

Message from the Premier



Government of Western Australia

OFFICE OF THE PREMIER



The Hon Richard Court MLA, Premier.

A characteristic of this great State of Western Australia is found in the willingness and enthusiasm of many thousands of men, women and children who volunteer their time, efforts and energy in voluntary service to the community.

I especially commend all those who care for the wonderful heritage which has been provided for us in Kings Park and its Botanic Garden.

The dedication of the Friends of Kings Park is an incentive for us all and at the same time ensures the preservation of the intrinsic value of the Australian bush so close to the heart of our capital city.

Kings Park and its Botanic Garden must be preserved. Its natural and unique beauty provides relaxation and enjoyment for citizens and visitors alike.

This inaugural issue of the Friends of Kings Park newsletter will serve as a record of what is being done in the ongoing program of preservation and I am sure it will encourage many more supporters and volunteers to engage in this very worthwhile enterprise.

On behalf of the Government and people of Western Australia, I thank all Friends of Kings Park for what has been achieved and wish you every success in the future.

**Richard Court MLA
Premier**

Welcome from the Kings Park Board

Kings Park and Botanic Garden is, and always will be, a special place for Western Australians.

The Kings Park Guides, established in 1984, quickly showed the benefits that can come from the involvement of volunteers. With the example of the Guides it was inevitable that the time would come when a Friends of Kings Park organisation would be formed.

The Kings Park Board believes that, now more than ever, the assistance and support of the community for the Park and Botanic Garden is essential. The Board is grateful that the Formation Working Party, with Tom Alford as Chairman, accepted the challenge of establishing the Friends of Kings Park. They have carried out the task efficiently and with great enthusiasm.

The Friends of Kings Park will enable anyone who is interested to become more closely associated with the Park and Botanic Garden. The Board is confident that the Friends will be successful. We look forward to their support and assistance in the achievement of our objectives.

Construction of a new Kings Park Restaurant is underway and is expected to be open to the public towards the end of this year. A new kiosk for the sale of drinks and snacks could open for business in August. The redevelopment also includes construction of a new information centre and a souvenir shop.

The formation of the Friends of Kings Park and completion of redevelopment of the restaurant site will mark 1993 as a significant year in the history of Kings Park and Botanic Garden.

**Albert Tognolini A.M.
President, Kings Park Board**

NOTICE OF MEETING >

FOUNDATION GENERAL MEETING

Friends of Kings Park

8.00 PM
WEDNESDAY 5TH MAY 1993

AT KINGS PARK
ADMINISTRATION CENTRE,

FRASER AVENUE

From the Director

On behalf of all staff I wish to say how pleased we are to see the formation of the Friends of Kings Park. It is an exciting time for Kings Park and Botanic Garden. The organisation currently employs 77 staff and supports 15 postgraduate research students.

Our purpose is to ensure that the natural and cultural heritage and recreational resources of Kings Park and the State's Botanic Garden are provided for the lasting benefit of the community, and to contribute to the conservation of Western Australia's and other plant life.

How can these significant and growing responsibilities best be achieved in recessionary times, with a shrinking government support base? Community involvement is essential in my view. It is especially important to appreciate the urgency of our tasks in helping conservation as wild plant life diminishes throughout the State and elsewhere.

Western Australia has about 12 000 species of native plants (with 30 per cent still to be named) and more threatened species than elsewhere in Australia or most countries in the world. At the last count 306 species were listed on the State's schedule of Declared Rare Flora and another 1700 species were too poorly known but probably under threat.

Kings Park and Botanic Garden has a special role to play in dealing with this substantial problem. It also remains a very special place in the hearts of most Western Australians and other visitors to the park. It is certainly a tourist destination of central importance to the State.

We look forward very much to working with the Friends of Kings Park to achieve our education, conservation, horticulture and recreation objectives.

Your park will be only as good as you want it to be. I wish the Friends every success and a lot of fun along the way.

Welcome...

Dr Steve Hopper
Director, Kings Park and Botanic Garden



Eric Loveland, a Kings Park and Botanic Garden senior gardener, mowing grass within the Floral Clock in front of the partly constructed restaurant. The new Kings Park restaurant is due for completion late in 1993. It will incorporate fine dining, a large family restaurant, a kiosk, a souvenir/book store and information centre. Photo: Neil Coy

Kings Park Guides

THE inaugural course for Kings Park Guides was held in 1984 when the first Guides completed their training just before the commencement of the advertised spring walks. Since then a further four courses have been held and has resulted in a total of more than 100 trained Guides. Their duties include attending the Information Centre where they answer public enquiries about Kings Park, Perth in general and Western Australia as a whole.

From the beginning of April to the end of October the Guides conduct morning walks four days a week and from the beginning of July two afternoon walks along the Nature Trail are added to their busy schedule. Many requests are also received from groups for 'special' walks outside of these times. The regular schedule of walks is reproduced elsewhere in this newsletter. Please avail yourself and bring along your friends to enjoy these free walks too.

The Autumn lily can be seen in the Botanic Garden and along the nature trail.

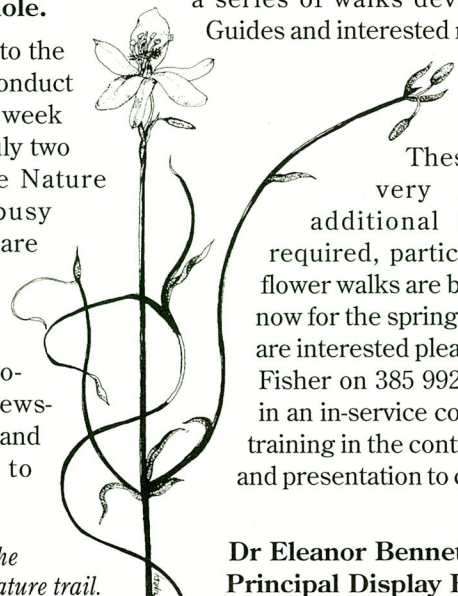
In addition to the walks one of the Guides prepares a weekly self-guiding sheet about plants of interest to see in the Botanic Garden and another sheet about plants in flower along the Nature Trail. Both information sheets can be obtained from the Information Centre.

Two other Guides prepare a monthly sheet listing glasshouse features which is available as you enter the Display Glasshouses.

An added attraction for schoolchildren is a series of walks developed by the Guides and interested members of the public who conduct walks for schools.

These are proving very popular but additional assistance is required, particularly as wild-flower walks are being developed now for the spring months. If you are interested please contact Judy Fisher on 385 9920 to participate in an in-service course to provide training in the content of the walks and presentation to children.

Dr Eleanor Bennett
Principal Display Botanist



An Opportunity for all

How would you respond if I asked you to recall some of the famous parks of the world - Central Park in New York, Hyde Park in London, or maybe Centennial Park in Sydney - would you think of our own Kings Park?

While all West Australians are very proud of Kings Park, few realise it is unique. Nowhere else in the world is such a large tract of natural bushland situated in the heart of a major city!

The south-west corner of Western Australia is one of the most species-rich botanical areas in the world and Kings Park is the home of the greatest display of our native flora. The Park's staff are involved in research to protect and

conserve many of our rare and endangered plant species.

As Perth's most popular attraction Kings Park has the potential to be one of the great parks of the world. It has the setting, the climate, many special features and facilities, and the support of dedicated staff and volunteers.

The park needs the support of all West Australians to realise its potential.

The Friends of Kings Park is being formed to provide support and assistance to the Park and Botanic Garden; to enhance and improve the current facilities; and to enable the community to be involved in making an even more special place for people, flora and fauna.

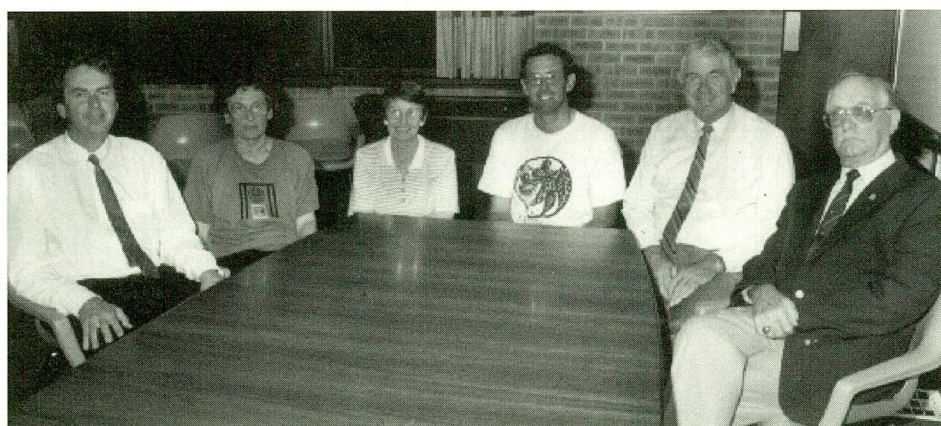
The Friends group is an opportunity for everyone to contribute by way of a small annual subscription and, if one desires, to participate in a range of activities that assist with the operation of the Park.

The benefits of membership will include a quarterly newsletter to upgrade your knowledge of the Park and to provide details of guided tours, visits to the nursery and laboratories, and a lecture program that will not only capture the imagination of most gardeners but stimulate those of us who were born without a 'green thumb'.

I shall be encouraging friends to join and ask you to do likewise. I never fail to take inter-state and overseas visitors to the Park. In future I shall be able to say 'I'm a member of the Friends of Kings Park' and feel justly proud to be directly associated with such a magnificent facility.

I have found it particularly rewarding to be a member of the formation working group. Considerable effort and dedication has been invested by a small group of very talented people and on behalf of all West Australians I thank Eleanor Bennett, Marion Blackwell, Barbara Dewar, Steve Hopper, Bish Kwiecinski, Cynthia Playford and Bruce Rhind for their untiring commitment in bringing the Friends of Kings Park to fruition.

Tom Alford,
Chairman Formation Working Party



The Formation Working Party from left to right - Steve Hopper (Director); Barbara Dewar; Cynthia Playford; Bruce Rhind; Tom Alford (Chairman); Bish Kwiecinski. Absent are Eleanor Bennett and Marion Blackwell. Photo: Neil Coy

Coming events

Walks	Day	Starting point	Available
Botanic Walk (about 2 hrs)	Mon 10 am	Karri Log, Fraser Ave*	April 1 - Oct 31
Botanic Garden and Bushwalk (about 2 hrs)	Tues 10 am	Karri Log, Fraser Ave*	April 1 - Oct 31
Botanic Garden (about 1 1/2 hrs)	Thurs 10 am	Karri Log, Fraser Ave*	April 1 - Oct 31
Nature Trail - Wildflowers (about 1 1/2 hrs)	Wed 2 pm & Sun 2 pm	Pines Car Park, Lovekin Drive	July 1 - Oct 31
Bushwalk (about 2 1/2 hrs)	Fri 10 am	Cnr Saw Ave & May Dve	April 1 - Oct 31
Summer Walk (about 1 hr)	Sun 11 am	Karri Log, Fraser Ave*	Nov 1 - Mar 31

*Opposite War Memorial

A public address by Dr. Stephen Hopper, Director of Kings Park and Botanic Garden 'Local Bushland - Discovery on your doorstep'

Venue - Octagon Theatre April 21
UWA. Admission \$10.00 8.00 pm

Anzac Day Dawn Service April 25

Arbor Day June 11

Opening Times

Ivey Watson Children's Playground and Cafe Ivey open each day from 9.00 am - 5.00 pm (near Tennis Club, Kings Park Rd).

Glass Houses and Rare and Endangered Species Garden open each day 10.00 am - 4.00 pm (except Tuesdays).

World First for Kings Park Research Team

A major breakthrough by the Kings Park research team involved the development of a cryostorage technique for a rare plant species - the Corrigin Grevillea (*Grevillea scapigera*). This is the first time that shoots of a rare plant have been stored in liquid nitrogen (-196°C) and successfully revived. The accompanying article, reprinted from the 27 February, 1993 issue of *New Scientist*, explains this process that provides hope for the long term (1000+ years) protection of germplasm for many of the world's rare and endangered species.

Dr Kingsley Dixon,
Principal Research Botanist

What's flowering

THE period May-July sees the beginning of the major flowering time in the Botanic Garden and bushland. As you drive around Mounts Bay Road you will notice the red flowering shrubs *Templetonia retusa* or Cockie's Tongues. In May, the Common Hovea (*Hovea trisperma*) commences to flower and is said to herald the spring flowering in the Kings Park bushland.

Within the Botanic Garden itself, several of the spectacular Hakeas are beginning to flower: *Hakea laurina*, the Pincushion Hakea, has spheres of flowers that open cream and mature to a deep claret; *Hakea bucculenta* or Red Pokers with rods of orange-red flowers; and *Hakea francisiana* with rods of pink flowers.

At this time you will also see the mass flowering of the Acacia (Wattle) species. The wattle 'flower' is really a head of many small, complete flowers and several species have an interesting 'leaf' (called a phyllode) which is really the leaf stalk modified to take on the function performed by a true leaf. Of the Acacias commonly seen in the park, *Acacia gonophylla* has a four - angled phyllode and a sphere of pale yellow to

Science

NEWSCIENTIST

A frozen future for endangered plants?

Debra Mayrhofer, Sydney

CRYONICS, the technique of freezing living tissue so that it can be brought back to life, could play an important role in conserving Australia's rare and endangered plants, say two of the country's botanists.

Darren Touchell and Kingsley Dixon at the Kings Park and Botanic Garden in Perth have created large numbers of genetically identical specimens from frozen plant tissue of a rare grevillea. Touchell says the technique could ensure the survival of *Grevillea scapigera*, of which only a few specimens are thought to remain in the wild.

Already, Touchell and Dixon have potted up hundreds of plantlets which were reproduced by tissue culture of the thawed plant material. "They will be reintroduced into the wild next year," says Touchell. "Cryostorage has been used successfully on about 150 species of agricultural plants, but as far as we know this is the first application to rare and endangered species."

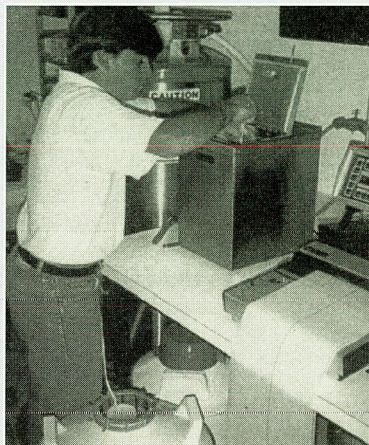
The tips of shoots are treated for up to 48 hours with a "cryoprotectant", or anti-freeze—in this case, 5 per cent dimethylsulfoxide. The researchers then slowly cool the shoots at a rate of about 0.5°C per minute until they reach -40°C. Because the shoots are both treated with antifreeze and cooled, the plant tissue is dehydrated

sufficiently to prevent ice crystals forming. Such crystals would tear apart the cells and kill the plant.

After this treatment, Touchell and Dixon plunge the shoots into liquid nitrogen at a temperature of -196°C. The extreme cold stops all metabolic processes.

This method of storage has two advantages. First, specimens at this temperature are cheap to maintain and will keep virtually indefinitely. Conventional tissue culture must be replaced about every month as the medium in which the plantlets grow deteriorates. Usually the plantlets are ready for division again after this time.

The second advantage of this method of storage is that at this temperature no genetic mutations occur, which is important for the



The cryopreservation equipment used to freeze shoot tips of the rare *Grevillea scapigera*.

storage of rare agricultural crop genomes or, in this case, rare and endangered plants. Usually, genetic mutations occur as a plant grows—for instance, when it is exposed to ultraviolet light.

Touchell and Dixon revive the grevillea by placing vials of frozen tissue in a water bath at 40°C. Once the tissues have thawed, the researchers wash away the antifreeze and culture them on a recovery medium. Shoot tissues may take from three weeks to four months to begin regenerating.

The Western Australian team has also used cryostorage on the seeds of about 70 common native species. Touchell says this was a much simpler process. However, unlike the shoot-tip method of propagation, it did not provide genetically identical material. Propagation of seeds does not guarantee any genetic characteristics because both parent plants contribute genetic material.

"Cryostorage isn't intended to replace the preservation of native bushland as the main tools of conservation" says Touchell. "But it could mean the difference between survival and extinction for species whose numbers are critically low."

cream flowers and *Acacia drummondii* has true, divided leaves and rods of bright, golden - yellow flowers.

Currently (in early April) several of the Proteas are in flower in the South African beds of the Botanic Garden. These plants have large, often spectacular bracts surrounding the heads of flowers. It is from this genus that the family Proteaceae is named. This is the fourth largest family for the number of species in Western Australia and includes hakeas, grevilleas, banksias and dryandras.

Dr Eleanor Bennett
Principal Display Botanist

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FRIENDS OF KINGS PARK.

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