

# THE BOTANIC GARDEN

A Newsletter for the Botanic Gardens of Australia  
and New Zealand - [www.bganz.org.au](http://www.bganz.org.au)



'Mackay Regional Botanic Gardens - Aerial View of Visitors Centre'

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## THE BOTANIC GARDEN

### Editorial Committee:

<b>Dr Philip Moors</b>	Director and Chief Executive, Royal Botanic Gardens Melbourne and BGANZ President
<b>Dr Tim Entwisle</b>	Executive Director, Botanic Gardens Trust, Sydney
<b>Mr Mark Fountain</b>	Deputy Director Collections and Research, Royal Tasmanian Botanic Gardens and BGANZ Council Member
<b>Ms Helen Paulsen</b>	Manager Parks and Regional Gardens, Mackay Regional Council and BGANZ Vice President
<b>Managing Editor:</b>	Brigitta Wimmer
<b>Graphic Designer:</b>	Kerryn Gourlay

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## EDITORIAL

### Groups, themes and surveys

*Philip Moors*

From 1 April our four regional groups - in New Zealand, Queensland, New South Wales and Victoria - have had formal status under BGANZ's constitution. They have been operating informally for several years, but it is very pleasing now to have them and their operations officially recognised. The four regional committees have been active in supporting botanic gardens in their areas through meetings, workshops and information exchanges. I'm most appreciative of all the time and enthusiasm given by committee members, and confidently look forward to continuing success for the groups.

One group that's been particularly busy lately is Queensland – preparing for our next Congress in Mackay from 8-11 October hosted by the Mackay Regional Botanic Gardens. Detailed information about the conference, papers and field trips is given elsewhere in this issue. It's going to be another informative and productive Congress, so don't miss it or the opportunity to exchange experiences and ideas with botanic gardeners from both sides of the Tasman.

Commencing in this issue of *The Botanic Garden* is a regular feature with news and views from Botanic Gardens Conservation International (BGCI), the global botanic gardens and plant conservation agency. BGCI has its headquarters in the grounds of the Royal Botanic Gardens, Kew and has a very active international program of capacity-building and biodiversity conservation projects, especially in developing countries (I can recommend browsing BGCI's website at [www.bgci.org](http://www.bgci.org)). BGCI played a central role in preparing the *Global Strategy for Plant Conservation* and is in the forefront of advocating how botanic gardens can respond to the challenges of climate change. I look forward to the regular BGCI column and to further strengthening the links between BGANZ and BGCI.

Another innovation for *The Botanic Garden*, this time commencing in November, will be 'themed' issues. The first will address 'Water management in botanic gardens' with a series of practical articles for gardens of all sizes, ahead of what, regrettably, is shaping up to be another El Nino dry year in southern Australia. In the March 2010 issue the theme will be 'Arts and events in gardens', and in the July 2010 issue 'Horticulture and zoos: interactions of plants and animals'. We're keen to receive submitted articles for these themes, so if you're interested in preparing one please contact Brigitta Wimmer at the BGANZ Secretariat.

BGANZ Council is also keen to hear from members (and non-members!) about your views on the activities of BGANZ, whether these meet the needs of the botanic gardens community, and what our future priorities should be. A working group has prepared an online survey (see page 5) and the results of the survey will be presented and discussed in a workshop at the Congress on 9 October facilitated by Anne Duncan from the Australian National Botanic Gardens. Please have your say and complete the survey so that we can make BGANZ even more relevant to botanic gardens and the challenges and opportunities we all face.

I look forward to seeing you in Mackay in October for a wonderful Congress.

**BGANZ Biennial Congress**  
**REGIONAL REALITY: PLAN(E)T PRIORITY**

Mackay Regional Botanic Gardens, Queensland  
**Thursday 8 October to Sunday 11 October, 2009.**

For more information or to register - [www.wombatcreative.com.au/bganz.htm](http://www.wombatcreative.com.au/bganz.htm).

## **The Regional Reality: BGANZ Congress in Mackay**

*Dale Arvidsson*

Our numerous botanic gardens are many things to many people. From the staff at the heart of research, conservation and preservation, to the community groups and visitors who use the various gardens as green recreational spaces – there's a vested interest in botanic gardens by many people.

It's been a tumultuous year – from global economic crises, to flood, bushfires and extended drought. Funding for many botanic gardens has been whittled back to bare bones and exciting and important research projects placed on hold. On the surface, it may seem like an unlikely time to be hosting a congress of BGANZ in a Queensland Regional Centre from October 8-11, but it's a time to show strength and support in numbers and present how vital the work of botanic gardens is to our numerous funding bodies and the wider community.

The congress this year will be held in subtropical Mackay on the central Queensland coast. The Mackay Regional Botanic Gardens is just six years old and the 48 hectare site is being developed via ten stages over a 15-year development period. It's exciting that a regional city of 90 000 residents better known for sugar and mining has benefited from a city council with the vision and foresight to develop a botanic garden, in a time when sporting and recreational facilities often receive funding and public support first. Regional botanic gardens face regional realities away from the capital cities, whilst still meeting the challenge of global conservation, preservation and climate change – our plan(e)t priorities. At the heart of the congress is a mix of presentations and workshops designed to address these issues whilst allowing us all to talk, learn and take back to our gardens a wealth of new ideas and knowledge.



Mackay Regional Botanic Gardens  
M. Harrison  
Desert Rose in Malta Garden

As congress hosts – we in Mackay are looking for your help and advice. As a young garden, we experience many of the teething problems associated with new projects – a unique climate of ‘feast or famine’ – with flooding rains or no rain at all for months, a barren and windy greenfield site, a natural environment area full of exotic weeds and isolation from techniques and experience away from the capital cities and well established botanic gardens. The congress will allow us to ask you to share your experiences and contacts to make this fledgling botanic garden into something very special over time. There will be many interesting speakers at the Congress covering a wide range of topics. The list is too long to include here, but make sure you check them out at <http://www.bganz.org.au>.

A field trip on Sunday following the congress will take place to the beautiful highland rainforests of Eungella National Park, hosted by the Society for Growing Australian Plants - Queensland Region, Mackay Branch. Another option will be a tour through the Botanic Gardens with the Mackay Regional Botanic Gardens Friends Association Inc. and botanic gardens staff.

### **BGANZ Congress 2009 – Attendance Grants and AGM**

As in previous years BGANZ Council agreed to provide financial assistance to people wishing to attend the Congress in Mackay. The offer was very popular, and grants have been approved for fifteen people representing predominantly regional botanic gardens from Queensland, New South Wales, Victoria, Tasmania, Western Australia and New Zealand.

We are certain that this significant BGANZ member benefit will be of assistance to staff in botanic gardens that may otherwise not be able to take advantage of this opportunity for information exchange and networking.

And don't forget that BGANZ will be holding its AGM at the beginning of the Congress: **Thursday, 8 October, 5.30–6.30 pm**. We hope to see you there!

### **Survey 2009 - Have Your Say on BGANZ**

As many of you will know by now BGANZ is asking for your help to evaluate our member services to ensure that BGANZ continues to be relevant and meet the needs of our members. We would like you to share your thoughts and opinions on our current services and outline ideas you may have to improve them in the future. Your active participation will be helping the association a great deal.

The timing of this survey should give us some results for further discussion in a workshop during the **Regional Reality: Plant Plan(e)t Priority** Congress in October in Mackay, Qld. Following the congress, BGANZ Council will be in a better position to set future priorities for BGANZ.

To allow us sufficient time to analyse your responses before the workshop please complete the survey by **31 August 2009**.

Click link to start the online survey:

[http://www.surveymonkey.com/s.aspx?sm=wsM\\_2b\\_2fOv8R4lflzsJmxyZbg\\_3d\\_3d](http://www.surveymonkey.com/s.aspx?sm=wsM_2b_2fOv8R4lflzsJmxyZbg_3d_3d)

## BGANZ Newsletter – The Botanic Garden

As you have read in the Editorial (and the current web survey mentions this as well), in future we would like to have issues of *The Botanic Garden* developed around specific themes.

Issue	Theme	Contributions deadline
Nov 2009	Water management in botanic gardens	October 31st 2009
March 2010	Arts and events in gardens	February 31st 2010
July 2010	Horticulture & zoos: interactions of plants & animals	June 31st 2010

**No extensions** to these dates will be possible, because this is already quite a tight time frame – but early submissions are always most welcome.

Please consider whether you would be able to contribute to any of these themes – or maybe all of them?

We look forward to receiving your responses on the survey and newsletter contributions. Any questions or comments please contact [bganz.secretariat@environment.gov.au](mailto:bganz.secretariat@environment.gov.au).

## REPORTS

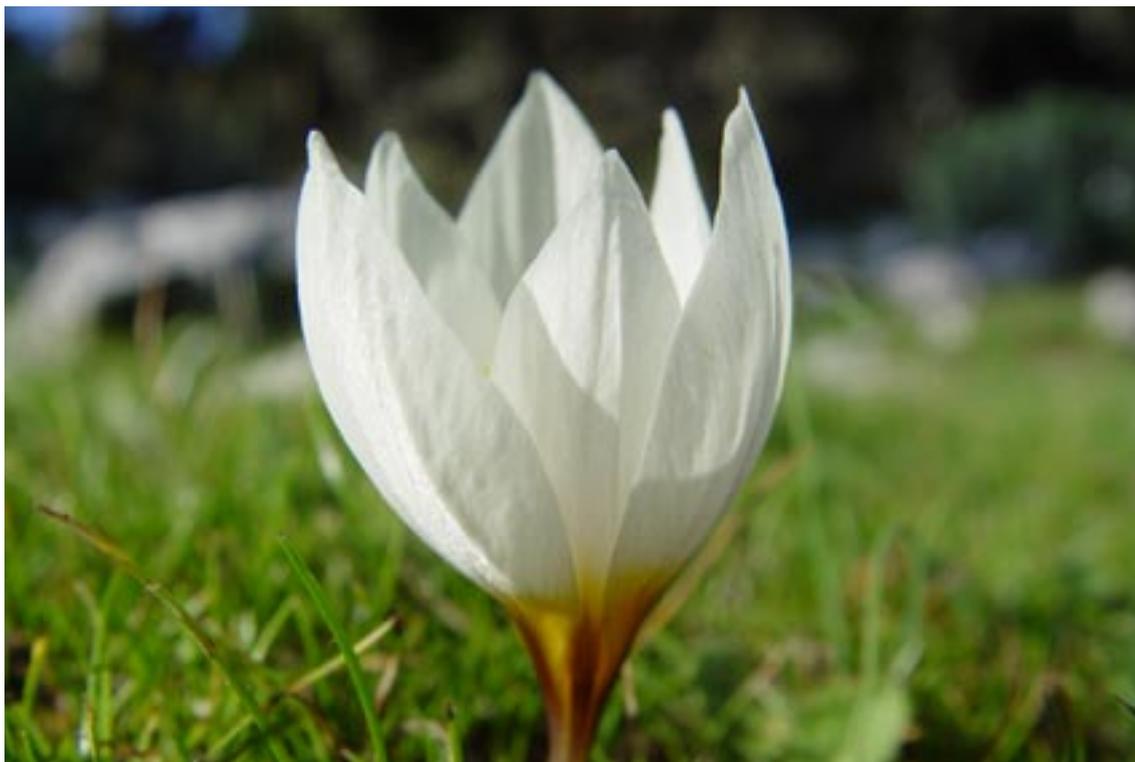
### News from BGCI

*Belinda Hawkins*

As usual it's been a busy few months for BGCI!

We've recently published '[Conserving Europe's threatened plants: Progress towards Target 8 of the Global Strategy for Plant Conservation](#)', launching it at the fifth [European Botanic Gardens Congress](#): Botanic gardens in the age of climate change, in Helsinki, Finland.

The continuing loss of biodiversity in Europe is a major concern, with less than half protected species and habitats considered to be in favourable conservation status.



BGCI *Crocus hadriaticus*  
subsp. *hadriaticus*, Cephalonia.



BGCI *Campanula andrewsii*  
subsp *andrewsii*, Peloponese

Target 8 of the [GSPC](#) calls for 60% of threatened plants in ex situ collections and 10% of them in recovery programmes by 2010. Since there is no European Red List of Plants, there has previously been no means to measure progress towards this target. Now we have a list, it gives us some means to prioritise actions and ensure the 60% target is met by 2010.

From our consolidated list of threatened plants we have identified some 42% as being present in seed banks or living collections in botanic gardens around the world, so there is still much to be done.

We've also recently developed a new [Global Distribution of Botanic Gardens mapping applet](#). Using latitude and longitude details nearly all the institutions in [GardenSearch](#) (both BGCI members and non-members) have been included. You can use the applet to locate botanic gardens near and far, or perhaps those in similar climatic zones. However, some countries have the odd missing record; for example, Argentina has 38 botanic gardens for which we do not have accurate enough location details to be able to map. [Click here for a list of institutions for which we need latitude and longitude data](#). Please [get in touch with us if you have this information](#), we'd love to hear from you.

We were thrilled when the Korea National Arboretum decided to translate our '[Plants and climate change: which future?](#)' report into Korean. It was finished and launched in May as part of their 10-year anniversary celebrations. BGCI was there to join in and mark this great occasion.

The BGCI education department is buzzing - we have some exciting new climate change education resources and activities almost ready to be launched – we've been working with a design company and so are really excited about the resources. [The Fairchild Challenge BGCI](#) option was also a great success, with children entering their climate change and plants cartoons. Next year the challenge will go global and involve designing the front cover of a CD single to be launched by an up-and-coming new UK band! Details will be on [our website](#) soon.

We're all travelling quite a lot, with recent trips to Italy, Madagascar, Georgia, Finland and to the US. We're also getting ready for BGCI's 7th International Congress on Education in Botanic Gardens, 1 - 6 November 2009, Durban, South Africa. The title is: '*Action Learning: places, spaces and partnerships for biodiversity and human wellbeing*.' We think this encapsulates the dynamic and relevant role of botanic gardens today. [Visit the Congress website for more information and how to register.](#)

And of course there's the 4<sup>th</sup> Global Botanic Gardens Congress in Dublin, Ireland, 13 - 18<sup>th</sup> June 2010. The Congress theme is: '*Addressing global change: a new agenda for botanic gardens*'. [Find out more here.](#)

Last but not least, our Red List of Maples is due for publication over the coming months with the Red List of Rhododendrons following later in the year. Of our serial publications, the next issue of *Roots* is on the International Year of Biodiversity, due in October this year and the next *BGjournal* is on Botanic Gardens and Sustainability, due out in July.

## **Flying Foxes to stay another year in Sydney's Botanic Gardens**

*Dr Tim Entwisle*

It is now too late to relocate the flying-foxes from Sydney's historic Royal Botanic Gardens this year. The window of opportunity is May to July – after breeding and before the flying-foxes are settling down to carry their young.

While the State Government has given approval, discussions are continuing with the Commonwealth Government. Even if a decision is made swiftly, it will take several weeks to set up the necessary research and monitoring before starting the noise disturbances.



BGT Sydney flying foxes  
T Entwisle

We expect the flying-foxes to relocate relatively quickly to other Sydney camp sites, probably within two weeks. But we do need to allow for contingencies, such as a new camp being established in an unsuitable area and further relocation being needed. Two months would be ideal.

So the flying-foxes stay another year. The camp arrived in the Royal Botanic Gardens 20 years ago, after a 70-year absence from this site. In those two decades we have lost 18 mature trees – about one a year. The camp peaks to about 22,000 animals in summer but drops to about 5000-10,000 in winter.

Good rainfall and excellent tree care have allowed the trust to nurse through many of the most severely affected trees, but as each year passes we stand to lose another of our majestic specimens.

While the approvals quite rightly take into account the welfare of the flying-foxes, they cannot take into account the damage caused to one of the world's great botanical collections. The Commonwealth are doing their job, considering our application under the terms of the *Environment Protection and Biodiversity Conservation Act 1999*, but what about the health and long-term viability of our botanic gardens?

Let me make it clear, it's not the botanic gardens or the flying-foxes. The Trust is confident it can safely relocate flying-foxes: the same techniques were used successfully to move a similar sized camp in Melbourne six years ago and to reduce numbers here in Sydney in the 1990s. If nothing is done, the botanic gardens will be trashed and the flying-foxes will need to move to find a new place to camp, as they did twenty years ago when they returned to the botanic gardens.

Mass planting of fast-growing trees as roosting sites isn't the answer. The tree collection is of immense scientific and heritage importance, and demonstrates the diversity of the world's flora. We have started collecting seed from the wild to propagate and eventually restore the Palm Grove.

The 192-year old Royal Botanic Gardens is listed on the National Trust Register as a Landscape Conservation Area, and under the NSW Heritage Act as an item of Environmental Heritage. The Conservation Management Plan for the Royal Botanic Gardens identifies the whole site to be of exceptional national, state and local significance.

The Palm Grove, where most of the bats roost, is one of the older and more significant landscapes in the Gardens. The trees date back to the 1820s, and most of the palms to the 1860s. We've already lost a magnificent Kauri pine (*Agathis moorei*) collected by Charles Moore from New Caledonia in 1850. Of most concern at the moment is a Red Cedar collected from Parramatta in 1822 by the first head of the Botanic Gardens, Charles Fraser, and a *Flindersia* collected on the Oxley Expedition to the Brisbane and Logan Rivers in 1828.

There are 48 species of wild-collected palms, many of them rare in cultivation. Our *Pritchardia maideniana* were for many decades the only mature specimens of this species thought to exist in the world. Just a few years ago our collections were used to confirm the identity of a possibly natural population rediscovered in Hawaii.

Several new fungal species have been discovered and described from palms in the Palm Grove so these specimens become what we call 'type localities' – important scientific reference points. There are also many trees which are difficult to collect or rare in the wild, providing critical specimens for scientific study.

Under our current licences we've done all we can to deter the flying-foxes from the most sensitive trees. We've tried python poo, toilet crystals, shrimp paste, strobe lights, directed water sprays (when water was more freely available), plastic bags tied to branches, and even the colourful Inflatable Man. Over the next year we may have to net a few of the more important trees. None of these measures offer any long-term solution.

The relocation technique is proven and safe, and is essential if we are to save Australia's oldest botanic garden and its tree collection.

For more about Sydney's botanic gardens and plants, follow [talkingplants.blogspot.com](http://talkingplants.blogspot.com).

## **A new sandstone garden for Eurobodalla Regional Botanic Gardens (ERBG)**

*John Knight*

The ERBG is a unique garden which grows only the plants occurring naturally within the Eurobodalla Region. The Region is defined by the 3 major rivers which flow through the Shire, the Tuross River in the south, the Deua (Moruya) River which flows through the central area, and the Clyde River which rises near Sassafras, on the Nerriga to Tomerong Road, and flows through the Morton and Budawang National Parks on its journey to the sea at Batemans Bay.

Possibly the most recognisable feature of the Budawang Range is Pigeon House Mountain, named by Capt. James Cook in 1770 as he sailed towards Botany Bay aboard HMS "Endeavour". Said Cook "...a remarkable peaked hill which resembled a square dovehouse with a dome on top and for that reason I called it Pigeon House"

This area is the lower edge of the Sydney Sandstone Basin, and many plants growing here are at the southern limit of their range. Once covered by sea, vast deposits of sedimentary sands have been lifted to lofty heights and then eroded to leave the heavily dissected plateaux we see today. The soil in this area is formed of medium sized grains of sand cemented together with silica clay, or cemented quartz grains.

The new garden will showcase the range of plants growing in this tough environment. The garden also tells the story of the Clyde River, and its environs as it snakes its way to the sea. Many plants from the area have proved difficult to establish on our heavier and poorly drained shale/clay based soils. In an attempt to overcome drainage problems, this new garden uses crushed sandstone, ranging in size from 20mm to particles of single grains, as the main component of its growing substrate. To this was added 25% by volume of fine, sterilised pinebark and 10–15% of quarry overburden. This overburden is the soil layer which covers the sandstone layers and is discarded before quarrying begins. It contains all the living organisms and humus needed for the plants to grow successfully in their natural environment.

Our heavy clay was removed from site to a depth of 30 cm, and the subsoil deep ripped another 30 cm before the new soil mix was brought to the site. In effect the sandstone soil varies in depth from 30 cm to 90 cm, as the garden profile was built up against sandstone boulders which form the Clyde River gorge. This gorge is formed in the garden by a winding recirculating waterway, which twists through a tight bend between the boulders, representing the Clyde River as it flows wildly through the narrow gorges.

There are 2 ponds, the first representing the calmer upper reaches of the river, and the second representing the river as it broadens and flows gently into the sea.



Sandstone garden  
J Knight Eurob

The garden is in its very early stages, with planting having commenced in March 2009. All plant material was collected under licence from the sandstone areas, and propagated by Gardens Volunteers. To help get the young plants established, they were first potted into a mix of 50% potting mix and 50% of the sandstone soil they would eventually be growing in, with only 30% of the fertiliser which would generally be used for the pot size.

This proved a very effective strategy, as the young plants grew into tight little bushes, with very healthy green foliage and strong root development. By planting time, some had been in containers for 12 months, and suffered little from transplanting. We did of course have losses, some unexpected, but generally the plants have done well, although growth is slow. It remains to be seen if the right soil has been used, and the plants become long lived, but more importantly grow in a manner which warrants their retention in a contrived public landscape.

In general we have used plants from the heathy areas rather than forests. The garden is in full sun, and affected by frosts up to -5 degrees. So far about 600 plants are in place with a further 400-500 still to go in. To make the garden work as a stand-alone feature, planting is mixed as would be found in a heathland. However, to assist people to recognise the range of plants and their relationships, some Families are featured as groups. These include Proteaceae (*Banksia*, *Grevillea*, *Petrophile* and *Isopogon*), Rutaceae (*Boronia*, *Zieria*, *Philotheca*) Myrtaceae (*Calytrix*, *Baeckea*, *Melaleuca*) and Epacridaceae (*Epacris*, *Styphelia* and *Leucopogon*).

*Banksia oblongifolia* - J Knight Eurob



The design of the garden encourages detailed inspection, with wide gravel paths, and closely placed boulders inviting adventurous visitors into the gorge area, across the “river” and through the plantings. Just be aware that some friendly Red-bellied Black Snakes make their home nearby.

As with most small botanic gardens, the ERBG is always short of funds to build new features such as this. So we are indeed indebted to the Friends of ERBG, who through their Trust Fund raised the money necessary to buy the materials. The landscape design was donated by Warwick Ralph of Cabbagetree Landscapes, Sydney. The rocks and soil were sourced from Hell Hole Quarry Tomerong. The quarry manager was very accommodating in allowing us to select the rocks we thought would best suit, although he did suggest we had rocks in our heads when he found we were to use his roadbase for soil. Tony Nott of Skyline Tree Services at Mossy Point donated his truck, crane and 2 workers to help place the rocks. Finally I must applaud the efforts of our many volunteers who worked so diligently to make the project a success.



Christmas bells - J Knight Eurob

Planting begins in sandstone - J Knight Eurob



## Rain, rain everywhere. Water problems at the North Coast Regional Botanic Gardens.

*Ian Corbett*

The recent floods across Northern N.S.W have had a significant effect on the North Coast Regional Botanic Garden, although not in the way that we expected. Since January this year we have had over 1,148 mm of rain. At one point we had rain for 68 out of 120 days. We have had two minor and one major flood when we had over 1m of water flooding the rear of the gardens. Surprisingly, this did not cause major damage; we lost a lot of mulch and a few seats. As the water rose and receded quickly the plantings weren't harmed. However, it took all of our staff and volunteers three weeks to clean up the area. The existing plantings survived the flood waters well; the problems were to come in the following weeks.



The Community Vegetable Garden after the Flood

The main effect from the heavy rains has been water-logging of our soils. For the last year we have had high rainfall every month and our garden beds have been sodden and unworkable for over three months. Over this time we have lost numerous trees and shrubs that are more adapted to drier areas. Many of these have survived here for over 15 years, and have suddenly died. Similarly during the droughts some five years ago we lost many plants that couldn't cope under the dry climate regime. With limited staff and volunteers it can be very difficult and time consuming to locate and curate replacement plants, this is where our time and efforts are needed most.

This is prompting some interesting conversations about how we organise our collections. Large areas of our garden are organised geographically into sections such as China, South America, Queensland etc. We also have an extensive Rare and Endangered section. By organising our collections this way we have a mixture of plants that all require different cultural requirements in the same beds. It's now very difficult to change this.



The new Japanese Garden as the flood recedes

We think that organising plants by Family may be equally fraught as many plant species in the same Family groups have vastly different requirements. Many have suggested that we install sub surface drainage, however this will be costly. Another issue for us (and I believe that there are other gardens in similar circumstances) is that the gardens have been built over a night cart reclamation site. This gives us a whole range of surprises every time we dig. It has also meant that many of our early tree plantings are shallow rooted. This was a problem as we had 130 km/hr winds straight after the floods and this destabilised and blew over many of our trees.



Fallen tree in our water-wise garden. We lost 3 trees this size

So we are looking at a long-term project to have a raised bed section in every area to improve drainage and allow for planting diversity. This will be a long-term project due to cost restraints and the difficulty of finding good soils. However, first we will need to do a complete review of our plantings and devise a new planting plan. Oddly enough we have just started to install a new irrigation system for the entire Garden using reclaimed water, so drought conditions will not pose any real issues in the future, and hopefully the weather will clear.

## **News from the Australian National Botanic Gardens**

*Steve Speer*

### **Signage upgrade in the Gardens**

Visitors to the Australian National Botanic Gardens will soon be welcomed by new directional and information signage. The first change visitors will experience is new primary information signage, landscaping and seating in the visitor precinct.

As visitors wander the main path they will be greeted by four new information signs. These three panel information signs list the Garden highlights, focus on activities in that area and briefly introduce the nearby plants. The signs are designed to complement the Visitor Guide and Map.

The new directional signage consists of 65 poles with directional blades installed throughout the Gardens. Although handsome and ageing well, the previous dark green modular directional signage was inflexible and couldn't effectively handle multiple directions. They also had a tendency to be lost in the foliage due to their height and colour.

Finally, the icing on the cake for any attraction is education and interpretation. Although face to face interpretation is usually the best way to communicate messages to visitors it is very labour intensive and resource hungry and, for some visitors, not their preferred method of receiving information. This is where the ever faithful interpretive sign comes into its own, patiently waiting day and night for interested visitors.

New rainforest gully interpretive signs have been developed to replace the existing set of panels which were at least 20 years old. The panels are designed to: (i) provide up to date and informative information about the rainforest gully and rainforest plants, (ii) encourage visitors to observe and use a range of senses in the natural environment and (iii) reinforce messages about environmental behaviour.

Effective information, directional and interpretive signage will help visitors move confidently through the Gardens and encourage exploration of the upper reaches, knowing that they will be able to get back to the car park and Visitor Centre precinct - the 'centre of the universe' in the directional signage system.

### **Consulting the nation**

Consulting the local and national community is an important part of the ANBG management planning process. During April and May, discussions on current perceptions of the ANBG and expectations of a national botanic garden were held with community members across Australia.

The findings from this consultation are helping staff as they review our different roles and operations and also set our future priorities.

In addition, a comparative study of six capital city botanic gardens was undertaken so as to conduct an in-depth examination of the work and profile of the ANBG. More than 30 staff from the botanic gardens agreed to be interviewed and such topics as the role of a national botanic garden, governance, financial management, and science and conservation priorities were investigated. The findings from this study are being analysed so as to help the management planning.

Some of the findings from the national consultation are reported in the monthly management planning newsletter. If you would like to subscribe to the newsletter and keep up to date with the management planning process at the Australian National Botanic Gardens, please send an email with your name/s and information about your town/city of residence to: [anbgplan@anbg.gov.au](mailto:anbgplan@anbg.gov.au)

### **Education – I go everywhere, from ...**

*Borden, Cobar, Renmark, Kojonup, Wickelup, Tharwa, Henty, Goulburn, Toowoomba, Horsham, Evans Head, Mudgee, Strathfield, Noarlunga Downs ... ANBG education programs go everywhere!*



Students enjoying an education program at the ANBG

11,000 students from schools located in mainland capital city regions to provincial and remote areas across Australia enjoyed an educational experience in the Australian National Botanic Gardens last financial year – a truly national botanical education program.

### **Non-Potable Water for Irrigation**

The ANBG received welcome news from the National Capital Authority (NCA) recently that they would be able to provide a temporary abstraction licence for Lake Burley Griffin for the ANBG. This was the result of successful discussions between the ANBG, NCA and the ACT government and means that the Garden's water infrastructure improvements, including non-potable water for irrigation, can finally go ahead. Construction is likely to commence in spring.



ANBG staff on a field collecting trip to the Alpine region of NSW

### **Conserving the Australian Alps**

The ANBG has forged a collaboration with Australian National University, the University of Queensland and the Friends of the Australian National Botanic Gardens in a new project aiming to conserve the delicate plant biodiversity of the Australian Alps. This project received funding in the latest round of the Australian Research Council linkage grants.

### **A Strategic Master Plan for The Royal Tasmanian Botanical Gardens**

*Mark Fountain*

The Royal Tasmanian Botanical Gardens (RTBG) has released a Strategic Master Plan designed to guide the Gardens through the next 20 years and beyond.

The RTBG has undertaken a highly considered approach to strategic planning based on the belief that organisations like Botanic Gardens, responsible for collections that may live for hundreds of years, need to take the long view.

This Strategic Master Plan is the most comprehensive planning effort ever undertaken by the RTBG and sets out a clear vision for the future of the Gardens. It provides the strategic framework to enable the Gardens to confidently manage its whole estate including its collections, the landscape, the heritage assets and the hundreds of thousands of visitors who come to Gardens each year. The Plan will be used to guide long-term planning, future developments, budgets, business activities, fund-seeking and broader precinct management issues.

The plan identified a number of exciting and ambitious projects addressing future growth and development that will help the RTBG to meet its responsibilities as a contemporary botanic institution.

In the short to medium term the plan has adopted a pragmatic approach, targeting achievable changes and development across all aspects of operations including the botanical collections, cultural heritage, sustainability, visitor services, asset management, commercial activities and interpretation

The plan incorporates practical management strategies and links to information provided by four ancillary plans developed concurrently with the Strategic Master Plan – the Living Collections Plan, the Thematic Interpretation Plan, the Conservation Plan, and a Visitor and Community Survey. These plans will help the Gardens with decision making and policy development for all areas of the Gardens' management from its important botanical collections to its iconic place as a visitor destination.

The plan was formulated in accordance with the *Royal Tasmanian Botanical Gardens Act 2002* and was prepared in consultation with a broad range of stakeholders including visitors, members of the public, and staff.

Implementing the Strategic Master Plan will ensure that the Royal Tasmanian Botanical Gardens will remain a vibrant institution and much loved and popular place for Tasmanians and visitors into the future

The Strategic Master Plan and the associated ancillary plans are all available for download on the RTBG website <http://www.rtbg.tas.gov.au/>

### **Sharing Data at the RTBG**

*James Wood, Mark Fountain*

Trying to find information on germinating wild plant species is often a frustrating process. This aspect of the flora has not been researched to any great degree, and much of the work that has been done is scattered through books and journals making access to information for smaller institutions and individuals difficult. For this reason the Royal Tasmanian Botanical Gardens is proud to announce that the Germination Database of our Tasmanian Seed Conservation Centre is now publicly available on the RTBG website.

Based on the principle of Open Disclosure set out in the RTBG's Plant Conservation Policy (which states "*we will endeavour to make all our conservation data and information publicly available as soon as practically possible*"), we believe this information will be more valuable where it can be freely accessed by all.

The database currently contains over 2000 tests on over 400 taxa and coverage is continually expanding. We will be updating the database several times a year to incorporate the continuing testing taking place at the Tasmanian Seed Conservation Centre. Long term the seed bank aims to hold multiple provenance collections for most of Tasmania's flora, and we expect to conduct germination tests on most of our collections.

In addition, we have provided over 28 pages of supporting content to explain the principles of seed conservation, the science of seed germination and dormancy and how the laboratory techniques used at the Tasmanian Seed Conservation Centre can be adapted to home use.

**The main index page is here**

[www.rtbg.tas.gov.au/seedbio](http://www.rtbg.tas.gov.au/seedbio) <<http://www.rtbg.tas.gov.au/seedbio>>

**The seedbank is here**

[www.rtbg.tas.gov.au/tsc](http://www.rtbg.tas.gov.au/tsc) <<http://www.rtbg.tas.gov.au/tsc>>

**The germination database is here**

[www.rtbg.tas.gov.au/tasgerm](http://www.rtbg.tas.gov.au/tasgerm) <<http://www.rtbg.tas.gov.au/tasgerm>>

Your feedback on the germination data and the support pages is greatly appreciated.

## ARTICLES

### Blaze destroys Santa Barbara Botanic Garden, California

<http://www.bgci.org/resources/news/0592/>

For several nights in May the Jesusita Fire raged in Santa Barbara, California. 5,000 homes were evacuated and 18,000 people were affected. The rapidly moving blaze burned nearly 3,000 acres.

The [Santa Barbara Botanic Garden](#) (SBBG) also sustained significant damage from the fire. Although much of the 'heart' of the Garden--its magnificent Meadow, Manzanita, Arryor, and Teahouse Exhibits--remain intact, it did suffer much destruction in other areas. These include most of the riparian corridor, Porter and Pritchett Paths; sections of the Desert and Redwood Exhibits; the historic Campbell Bridge and the Redwood Treering Exhibit. Also destroyed were the Director's Residence, a historic structure used by the horticulture staff for offices and staff and at least one lath-house. The century-old Gane House (pictured below), a large Craftsman-style home, which was to be restored and become the SBBG administrative centre, was engulfed by flames, leaving little more than three brick chimneys standing – and one shovel: a favourite of Mr. Wyatt, Director of Horticulture, was found intact in his unscorched office.

Lost inside were all the gardening tools, horticultural materials, the metal shop that made tags to identify plants, overstock of books published by the garden, and the office contents and computers of the head gardener and facilities maintenance man. Biofuel gardening trucks parked outside were also destroyed.

*"Obviously we're very heartbroken. It's a large, large loss for us,"* said Nancy Johnson, the garden's vice president of marketing and government relations. She also said the garden was saved by a decision last year to spend between \$300,000 and \$400,000 on six hydrants. *"The firefighters told us that had those hydrants not been installed, they couldn't have saved the other buildings,"* she said.

The flames were fanned by record temperatures and strong winds of up to 80km/h. Experts predicted that California would face a growing threat from wildfires because of climate change and development that has pushed homes further into woodlands.



Santa Barbara Gane House

## ARAZPA – BGANZ Connections

Gary Fry

Quite by coincidence, there is a botanic gardens group and a zoo and aquarium group that crosses the Tasman Sea. [ARAZPA](#), the Australasian Regional Association of Zoological Parks and Aquaria has member aquaria and zoos in Australia and New Zealand. [BGANZ](#), Botanic Gardens of Australia and New Zealand, also has member botanic gardens in both countries. Both associations have annual visitation across their combined membership well in excess of 10 million each. Both have exceptional visitor education programs, and both are involved in some very good science. The members of both groups manage living collections that are arguably becoming of greater importance as habitat is increasingly fragmented and altered, and as the global climate changes.

Some of the botanic gardens are involved with the [Millennium Seed Bank Project](#) (MSBP), the largest ex situ conservation project ever conceived. Its partners will have banked seed from 10% of the world's wild plant species by the end of the decade. All gardens offer people some time out from their busy lifestyles, a restorative place where hearts may again beat at a slow and steady pace.

Australian and New Zealand aquaria and zoos contribute to the Australasian Species Management Program (ASMP). Zoos and aquaria work to conserve wildlife in the natural world. Pivotal to working to conserve wildlife in the natural world is the understanding that to be truly effective, those institutions cannot work in isolation. Zoos and aquaria in Australasia operate as part of a cooperative network, through the ASMP, particularly in the selection and management of the species they hold. Zoos also offer people some contact with nature, with evidence suggesting there can be an improved state of mind as a side benefit of that visit.

Both gardens and zoos are increasingly offering their visitors experiences that are hopefully leading to behavioural change. Both gardens and zoos have much to learn from, and offer, each other, both inside and outside their associations.

In 2011, ARAZPA and BGANZ will have their first combined conference, hosted in Alice Springs. This conference will bring together skilled practitioners, scientists and policy makers from both groups. They will share stories of how local gardens, wildlife groups, aquaria and zoos are working together to bring about truly sustainable communities.

In the meantime, visit that other vital collection in your neighbourhood. No matter which side of the fence you work, you will be working deliberately or otherwise with that other group - flora or fauna. Consider joining the other association, ARAZPA or BGANZ as an individual member. Details are on their websites - [www.arazpa.org.au](http://www.arazpa.org.au) and [www.bganz.org.au](http://www.bganz.org.au). And consider joining us in Alice Springs in 2011 as we celebrate our combined work with (some of the) life sciences.

## ITEMS OF INTEREST

### Plant Germplasm Conservation in Australia

Edited by C.A. Offord and P.F. Meagher

Published by Australian Network for Plant Conservation in partnership with Australian Seed Conservation and Research

**Launch, 3<sup>rd</sup> September, 2009 Royal Botanic Gardens, Melbourne**

In 1997 the ANPC produced the *Germplasm conservation guidelines for Australia - an introduction to the principles and practices for seed and germplasm banking of Australian species*. Given the advances in germplasm conservation over the past decade and the need to document these, the ANPC recognised the need to update the guidelines. In partnership with Australian Seed Conservation and Research (AuSCaR), the ANPC has produced *Plant Germplasm Conservation in Australia, strategies and guidelines for developing, managing and utilising ex situ collections* (2009). The new publication provides up-dated guidelines and standards for the capture, storage and use of wild-plant germplasm for long-term conservation in Australia, including the recovery of threatened plant species and the conservation of genetic diversity in the face of climate change. The guidelines have also been written so as to be accessible and useful to shorter-term projects in the restoration and revegetation industry and community sectors.

The new guidelines will be launched as part of the AuSCaR and Millennium Seed Bank Project's (MSBP) Native Seed Forum. The forum will be held over two days to celebrate the achievements of the MSBP in Australia.

Also on the same day the Australian seed conservation community will take the opportunity to launch the strategic plan of the Australian Seed Bank Partnership. This new partnership will take on the work of AuSCaR over the next ten years to deliver a safety net for Australia's native plant species.

For more information on the launch of Plant Germplasm Conservation in Australia or the Native Seed Forum please contact the ANPC office 02 6250 9509 ([anpc@anpc.asn.au](mailto:anpc@anpc.asn.au)) or Tom North 08 9480 3969 ([Thomas.north@bgpa.wa.gov.au](mailto:Thomas.north@bgpa.wa.gov.au))

### Conferences and Events

#### Conference, Climate & Ecology

#### 10th International Congress of Ecology

**16 - 21 August 2009, Brisbane**

Ecologists from around the world will explore how global climate change has impacted, and will further impact, ecosystems and their vital services to human communities.

The meeting will bring expert ecological commentary on a range of vital processes including land and water use, sea level change, restoration of ecosystems, biotic invasions, changing water patterns, urban ecology and fire ecology. It will include discussions on long term monitoring of ecosystems, on incorporating ecological knowledge into policy, on integrating indigenous knowledge into conventional science, and on communicating ecological information to a broader community.

## **Ecology in a Changing Climate, 10th International Congress of Ecology**

16-21 August 2009, Brisbane

<http://www.intecol10.org>

## **Landscape Australia Expo Melbourne**

26-28 August 2009, Melbourne Showground

<http://www.landscapeexpo.com.au>

## **Xth Australasian Bryophyte Workshop**

30 August – 5 September 2009, Manjimup, WA

Email to [Louise.Biggs@dec.wa.gov.au](mailto:Louise.Biggs@dec.wa.gov.au)

## **Australian Landscape Conference 2009: Designing the Liveable Landscape**

11-15 September 2009, Camberwell Centre, Camberwell, Vic

<http://www.landscapeconference.com>

## **Charles Darwin University Symposium**

22-24 September 2009, Darwin Convention Centre, NT

<http://www.cdu.edu.au/cdss>

## **BGANZ Victoria Plants Forum – ‘Conservation and Collections’**

23-24 September 2009, City of Ballarat/Ballarat Botanic Gardens

Email to [bindy@smalldog.com.au](mailto:bindy@smalldog.com.au) or visit [www.bganz.org.au/news.html](http://www.bganz.org.au/news.html)

## **Australian Plants in the 21st Century**

### **ANPSA 2009 Biennial Conference**

Australian Native Plants Society (Australia) – formerly ASGAP

GEELONG, 26th September - 2nd October 2009

Each state and the ACT take it in turn to host the conference and this year it is being held in Geelong, Victoria's second largest city, and Australian Plants Society Victoria is the host.

The program includes talks by knowledgeable and entertaining speakers (including BGANZ members), excursions to the Otway Ranges and Royal Botanic Gardens Cranbourne and guided tours to Victoria's diverse bioregions eg Melbourne gardens and South Gippsland, the Grampians and the Little Desert, the Otways and the Shipwreck Coast, and the Goldfields to the Murray River.

Convenor: Paul Kennedy, PO Box 220, Strathmerton VIC 3641

Ph (03) 5874 5239, Email [hakeaholic@aapt.net.au](mailto:hakeaholic@aapt.net.au)

<http://asgap.org.au/index.html>

## **Plan(e)t Priority: Regional Reality.**

### **2009 Botanic Gardens Australia and New Zealand (BGANZ) Congress**

8-11 October 2009, Mackay, Qld

<http://www.bganz.org.au/congress.html>

### **Cultivating Australia Felix: the Pastoral Legacy**

#### **Australian Garden History Society 30th Annual National Conference**

16-18 October 2009, Geelong Conference Centre, Geelong, Vic

<http://www.gardenhistorysociety.org.au>

### **Action Learning: Places, Spaces and Partnerships for Biodiversity and Human Well-Being.**

#### **BGCI's 7th International Congress on Education in Botanic Gardens**

1-6 November 2009, Durban Botanic Gardens, South Africa

Botanic Gardens have become leading institutions for plant-based education, inspiring children and adults alike. Environmental issues such as conservation and sustainability increasingly need the development of new partnerships.

This congress will be about how botanic gardens can effectively communicate this to the public through their education and public awareness programmes in a way that empowers people to take action.

<http://www.ebg2009.org.za>

### **Global Eco Conference**

#### **EcoTourism Australia & Tourism NT**

9 to 11 November 2009, Alice Springs Convention Centre in the Northern Territory

<http://www.globaleco.com.au>

### **Australasian Conference of Voluntary Guides in Botanic Gardens**

9-13 November 2009, Royal Tasmanian Botanical Gardens

All queries to Don Dabner, 98 Doyle Avenue, Lenah Valley 7008, Ph: 03-6228 5624,

email [dondabner@iinet.net.au](mailto:dondabner@iinet.net.au)

<http://www.friendsanbg.org.au/rtbgbrochure.doc>

### **Managing Biodiversity in a Time of Global Change**

#### **Society for Conservation Biology - Oceania Section Meeting**

30 November - 3 December 2009, University of Tasmania, Hobart, Tasmania

The meeting will address this theme across a full range of Oceanian terrestrial, freshwater, and marine ecosystems as well as Antarctic ecosystems. Scientists, managers, policy-makers, NGOs and students in all areas of conservation biology are to discuss these issues and set priorities for future research and action.

<http://www.cdesign.com.au/scboceania2009/>

### **Systematic Botany : From Science to Society. Australian Systematic Botanic Society 2009**

#### **Conference and Workshop on national accreditation of providers of biological information.**

1- 4 Dec 2009, University of New England, Armidale, NSW

<http://www.anbg.gov.au/asbs/conferences/2009-UNE/index.html>