010. Council Solutions. In CB Daniels (ed) *Adelaide Water of a City*. University of South Australia, Adelaide.

**Pound, L,** Facelli, JM, **Steggles, E** and **Ainsley, P.** 2009. Investigating seed ecology dynamics of plant species native to the Jacinth Ambrosia mineral sands deposit. Department for Environment and Heritage, Adelaide.

\*Prentis, PJ, Sigg, DP, Raghu, S, Dhileepan, K and **Lowe, AJ.** 2009. Understanding invasion history: genetic structure and diversity of two globally invasive plants and implications for their management. *Diversity and Distributions* 15: 822–830.

**Sandham, J** and **Kellermann, J** (eds). 2010. Botanic Gardens of Adelaide. Catalogue of Plants 2010: Adelaide, Mount Lofty and Wittunga Botanic Gardens. *Journal of the Adelaide Botanic Gardens* Supplement 2.

\*Scoble J and **Lowe, AJ.** 2010. A case for incorporating phylogeography and landscape genetics into species distribution modelling approaches to improve climate adaptation and conservation planning. *Diversity and Distributions* 16: 343–353.

\*Shepherd, KA and **Barker, RM.** 2009. A new species of *Hakea* (Proteaceae) from the Swan Coastal Plain, Western Australia. *Nuytsia* 19(2): 253–258.

Sirisena, UM, **Conran, JG** and Macfarlane, TD. 2009. Phylogeny of *Thysanotus* R.Br. (Fringed Lilies) inferred from morphological and molecular data. In ASBS Conference Team (eds) *Systematic botany: from science to society*, Conference proceedings of Australian Systematic Botany Society 2009 National Conference, UNE, Armidale, 1–4 Dec 2009, pp 68. ASBS: Armidale, NSW.

\*Sirisena, UM, Macfarlane, TD and **Conran, JG.** 2009. *Thysanotus unicipensis* (Laxmanniaceae), a new species discovered in Unicup Nature Reserve, south-west Western Australia. *Nuytsia* 19: 259–263.

\*Speirs, A, McConnachie, G and **Lowe, AJ.** 2009. Chloroplast DNA from 16th century waterlogged oak in a marine environment: initial steps in sourcing the Mary Rose timbers. In Haslam, Robertson, Crowther, Kirkwood and Nugent (eds) *Archaeological Science Under a Microscope: Studies in Residue and DNA Analysis in Honour of Tom Loy*, Chapter 13, pp 165–179. Terra Australis.

**Te, T, Duval, D, Thorpe, M** and **Ainsley, P.** 2009. Ex situ conservation of threatened South Australian plants. Department for Environment and Heritage, Adelaide.

\***Toelken, HR.** 2010. Notes on *Hibbertia* (Dilleniaceae) 5. *H. melhanioides* and *H. tomentosa* groups from tropical Australia. *Journal of the Adelaide Botanic Gardens* 23: 1–117.

\*Wang, J, Gao, P, Kang, M, **Lowe, AJ.** and Huang, H. 2009. Refugia within refugia: the case study of a canopy tree *Eurycorymbus cavaleriei* in subtropical China. *Journal of Biogeography* 36: 2156–2164.

\*Wilson, JRU, Dormontt, EE, Prentis, PJ, **Lowe, AJ** and Richardson, DM. 2009. The importance of biogeography in defining invasion biology. *Trends in Ecology and Evolution* 24: 586.

\*Wilson, JRU, Dormontt, EE, Prentis, PJ, **Lowe, AJ** and Richardson, DM. 2009. Something in the way you move: dispersal pathways affect invasion success. *Trends in Ecology & Evolution* 24: 136–144.

\*Zhong, J-S, Li, J, Li, L, **Conran, JG** and Li, H-W. 2010. Phylogeny of *Isodon* (Schrud. ex Benth.) Spach (Lamiaceae) and related genera inferred from nuclear ribosomal ITS, trnL-trnF region and rps16 intron sequences and morphology. *Systematic Botany* 35: 207–219.

## Appendix 2: Research Collaboration

Prof Richard Abbot, University of St Andrews and Prof Loren Rieseberg, University of British Columbia, Canada (Prof A Lowe: weed genetics and speciation)

Mr Dylan Burge, Duke University, USA; Dr Melissa Islam, University of Colorado, USA; Dr Lone Aagesen, Diego Medan, Instituto Darwinion, Argentina; Universita de Buenos Aires, Argentina; and Dr Frank Udovicic, National Herbarium of Victoria (Mr Jürgen Kellermann: World-wide phylogeny and re-analysis of the 'ziziphoid clade' of Rhamnaceae)

Mr Dylan Burge, Duke University, USA; and Dr Michael Kiehn, University and Botanic Gardens, Vienna, Austria (Dr Bill Barker: Evolution of nickel uptake in *Stackhousia* and morphological, karyological and molecular evolution in Stackhousiaceae)

Dr Stephen Cavers, Centre for Ecology and Hydrology, UK; and Drs Carlos Navarro and Bryan Finegan, Central American Tropical Research Centre, Costa Rica (Prof A Lowe: Neotropical tree biogeography, phylogeography and gene flow dynamics).

Drs Sean Connell and Bayden Russell, The University of Adelaide, School of Earth and Environmental Sciences, SA (Dr Fred Gurgel: ARC-Linkage 2008–2010 Grant on 'Marine community changes due to climate change')

Dr Sean Connell, The University of Adelaide, SA; Dr Joe Zuccarello, Wellington University, NZ; Dr John West, Melbourne University, Vic; Dr Jonathan Waters, Otago University, NZ; Drs Thomas Wernberg and Mads Thomsen, Edith Cowan University, WA (Dr Fred Gurgel: ARC-NZ Research Network on Marine Plant Phylogeography along Australia-NZ temperate coasts—granted)

Dr John Conran, University of Adelaide. (Mrs Robyn Barker: Correct name for *Lavatera* species transferred to *Malva*.)

Dr Elaine Davison, Curtin University (Mrs Pam Catchside: Australian desert fungal taxonomy)

Mr Peter de Lange, Auckland University, NZ (Dr Hellmut Toelken: *Kunzea* phylogeny)

Dr Dwayne Estes, University of Tennessee, USA (Dr Bill Barker: A world revision of *Gratiola* (Plantaginaceae~Scrophulariaceae))

Dr Paul Hebert, Dr Maria Kuzmina, International Barcode of Life Project & University of Guelph, Canada (Dr Hugh Cross, Prof Andrew Lowe, Grass Barcoding of Life Project (GrassBoL))

Dr Paul Hebert, Dr Maria Kuzmina, International Barcode of Life Project & University of Guelph, Canada; Dr Darren Crayn, Australian Tropical Herbarium & James Cook University, Queensland; Dr Damon Little, New York Botanical Garden, USA (Dr Hugh Cross, Prof Andrew Lowe, Tree Barcoding of Life Project (TreeBOL))

Prof Hong Deyuan, Institute of Botany, Academy of Sciences, Beijing, China (Dr Bob Chinnock: Myoporaceae treatment for *Flora of China*)

Dr Paulo Horta, Universidade Federal de Santa Catarina, Brazil (Dr Fred Gurgel: Taxonomy and population genetics of selected of marine algae from Brazil)

Dr John Huisman, Murdoch University and WA Herbarium (Dr Fred Gurgel: CREEFS project, algae of the GBR, molecular systematics of selected marine algae)

Dr Hope Jahren, University of Hawaii, USA (Dr Hugh Cross, Plant gene expression in the presence of elevated CO<sub>2</sub>)

Prof Antoine Kremer and Dr Remy Petit, National Agronomic Research Institute, France; and Dr Giovanni Vendramin, National Research Centre, Italy (Prof Andrew Lowe: Temperate and tropical tree population genetics)

Prof David Lambert, Massey University, NZ (Prof Andrew Lowe: Evolutionary biology)

Dr Teresa Lebel, National Herbarium of Victoria (Mrs Pam Catchside: Boletaceous truffles; the ascomycete genus *Plicaria* in Australia)

Dr Duncan Mackay, Flinders University, SA (Dr Bill Barker: Biogeography of South Australian flora from State Herbarium specimen data)

Dr Adrienne Markey, WA Herbarium, Perth. (Mrs Robyn Barker: New *Sida* species for WA)

Dr Tom May, National Herbarium of Victoria et al. (Mrs Pam Catchside: Fungimap mapping and documentation of Australian fungi).

Dr Tom May, Dr Teresa Lebel (National Herbarium of Victoria), Dr Richard Robinson (DEC WA & Bushfire CRC), Dr Tina Bell, Alan York (Department of Forest & Ecosystem Science, University of Melbourne), & Sapphire McMullan-Fisher (University of Tasmania). (Mrs Pam Catchside: Review commissioned by Victorian National Parks Association (VNPA) and University of Tasmania: Fungi and fire – management of fungi and environments after bushfire for Restoration Ecology and Management).

Dr Diego Medan and Ms Silvana Gambino, Universita de Buenos Aires, Argentina (Dr Jürgen Kellermann: Flower and fruit morphology of Rhamnaceae, esp. Pomaderreae & Colletieae)

Dr David Merritt, Kings Park Botanic Gardens, Western Australia and Dr Amelia Martyn, Mount Annan Botanic Gardens, New South Wales (Dr Phil Ainsley: predictive longevity of Australian native seeds)

Dr Josephine Milne and Ms Helen Jolley, National Herbarium of Victoria (Mr Graham Bell: *Flora of Australia* treatment of the moss family Pottiaceae)

Drs Ethan Milton and Austin Mast, Florida State University, USA; and Dr Peter Weston, National Herbarium of New South Wales (Dr Bill and Mrs Robyn Barker: A phylogeny of *Hakea* on morphological and molecular evidence)

Prof John Parnell, Trinity College, Dublin, Ireland (Prof Bryan Womersley: Identification of the algal specimens composing the travelling sets used by Irish phycologist William Harvey in his visit to Australia in 1854-5)

Prof Hugh Possingham and Dr Yvonne Buckley, University of Queensland (Prof Andrew Lowe: Biogeography, dispersal and weed population dynamics).

Prof Dave Richardson and Dr John Wilson, Stellenbosch University, South Africa (Prof Andrew Lowe: Weed ecology and evolution – joint *Working for Water Programme* grant, South African Government)

Dr Richard Robinson, Dept of Conservation Manjimup WA (Mrs Pam Catcheside: The genus *Laccocephalum* (stonemakers) in Australia.)

Dr Maurizio Rosetto and Dr Darren Crayn, National Herbarium of New South Wales and Dr Pete Hollingsworth, Royal Botanic Gardens Edinburgh, UK (Prof Andrew Lowe: Plant biogeography and speciation in the Australasian region).

Dr Jennifer Tate, Massey University, NZ, and Dr Michael Crisp, Australian National University, Canberra (Dr Bill and Mrs Robyn Barker: Collaboration on Malvaceae, particularly Malveae, in Australia and New Zealand)

Dr Kevin Thiele, Western Australian Herbarium (Mrs Robyn Barker: Lucid keys to Solanaceae and *Hakea*)

Drs Kevin Thiele, Michael Hislop and Terry Macfarlane, WA Herbarium, PERTH. (Mrs Robyn Barker: New *Abutilon* species for WA)

Darren Thomas, Double Helix Tracking Technology, Singapore (Dr Hugh Cross, Prof Andrew Lowe: Tracking Timber using DNA from Wood)

Dr Frank Udovicic and Mr Neville Walsh, National Herbarium of Victoria; Drs Barbara Rye and Kevin Thiele, Western Australian Herbarium (Mr Jürgen Kellermann: Revision of Rhamnaceae for *Flora of Australia*, *Flora of South Australia*, *Flora of Tasmania*)

Dr Ernst Vitek, Naturhistorische Museum, Vienna, Austria; and Prof Andrea Wolf, Ohio State University, USA (Dr Bill Barker: Karyology, population genetics and phylogenetics in Australasian *Euphrasia*).

Dr Kerry Wilkinson, Wine and Horticulture, University of Adelaide (Dr David Symon: Kangaroo Apple (Solanum subgenus *Archaesolanum*) fruit analysis)

## Appendix 3: Scientific Grants

Dr Hugh Cross. Commonwealth Environment Research Facility Program (CERF), Taxonomy Research Information Network (TRIN), DNA Barcoding of Grasses (\$63,000)

Dr Hugh Cross. Molecular genetics to improve the knowledge of plants in South Australia, DEH. (\$30,000)

### Industry Grants

Dr Phil Ainsley. Iluka Resources Ltd. Plant Restoration research in Yellabinna Regional Reserve (2006-2009)

Dr Phil Ainsley. Millennium Seed Bank, United Kingdom. SACRED Seed Project (2003-2009)

Dr Phil Ainsley. Santos Ltd. SACRED Seeds Project (2009-2013)

Dr Hugh Cross, Prof Andrew Lowe. Double Helix Tracking Technology, Singapore (Tracking Timber using DNA from Wood; \$40,000)

### Competitive Grants

Dr Phil Ainsley. (Australian Flora Foundation Research Grant). Developing a screening tool to determine the impact of climate change on seed germination in threatened native plant species (2009-2010: \$11,500)

Dr Phil Ainsley. (Wildlife Conservation Fund Research Grant). Determining the impact of water stress conditions associated with climate change on germination in threatened plants (2009-2010: \$9,750)

Dr Phil Ainsley. (Native Vegetation Council Research Grant). Investigating the impact of climate change on seed germination in threatened native plants (2009-2010: \$15,000)

Mrs Pam Catcheside, with Prof. David Catcheside (Flinders University). Surveys of macrofungi in parks on Kangaroo Island. Wildlife Conservation Fund.

Dr Hugh Cross, with Dr. Alan Cooper (CI), Environmental Genomics; ARC Linkage (exact amount still being determined)

Dr Fred Gurgel (an Alinytjara Wilurara Integrated National Resource Management project in partnership with the University of Adelaide). A survey of the Great Australian Bight flora (AW NRM jurisdiction).

Dr Fred Gurgel, with Dr Marty Deveney (SARDI), Dr Jason Tanner (SARDI) and Dr Peter Grewe (CSIRO). (ARC Linkage). Ecology, Physiology and Phylogeography: an integrated approach to the study of the invasive marine green macroalga *Caulerpa taxifolia* in Australia (2009-2013; \$315,000).

Dr Fred Gurgel, with John Huisman (Murdoch University) and Gerry Kraft (Melbourne University). (ABRS research grant) Marine Benthic Algae of the Great Barrier Reef, Rhodophyta: first 6 families (2009-2012; \$240,000).

Dr Fred Gurgel. Australian Census of Coral Reef Life (CReefs), 2008-2010.

Prof Andrew Lowe with Jeff Foulkes (2009-2012). National Scientific Reference Site Network—Australian Rangeland Ecosystems. Component of South Australian consortium application (coordinators Meyer W and Lowe AJ) for Terrestrial Ecosystem Research Network. NCRIS-DEST (\$3 million).

Prof Andrew Lowe with Stuart Pillman, Paul Coddington and Chris Jenkins (University of Adelaide) (2009-2012) Eco-informatics—integrating and visualizing ecosystems information. Component of South Australian consortium application (coordinators Meyer W and Lowe AJ) for Terrestrial Ecosystem Research Network. NCRIS-DEST (\$4.5 million)

Prof Andrew Lowe, Hayman P, Bradshaw CJ, Brook B, Cooper A, Dr Fred Gurgel, Ophel-Keller K, Tanner J, Foulkes J, Hamden R (2010-2013) TRansect for ENvironmental monitoring and Decision making (TREND): Adaptive management of productive and native systems for climate change. Premier's Science and Research Fund (\$1.35 million)

Prof Andrew Lowe, part of team lead by Prof Steve Williams (JCU) and including Hughes L, Stafford-Smith M, Possingham H, Hoffman A, Brook B, Pressey B, Williams D, Garnett S, Kitching R, Thomas C and Moritz C (2009-2013). Terrestrial Biodiversity, Adaptation Research Network, National Climate Change Adaptation Research Facility (\$1.6 million)

Prof Andrew Lowe, part of team led by Prof Wayne Meyer, The University of Adelaide (2009-2012) Climate Change, Communities and Environment: Building Research Capability to Identify Climate Change Vulnerability and Adaptation Options for South Australian Landscapes. Premier's Science and Research Fund (\$1.26 million)

Prof Andrew Lowe, The University of Adelaide; with Dr P.M. Schenk, University of Queensland; Prof LH Rieseberg, University of British Columbia, Canada; and Prof RJ Abbott, University of St Andrews, UK. (2006-2009) ARC Discovery: Why do some exotics become invasive? Using ecological and genomic approaches to test alternative hypotheses in an Australian weed, fireweed. ARC Discovery (\$561,000)

Prof Andrew Lowe, The University of Adelaide; with Dr Maurizio Rossetto and Dr Darren Crayn, Sydney Botanic Gardens; Mr Mike Pole, University of Queensland; Prof David Lambert, Massey University, NZ; and Dr Pete Hollingsworth, Royal Botanic Gardens, Edinburgh, UK. (2006-2009) ARC Discovery: Quantifying rates of long distance dispersal and genomic evolution in divergent plant lineages of the SW Pacific region. (\$282,000)

Prof Andrew Lowe with Gunnar Keppel, University of Queensland (2007-2009). Genetic dynamics of lowland rainforest trees on islands in the tropical Southwest Pacific. Australian and Pacific Science Foundation. (\$24, 500)

Prof Andrew Lowe, part of team lead by Prof Dave Richardson (Stellenbosch University, South Africa (2007-2010). Research for integrated management of invasive alien species; Using genetic techniques to improve understanding and management of invasive alien plant species in South Africa. Working for Water Programme, South African Government (South African R 1.4 million—\$200,000).

Prof Andrew Lowe, part of team led by Dr David Paton and Prof Bob Hill, The University of Adelaide (2007-2010). Habitat reconstruction and restoration: securing biodiversity assets in the face of climate change. Working group within ARC Environmental Futures Network (\$57,000)

# Appendix 4: Research Students

## Postdoctorate

Dr Ed Biffin on the evolution and radiation of the Podocarpaceae, supervised by Prof Andrew Lowe. (2007–2010)

Dr Mike Gardner, The University of Adelaide/Flinders University, on climate change refugia and conservation genetics in South Australia, supervised by Prof Andrew Lowe, employed through ARC, DEH and Flinders University. (2006–2012)

Dr Kym Ottewell, The University of Adelaide, on rare plant conservation genetics, supervised by Prof Andrew Lowe in conjunction with Doug Bickerton employed on DEH grant. (2008–2010)

Dr Leanne Pound, The University of Adelaide, on restoration ecology of Yellabinna regional reserve, supervised by Dr Phil Ainsley in conjunction with Prof Jose Facelli, University of Adelaide. (2006–2009).

Dr Peter Prentis, The University of Adelaide, on weed genetics and adaptation, supervised by Prof Andrew Lowe in conjunction with Dr Peer Schenk and Daniel Ortiz, University of Queensland. (2005–2009)

## Ph.D

Ms Rina Aleman, University of South Australia. Investigating the seed biology and germination requirements of *Brachyscome* species in South Australia, supervised by Dr Phil Ainsley in conjunction with Dr Joan Gibbs, University of South Australia and Dr Fleur Tiver, University of South Australia.

Mr Austin Brown, The University of Adelaide. Diversification and speciation in Australian grasses, supervised by Dr Hugh Cross and Prof Andrew Lowe in conjunction with Prof David Cantrill, Royal Botanic Gardens Melbourne.

Mr Martin Breed, The University of Adelaide. Restoration and landscape genetics, modelling and planning, supervised by Prof Andrew Lowe.

Mr Craig Costion, The University of Adelaide. The great Australasian floral interchange; developing phylogenetic methods for biogeography and conservation, supervised by Prof Andrew Lowe in conjunction with Prof Darren Crayn, Australian Tropical Herbarium, Cairns.

Ms Rainbo Dixon, Murdoch University, on systematics of the genus *Sargassum* in Australia, supervised by Dr Fred Gurgel in conjunction with Dr John Huisman, Murdoch University.

Ms Ellie Dormontt, The University of Adelaide, on ecological and genomic approaches to address alternative hypotheses in a recent Australian weed *Senecio*. Supervised by Prof Andrew Lowe in conjunction with Peter Prentis.

Ms Bianca Dunke, Flinders University. Landscape genetics and fire. Supervised by Prof Andrew Lowe in conjunction with M Bull and D Driscoll.

Mr Todd Erickson, University of Western Australia. Investigating the improved usage of *Triodia* species for restoration works, supervised by Dr Phil Ainsley in conjunction with Prof Kingsley Dixon, Kings Park Botanic Gardens, WA, Dr David Merritt, Kings Park Botanic Gardens, WA, and Dr Shane Turner, Kings Park Botanic Gardens, WA.

Ms Patricia Fuentes-Cross, The University of Adelaide. Humans as agents of landscape change in Australia: vegetation turn over and domestication, supervised by Prof Andrew Lowe in conjunction with Dr Maarten Ryder, CSIRO.

Mr James Hereward, University of Queensland. Host association, co-evolution and gene flow in mirids, supervised by Prof Andrew Lowe in conjunction with Prof Gimme Walter, UQ.

Ms Margaret Heslewood, The University of Adelaide, on biogeography of Cunoniaceae, supervised by Prof Andrew Lowe in conjunction with Maruzio Rosetto, National Herbarium of New South Wales; and Prof Darren Crayn, Australian Tropical Herbarium, Cairns.

Ms Fran MacGillivray, The University of Adelaide. Tracking phenological shifts and evolutionary impacts due to climate change, supervised by Prof Andrew Lowe in conjunction with Dr John Conran, The University of Adelaide.

Mr Rohan Melick, The University of Adelaide, on investigating the influence of past climate change on the distribution of *Podocarpus*: Evidence from fossil and molecular data, supervised by Prof Andrew Lowe in conjunction with Prof Bob Hill, The University of Adelaide; and Dr Maurizio Rosetto, National Herbarium of New South Wales.

Ms Jolene Scoble, The University of Adelaide. Novel approaches for assessing historical and contemporary vegetation condition in Australian rangelands, supervised by Prof Andrew Lowe in conjunction with Anita Smyth and Leo Joseph, CSIRO.

Ms Nuttanun Soisup, The University of Adelaide. Molecular Systematics of Marine Macroalgae, supervised by Dr Fred Gurgel and Prof Andrew Lowe.

Ms Emma Steggle, The University of Adelaide. Investigating soil seed bank dynamics of the Western Myall (*Acacia papyrocarpa*) woodland within Yellabinna Regional Reserve, supervised by Dr Phil Ainsley in conjunction with Prof Jose Facelli and Dr Leanne Pound, The University of Adelaide.

Ms Jessie Wells, University of Queensland. Spatial ecology of plant regeneration in secondary rainforests of the wet tropics, supervised by Prof Andrew Lowe in conjunction with Prof Hugh Possingham, UQ.

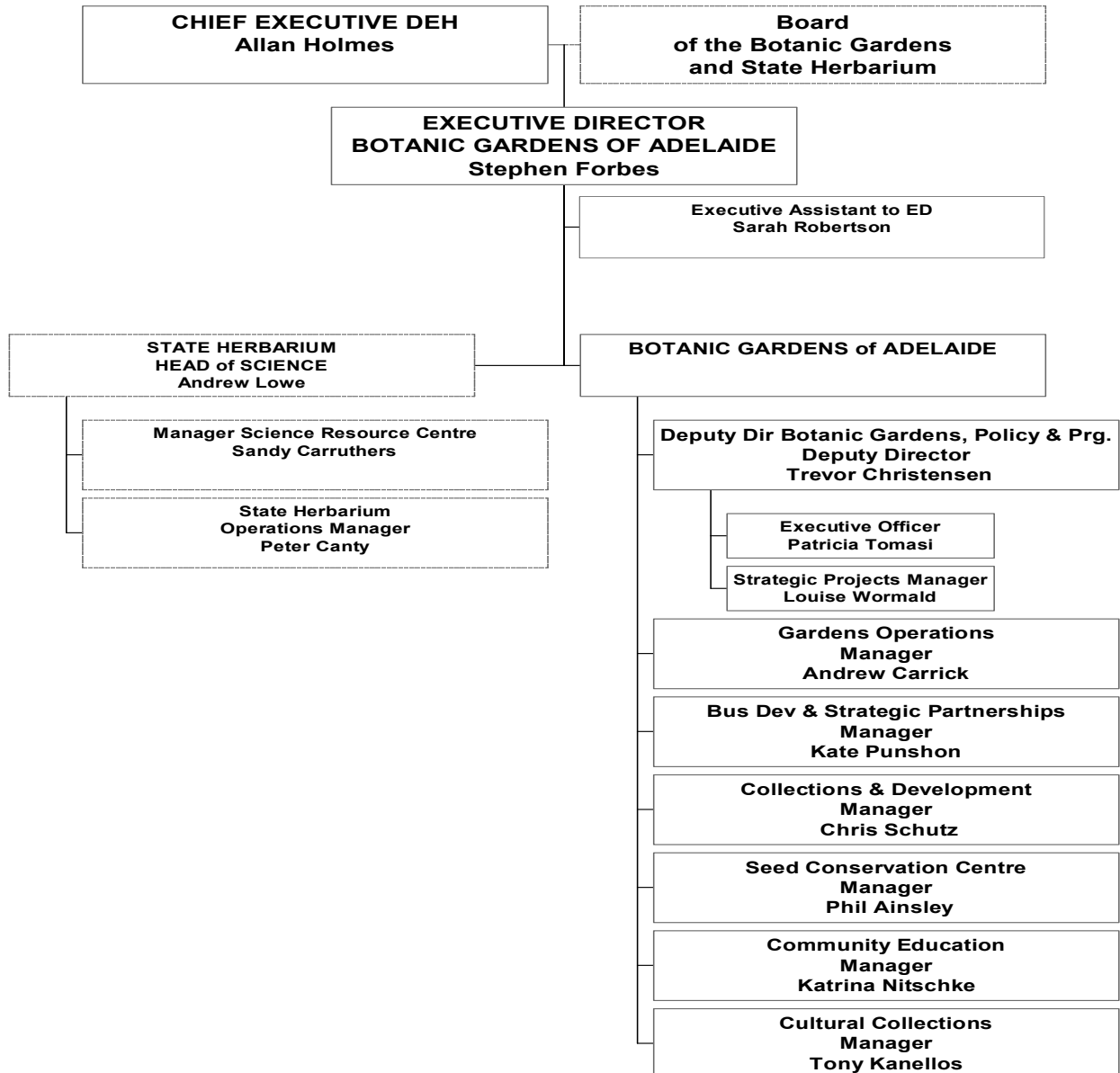
## M.Sc

Ms Fadiya Hallaby, The University of Adelaide. Further investigation of native orange (*Capparis mitchellii*) and native lime (*Citrus glauca*) micropropagation, supervised by Dr Phil Ainsley in conjunction with Dr Michelle Wirthensohn, The University of Adelaide.

Mrs Tracey Spokes, The University of Adelaide. Phylogeography of Selected Australian Macroalgae, supervised by Dr Fred Gurgel in conjunction with Prof Corey Bradshaw.

# Appendix 5: Organisational Chart

## FUNCTIONAL STRUCTURE OF BOTANIC GARDEN AND STATE HERBARIUM JUNE 2010



# Appendix 6:

## Botanic Gardens and State Herbarium Staff List

### Director's Office

Stephen Forbes, Executive Director, Director Botanic Gardens and State Herbarium, and Executive Director, Botanic Gardens  
Phillip Ainsley, Manager, South Australian Seed Conservation Centre  
Helen Bariamis, Support Services Officer  
Claire Bockner, Museum Attendant  
Andrew Carrick, Manager, Garden Operations  
Trevor Christensen, Deputy Director  
K Karen Dankiw, Information Resources Manager  
Daniel Duval, Senior Seed Collection Officer  
Belinda Elliott, Personal Assistant to Deputy Director  
Jenny Guerin, Seed Research Officer  
Manfred Jusaitis, Senior Seed Biologist  
Tony Kanellos, Manager, Cultural Collections  
Stephen Kingdon, Technical Officer  
Adam Lanzafame, Data Base Project Officer  
Steve Meredith, Manager, Schools Education (seconded from DECS)  
Bruce Morphett, Technical Officer  
Katrina Nitschke, Manager, Community Education and Public Programs  
Sheryn Pitman, Project Officer, Sustainable Landscapes  
Kate Punshon, Manager, Business Development and Strategic Partnerships  
Nicole Reynolds, Event Programme Coordinator  
Sarah Robertson, Executive Assistant to Executive Director  
John Sandham, Collections Development Officer  
Christopher Schutz, Collections and Development Manager  
Thai Te, Technical Officer, Seed Collection and Curation Officer  
Gary Thomas, Signage Officer  
Michael Thorpe, Seed Bank Curation Officer  
Patricia Tomasi, Executive Assistant to the Board of Botanic Gardens and State Herbarium  
Lorrae West, Librarian  
Serena Williams, Project Officer, Community Gardens  
Louise Wormald, Strategic Projects Manager

### Adelaide Gardens

Arja Ala-Saarela, Ticket Officer  
Paul Arbon, Horticultural Curator  
Tracey Bateman, Operational Support Officer  
Jordan Behrndt, Gardener  
Bevis Bonney, Gardener  
Peter Borgelt, Gardener  
Gillian Bormann, Gardener Trainee  
Dennis Bosworth, Asset Maintenance  
Neville Bottger, Ticket Officer  
Peter Bowron, Handyperson  
Darryl Byfield, Gardener  
Lisa Duffy, Gardener Trainee  
Graham Dunn, Gardener  
Andy Hart, Gardener  
Stephen Higgins, Senior Gardener  
Peter Kannemann, Assistant Gardener  
June Littleford, Ticket Officer  
David Lock, Traffic Officer  
Stuart Maitland, Gardener  
Hugh Matthews, Gardener Trainee  
Judy Morton, Ticket Officer  
Adam Pannell, Gardener  
Daryl Ruciak, Gardener Trainee  
Carolyn Sawtell, Gardener  
Cliff Sawtell, Horticultural Supervisor  
Karen Smith, Gardener  
Nicholas Stagg, Ticket Officer  
Siegfried Stoeger, Asset Manager  
Cheryl Thwaites, Ticket Officer  
Enzo Vidoni, Horticultural Supervisor  
Petrina (Jade) White, Gardener Trainee  
Sharon Wilcox, Gardener  
Ross Williams, Painter  
Paul Winter, Gardener



**Mount Lofty and Wittunga Gardens**

Tony Anderson, Gardener  
Valdis Balodis, Gardener  
Penny Beumer, Horticultural Project Supervisor  
Evan Brougham, Gardener Trainee  
Graeme Burdett, Horticultural Team Leader  
Angus Coulls, Gardener Trainee  
Matt Coulter, Plant Propagator  
Mark Devlin, Horticultural Curator  
John Edgar, Gardener  
Nicky Fidler, Horticultural Curator  
Scott Foubister, Gardener  
Simon Hales, Garden Trainee  
Robert Hatcher, Horticultural Supervisor  
Stephen Havriluk, Senior Maintenance Officer  
John Henson, Gardener  
Elizabeth Knight, Horticultural Curator  
Craig Lowe, Horticultural Supervisor  
Christine Miljanovic, Nursery Coordinator  
Nick Milton, Garden Trainee  
Mark Oborn, Horticultural Curator  
Renie Ondo, Gardener  
John Ostbye, Horticultural Supervisor  
Cameron Peoples, Gardening Trainee  
David Pepper, Maintenance Officer  
David Rice, Maintenance Officer  
Craig Sherrah, Gardener  
Grant Walsh, Gardener  
Melissa Whyte, Operational Support Officer

**State Herbarium**

Andrew Lowe, Head of Science  
Bill Barker, Chief Botanist & Manager Systematics and Genetics (to 10 September 2009)  
Robyn Barker, Census and Flora Keys Coordinator (part-time)  
Graham Bell, Senior Botanist (acting Chief Botanist from 10 September 2009)  
Chris Brodie, Weeds Botanist  
Sandy Carruthers, Manager, Science Resource Centre  
Peter Canty, Operations Manager  
Hugh Cross, Molecular Botanist  
Dean Cunningham, Technical Officer  
Gilbert Dashorst, Botanical Artist  
Fred Gurgel, Marine Botanist  
Juergen Kellerman, Senior Botanist - Flora Coordination  
Kerry Lansdale, Administrative Support Officer (from 19 May 2010)  
Martin O'Leary, Technical Officer  
Andrea Ramsay, Technical Officer  
Carolyn Ricci, Technical Officer (Phycology) (part-time)  
Jean Steele-Henderson, Data Capture Officer  
Helen Vonow, Collections Manager

**Honorary Research Associates**

Bob Baldock  
Bill Barker  
Robyn Barker (part time)  
Pam Catcheside  
Bob Chinnock  
John Jessop  
David Symon  
Hellmut Toelken  
Bryan Womersley

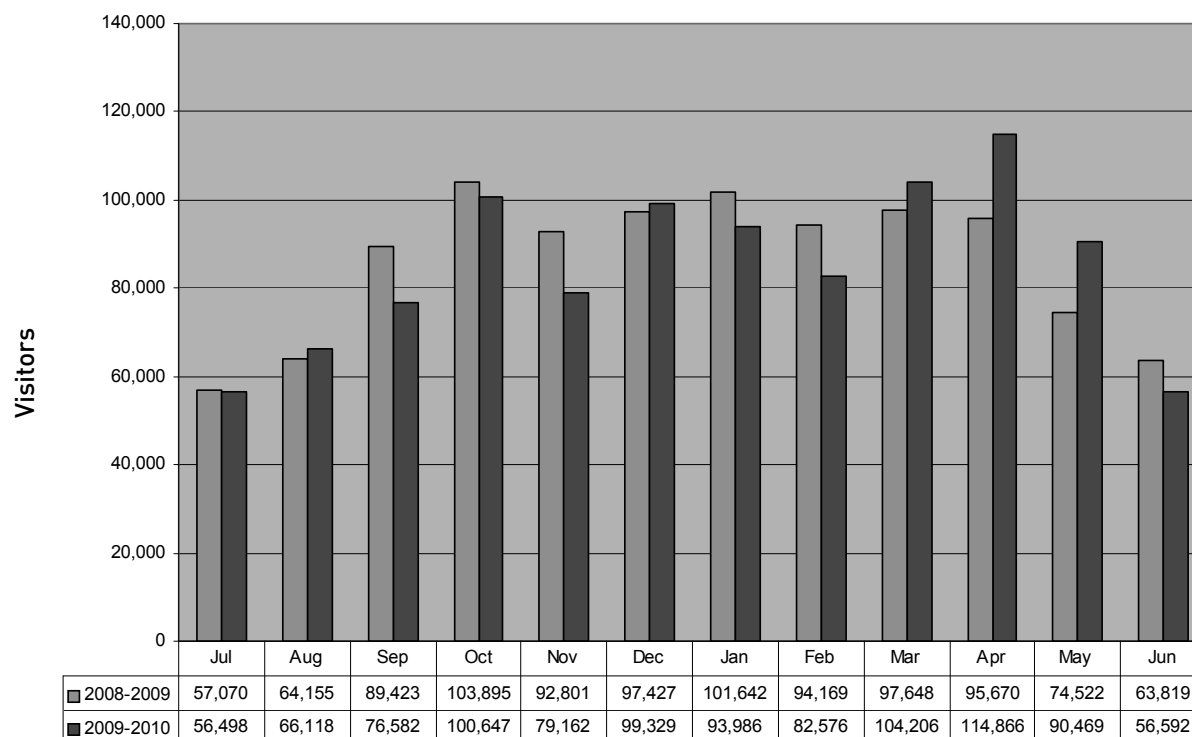
**Honorary Affiliates**

John Conran, University of Adelaide  
Molly Whalen, Flinders University

# Appendix 7: Visitor Numbers

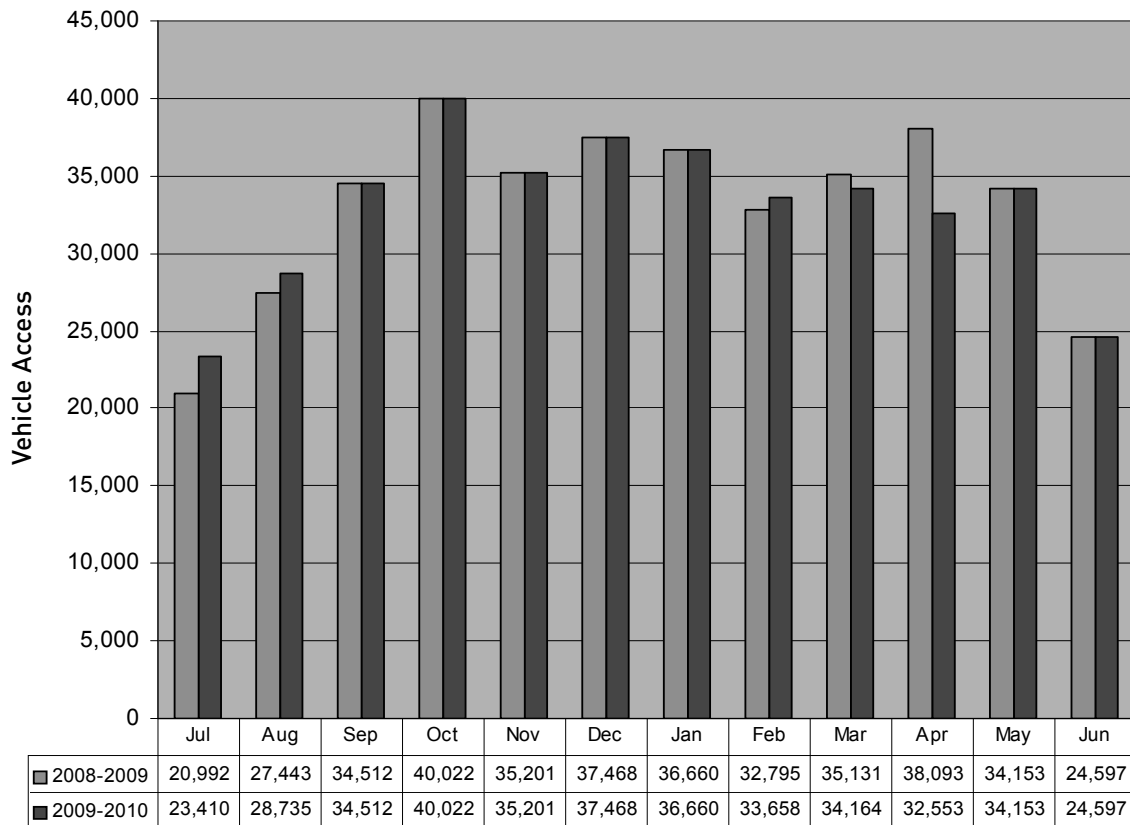
## 1. Adelaide Garden

### 1.1 Adelaide Botanic Garden Attendance



Adelaide Botanic Garden	
Total Jul 2008 to matching month	1,032,241
Total Jul 2009 to June 2010	1,021,031

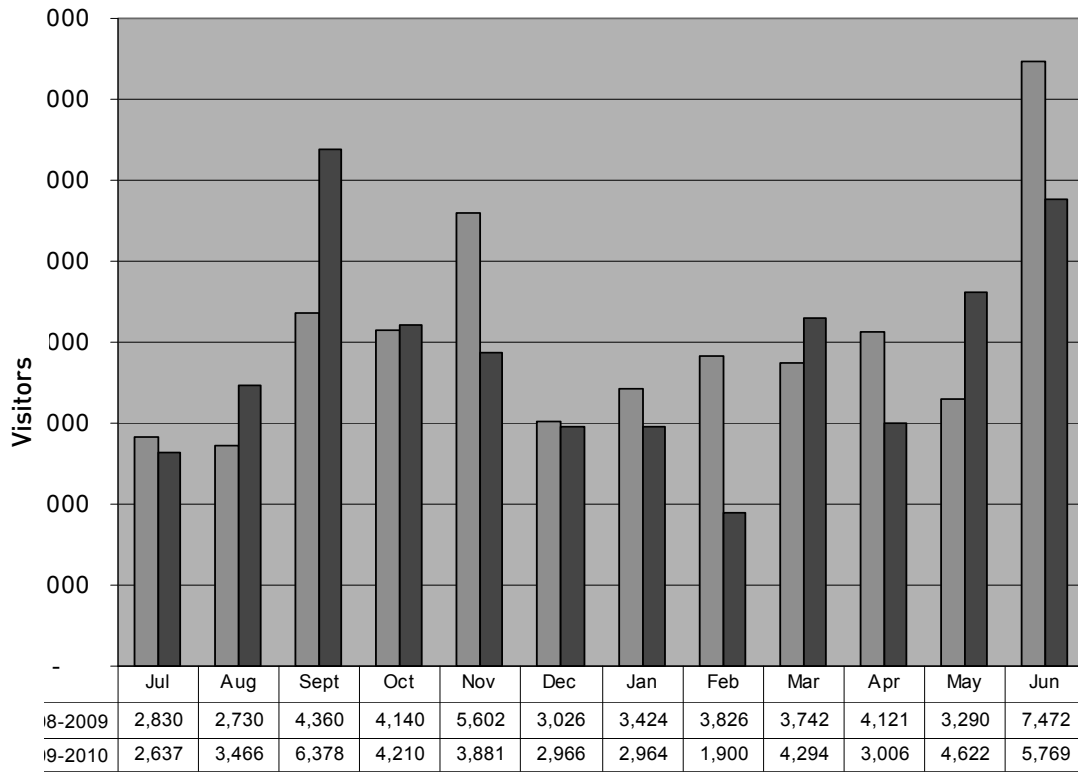
## 1.2 Adelaide Botanic Park Vehicle Access



Adelaide Botanic Park Vehicle Access	
Total Jul 2008 to matching month	397,067
Total Jul 2009 to June 2010	395,133

Visitor counter not working due to construction work on Plane Tree Drive.  
 June 2010 figures are estimates only, based on previous year's figures.

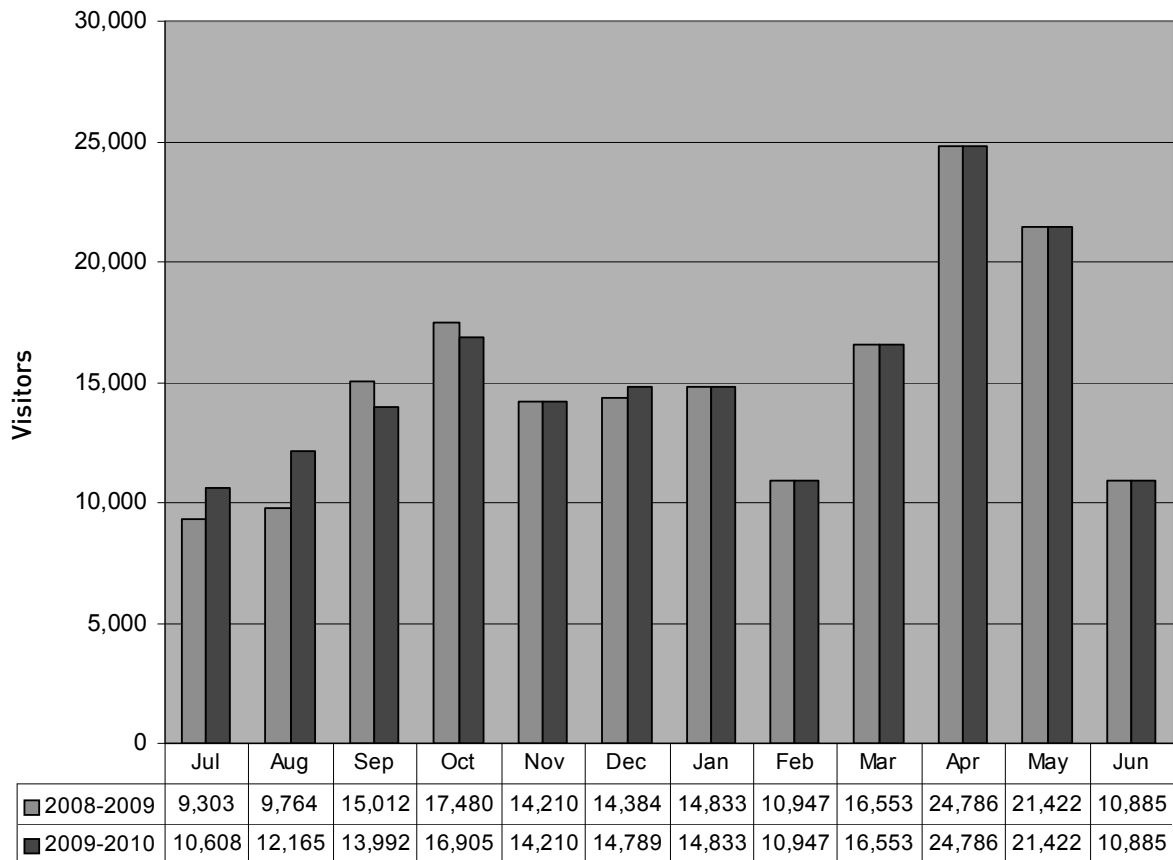
### 1.3 Bicentennial Conservatory Attendance



Bicentennial Conservatory	
Total Jul 2008 to matching month	48,563
Total Jul 2009 to June 2010	46,093

## 2. Hills Gardens

### 2.1. Mount Lofty Botanic Garden Attendance



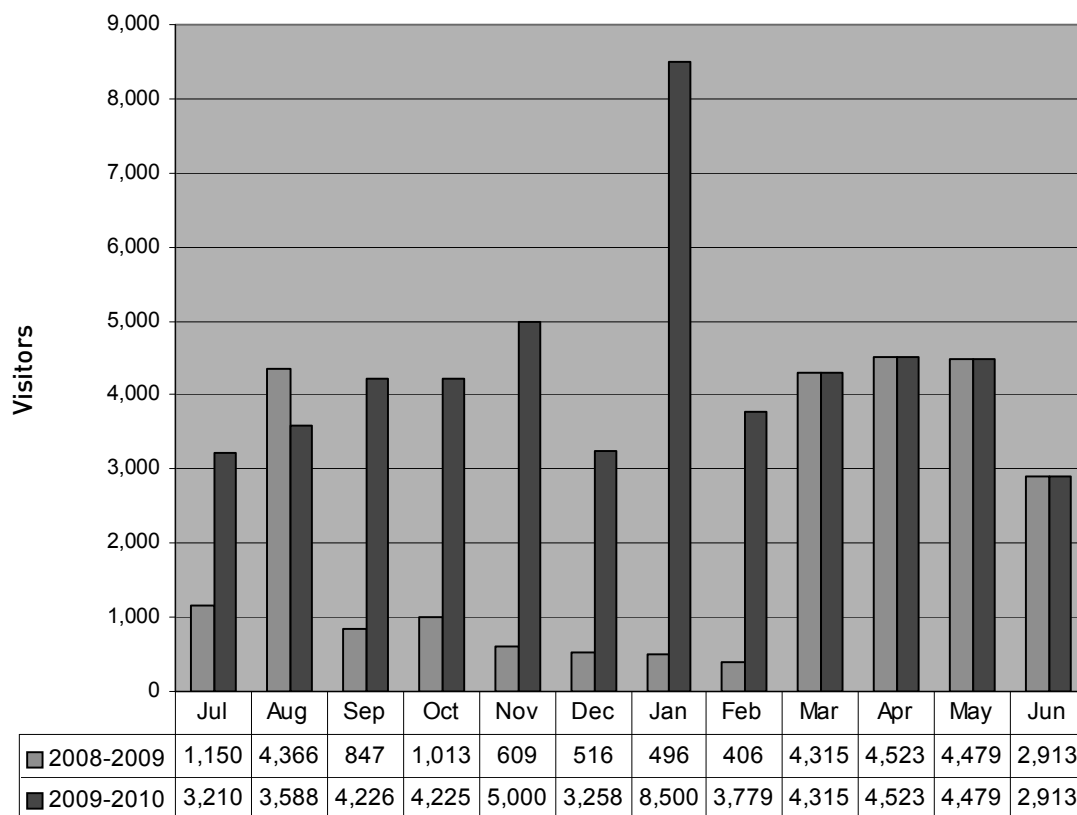
Mount Lofty Botanic Garden	
Total Jul 2008 to matching month	179,579
Total Jul 2009 to June 2010	182,095

The visitor data services software application used to obtain figures is not completely reliable.

The current system for collecting visitor numbers is under review.

June 2010 figures are estimates only, based on the previous year's figures.

### 3. Wittunga Botanic Garden



Wittunga Botanic Garden	
Total Jul 2008 to matching month	25,633
Total Jul 2009 to June 2010	52,016

The visitor data services software application used to obtain figures is not completely reliable.

The current system for collecting visitor numbers is under review.

June 2010 figures are estimates only, based on the previous year's figures.

# Appendix 8: Friends of the Botanic Gardens of Adelaide Inc.

## Patrons

His Excellency Rear Admiral Kevin Scarce AC CSC RANR  
Governor of South Australia and Mrs Scarce

## Office Bearers

President: Mrs Helena Jenkinson  
Vice-President: Vacant  
Immediate Past President: Mrs Lesley Hawkins  
Treasurer: Mrs Anne Bowman  
Secretary: Mrs Judy Morton

## Current Membership

Current Membership 900

## Objective

To foster interest in the Botanic Gardens of Adelaide and to raise funds which may be used for any purpose which has the approval of the Board as being of benefit to the Botanic Gardens.

## 2009-2010 Program

July 2009 Tour of Museum of Economic Botany  
Photographic competition and exhibition  
Gazette mailout  
Prof A Lowe, guest lecturer for Garden Guides on Trees and Climate Change

August 2009 FBGA general meeting in Noel Lothian Hall (speakers: Tony Kanellos and Peter Emmett)  
Warraparinga bus tour  
Art exhibition  
Propagation workshop at MLBG  
Dr Phil Ainsley guest lecturer for Garden Guides on Work of the BGA Seed Conservation Centre

September 2009 Beginners botanical art workshop  
Newsletter mailout  
Bus tour to Blythe  
Q&A with Bruce Morphet  
PickPoint workshop  
Growing group plant sale MLBG  
Action plan review  
Teddy bear exhibition and Winnie the Pooh walk  
FBGA Twilight Talk on oral history in

presence of patrons His Excellency and Mrs Scarce

Garden Guides discussion of Heat Policy and visit to Bicentennial Conservatory preparatory to special 20th Anniversary walks in November

October 2009 Plant sale Adelaide Botanic Garden  
Bus tour of 3 Gardens  
Botanical art workshop  
Gazette mailout

Aboriginal People and Their Plants – Talk and walk in conjunction with Friends of the Adelaide University Library  
Highlights of China tour

New members morning tea  
Oliver Mayo, guest lecturer for Garden Guides on Charles Darwin and his plants

November 2009 FBGA general meeting in Noel Lothian Hall (speaker: Sophie Thomson)  
Temari Balls workshop  
Basketry SA exhibition  
Uraidla Garden Expo  
Video morning  
Nick Fidler, Guest lecturer for Garden Guides on fern propagation

December 2009 Woodturning exhibition  
FBGA Newsletter mailout  
Christmas lunch

January 2010 FBGA Gazette mailout  
Botanical art workshop  
John Sandham, guest lecturer for Garden Guides on development and publication of BGA's new Plant Catalogue

February 2010 FBGA general meeting in Noel Lothian Hall (speakers: David Lawry, TreeNet; Trevor Klein, Zoo SA)  
DVD morning tea  
Coffee morning  
Dr Victor Gostin, guest lecturer for Garden Guides on climatic crises and human history

March 2010	FBGA participation in ABC Garden Show Coffee and chat in North Lodge for members FBGA Twilight Talk in Noel Lothian Hall by Nicky Fidler and Marilyn Kuchel Renmark trip Botanical art workshop Offered plant propagation workshop Plant sale MLBG Sheryn Pitman, guest lecturer for Garden Guides on new native garden	May 2010	FBGA general meeting in Noel Lothian Hall (speakers: Prof Andy Lowe and David Bell) Coffee and chat in North Lodge KESAB papermaking workshop Plant sale MLBG Traffic Control Centre lunch History Week – Walks by Guides History Week exhibition in North Lodge Steve Meredith, BGA Education Officer, guest lecturer for Garden Guides on World Environment Day Friday 4 June
April 2010	Community garden day walks Coffee and chat in North Lodge for members Quiz night and trading table Plant sale ABG Stirling Autumn Garden Festival participation Day bus tour Adelaide Hills Tasting Australia walks Trevor Christensen, Acting Deputy Director, guest lecturer for Garden Guides on poisonous plants	June 2010	Garden Guides participation in World Environment Day FBGA Newsletter mailout Coffee and chat in North Lodge Story telling for children in North Lodge DVD with lunch Stourhead Garden Botanical art workshop Games afternoon Plant sale MLBG

### Support provided to Botanic Gardens and State Herbarium

Carpet Cleaning North Lodge	<b>\$175.00</b>
Gwen Thomas Bursary - 1 Horticultural Staff Award	<b>\$4,000.00</b>
Books to ABG Library	<b>\$3,000.00</b>
FBGA Parking	<b>\$1,700.00</b>
Mt Lofty Botanic Gardens Bus Tours	<b>\$518.60</b>
Monthly Self-Guided Walk Trails in 3 Gardens	
Advertising and distribution of Botanic Gardens of Adelaide publications	
Volunteer hours in Santos Museum of Economic Botany	
Volunteer hours in Visitor Information Centre	

### FBGA Sub-Committees

**The Botanical Art Group** has had 5 very successful workshops this year with renowned Botanical Illustrators. The group has weekly art sessions in the Lecture Theatre, Goodman Building and also has beginners art classes. Artworks are for sale at the annual Art Exhibition and occasionally in local art exhibitions.

**Craft Group** members under convenor Kym Bracco meet each month at North Lodge. Handcrafted goods will be for sale at the Plant Sales and used in fundraising raffles

**Friends of the Botanic Gardens of Adelaide Gazette**, edited by Dr Ed McAlister, is published seasonally with articles from staff and Friends. A team of volunteers organises distribution to Members, Staff and allied associations in South Australia, interstate and New Zealand.

**The Growing Group**, coordinated by Richard Rowland, continued propagating at Mount Lofty Botanic Garden with material collected from the three gardens. A wide variety of plants are propagated now that restrictions have been lifted. Plant sales were held in spring and autumn in the Adelaide Botanic Garden, and began on the fourth Sunday monthly from March 2010 in Mt Lofty Botanic Garden. The group attended a propagation workshop by Matt Coulter.



**The Garden Guides**, with Cheryl Thwaites as Guide Leader, continued daily walks in Adelaide Botanic Garden, weekly spring walks in Wittunga and weekly walks in Mount Lofty. Booked walks are also conducted and minibus tours of MLBG by arrangement. Guides continued to research and develop the self-guided walk trails on a monthly basis in all three botanic gardens. Special walks were researched and designed to complement exhibitions at North Lodge, Santos Museum of Economic Botany and Art Gallery of SA.

Garden tours were conducted on Open Days at Government House as were special walks for occasions such as Tasting Australia and History Week. The Garden Guides also play a major role in World Environment Day. The Garden Guides meet on the Third Wednesday of each month and any fifth Wednesdays.

For the year 545 walks with 4438 visitors were taken by 607 Guides. Of the 21 walks in the Bicentennial Conservatory, 8 were specially booked.

**North Lodge** houses the Friends' book collection and Guides' resource material. The annual Photographic Competition and Exhibition attracts many entries and visitors. *Storytelling for Littlees* was started in June 2010 and because of its popularity will continue monthly. The wide range of exhibitions and workshops held for Friends and visitors to the Adelaide Botanic Garden included: Woodturning, Calligraphy, China Painting, Embroidery, Botanical Art and Basketry exhibitions; and Mahjong, Basketry and Craft workshops. The Friends aim to have North Lodge open for members and visitors everyday.

**The Friends Office** and the Herbarium have an arrangement for the distribution of *Nature Revealed, Sturt Pea and Plants of Adelaide Plains and Hills*.

In the **Plant Biodiversity Centre and the State Herbarium Library** volunteer Friends frequently assisted staff with a diversity of tasks such as preparing specimens for mounting, identifying plants, checking incoming exchange or large loans, and upgrading collections; and data input and sorting of miscellaneous material in the library.

### **Museum of Economic Botany**

Several Friends volunteer in the Museum of Economic Botany to enable it to remain open 7 days a week. They meet monthly to upgrade their skills.

**Visitor Information Centre** a number of Friends volunteer in the Schomburgk Pavilion Visitor Centre provide valuable information for visitors to the Botanic Gardens.

### **Seed Bank**

A volunteer worked in the glass house adjacent to East Lodge under the direction of Dr Phil Ainsley.

### **Tours**

The Tours Group has initiated many interesting activities for the Friends this year including illustrated talks, walks in the gardens, local day trips and excursions.

### **Outreach Program**

This group is being set up to provide speakers to aged-care facilities, service groups, senior citizen clubs etc, to promote the Botanic Gardens of Adelaide and the Friends, as well as providing an educational role.

### **Community Events**

This group coordinates the Friends' attendance at garden shows such as the ABG Gardening Show, Royal Show, and Hills Garden and Environmental Expo, at which we promote the gardens and our organisation through photos, brochures and information.

### **Publications and Presentations**

- Self-guiding walks pamphlets prepared for free distribution to visitors in the three gardens
- Guided Walks Brochures revised
- Radio and television presentations promoting Board and Friends activities
- Website redesigned with continually updated information.
- A colour brochure of birds found in the ABG (republished)

### **Affiliations**

Australian Guide Secretariat, Federation of Friends of Museums, Garden Clubs of Australia, Association Management – Not for Profit Sector. Association of the Friends of the Botanic Gardens of Australia. President is an Ex-Officio member of the ABG Foundation.

We are grateful to the Board of the Botanic Gardens and State Herbarium for providing the use of North Lodge, nursery space at Mount Lofty, and an office, and lecture room facilities in the Goodman Building and Noel Lothian Hall. Without these our volunteer activities in supporting the Botanic Gardens would be considerably reduced. The commitment made by the Director and/or Head of Gardens in attending Friends committee meetings is particularly valuable. We acknowledge that the money raised and the many volunteer hours given by the Friends of the Botanic Gardens of Adelaide could not have been achieved without the generous support of the Board and staff.

Board of the Botanic Gardens and State Herbarium

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