

Broadening Science Perspectives

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Botanic gardens play a significant role in raising community awareness of the importance of plants in our lives and the need for their conservation in the natural world. Spectacular living collections of plants, thematically arranged and well interpreted, provide general visitors and structured groups alike with a memorable immersion experience and a meaningful context for learning.

The Royal Botanic Gardens Sydney (RBGS) consists of three sites: the well-known gardens located in the heart of the city next to the Opera House on Sydney Harbour; a cool temperate display garden 105 kms to the west at Mount Tomah and an extensive collection of Australian native plants at Mount Annan Botanic Garden, 90 kms south west of Sydney.

RBGS has as its slogan, “Plants = Life”, and delivers this contemporary message in relevant and focused research and publications, garden displays and public programmes. Each year over 3 million people visit the Gardens’ three sites and over 18,000 students take part in interactive lessons. In addition, another 40,000 visitors participate in holiday activities, courses, talks and guided walks. Even more people access the Gardens messages remotely through the community education outreach programmes or, electronically, through the web site, which includes PlantNet, a comprehensive database of NSW flora.

In recent years RBGS has seized upon two unique opportunities to popularise science and technology and broaden people’s perception of the work done by scientific institutions. The first came as a result of the botanical find of the century and the second because of rising public interest in indigenous culture and its links to the unique location of the Sydney Gardens.

The two case studies below illustrate how botanic gardens as living museums can ‘make a difference’ by providing provocative displays, programmes and experiences that facilitate learning of science and technology and different cultures.

Wollemi Pine – Dinosaur Tree

In late 1994, in a remote section of the Wollemi National Park just 150 kms from Sydney, a National Parks Ranger discovered one of the world’s rarest plants. The uniquely Australian Wollemi Pine is only known by 38 adult plants



School children in Darwin (Northern Territory) with a two-year-old Wollemi Pine grown from seed.

in the wild and belongs to an evolutionary line of conifers thought to be long extinct. To ensure the Pine's continued survival the National Parks and Wildlife Service developed a conservation strategy for its natural habitat and RBGS undertook extensive horticultural research on mass propagation to make it available commercially by 2004.

While the Pine's rarity makes it inherently interesting, it is far more significant as a powerful stimulus, a 'wow' factor, for introducing concepts such as biodiversity, rare

and threatened species, conservation, national parks and wilderness areas. It makes it easy to raise awareness of the importance of scientific research and what is achievable with the available technology. It also helps promote botanic gardens and museums as centres for biological research and environmental education.

In response to the great amount of public and scientific interest in the Wollemi Pine, the RBGS planted young Wollemi Pines in the Sydney, Mount Annan and Mount Tomah Gardens and made a commitment to mount educational displays. At the Sydney Gardens the Wollemi Pine is dramatically presented in a cage as part of a broader thematic display called *Plants in Peril* or *The Rare and Threatened Species Garden*. Supporting this display are regular educational activities and just two examples of these are on-site touch trolleys interpreted by volunteer Green Guides and Wolly's birthday parties (for 3-8 year olds).

The Community Education Unit also developed a travelling display and interactive slide presentation, *Wollemi Pine – A Dinosaur Tree*. It includes slides of the Pine in its natural habitat, a young living plant, fossils and specimens of bark, cones and leaves of mature trees which can all be handled. The presenters, all experienced education officers and horticulturists from the Gardens, adapt the programme to suit the ages and interests of the participants, and involve them in analysing the research findings and solving problems associated with protecting a wilderness site and propagating from a limited population.

Because it will be a few years before other institutions can have their own Pine specimens to interpret, *Wollemi Pine – A Dinosaur Tree* has toured extensively around Sydney, the State and interstate (the latter thanks to a grant from Visions of Australia, the Federal Government’s touring exhibition programme) as part of the Community Education Unit’s outreach programme. In this way, since 1996, approximately 10,000 people who could not visit the Gardens have been able to view and learn about this living treasure. The concept of ‘a living dinosaur’ has also attracted good local newspaper, radio and television coverage at each of the venues visited. This significant media interest has meant that many more people than those who saw the display have become aware of the Wollemi Pine, biodiversity and conservation issues.

Cadi Jam Ora – First Encounters

Cadi Jam Ora means “I am in Cadi”. The land occupied by the Sydney Gardens holds special significance for Aboriginal people, as it is the site where the modern transformation of the Australian continent began. It can be regarded as the “first frontier” between Aboriginal and European societies. On this site in 1788, under the leadership of Governor Arthur Phillip, white settlers cleared the vegetated creeks and woodlands and set about creating a farm. These initial attempts to establish an agricultural foothold on Australian soil struggled and failed. Of equal significance, some of the earliest prolonged encounters with Indigenous Australians happened here, leading ultimately to the tragic demise of the local Cadigal people. By 1790 only three of the clan living around Sydney and Farm Cove were left.



Constructing a giant goanna on the Cadi Jam Ora site as part of a January holiday programme.

In 1998 the RBGS made a corporate commitment to Aboriginal reconciliation and identified specific ways of representing Aboriginal heritage and culture in displays and programmes. A four-bed garden display called *Cadi Jam Ora – First Encounters* was developed to explore Aboriginal people’s prior use of the site and their understanding of plants and the environment. It interprets Aboriginal uses of plants for food, medicine, tools and cultural purposes and illustrates how the land the Gardens occupy was and is significant to Aborigines. While many cultural institutions around Sydney address this period in history, the RBGS is uniquely placed to interpret the role of specific plants in the local Sydney Aboriginal culture as well as the events that happened, on this very spot, at the time of white settlement/invasion.

As a scientific institution RBGS is also keen to acknowledge that different cultures hold different environmental and ecological perspectives. While the Eurocentric view of the world does not recognise as technology Aboriginal knowledge, skills, organisation, tools, artefacts and methodologies, Aboriginal approaches provided a more successful way of surviving in the Australian environment than the European approach adopted by the early settlers. *Cadi Jam Ora* and its associated activities compare and contrast indigenous technology with the European technologies used to establish the First Farm (which is now a part of the four-bed display).

The Gardens employed an Indigenous Education Officer to ensure ongoing consultation with local Aboriginal communities and to ensure *Cadi Jam Ora* conveys a contemporary indigenous perspective. Strong partnerships have been established and this has led to direct indigenous community involvement in many public programmes at all three RBGS sites.

RBGS hosts many events and exhibitions related to indigenous issues such as National Sorry Day and Journey of Healing, the Sea of Hands and the proposed City of Sydney indigenous sculpture walk. A living memorial to the Stolen Generations is being built at Mount Annan Botanic Garden, and Mount Tomah is starting an accredited ecotourism course for indigenous interpreters. The Community Education Unit regularly runs lessons for school students, holiday programmes and guided walks with an indigenous theme.

Interpreting the indigenous history of the Gardens' sites marks a significant new direction for the RBGS and is one of the first attempts by a botanic garden to place indigenous and modern cultures into the perspective of their environment.

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