

One hundred years after John Forrest's vision for Kings Park was realised, a new park, more than a hundred times bigger, is being planned for Perth's rapidly developing northern corridor. The new conservation and recreation park will be different from any other in an Australian capital city, not only because of its size, but because of its history—nearly half the site proposed as Gnangara Park is currently a pine plantation.

BY CARIS BAILEY

PEOPLE th for PARK

In the 1920s, foresters began work on a pine plantation to provide a local source of softwood building materials. The only way to reach the area was on foot or horseback along a deeply rutted, sandy track, winding its way between banksia trees. If something needed to be carried in, it was loaded on a horse-drawn, iron-tired cart.

Maritime pine (*Pinus pinaster*) was chosen for the plantation as a result of earlier trials to find a conifer to suit local conditions (see 'In Search of the Perfect Pine', *LANDSCOPE*, Autumn 1992). The species gets its common name from its natural habitats on the northern and southern coasts of the Mediterranean and the Atlantic coasts of France and Portugal. In each of these areas, maritime pine grows on poor, sandy soils.

Today, the Gnangara plantation supports local industries making medium density fibreboard, particle board, cases, pallets, veneers, treated posts, poles and timber. Even more timber could be produced if the plantation was not immediately above the Gnangara water mound, one of the main sources of Perth's drinking water. The obvious need to protect the water quality imposes restrictions on the management of the plantation. The number of pines growing per hectare, for example, has to be kept below optimum production levels so the trees do not consume too much water.

Previous page and below
Gnangara today - the State's biggest pine plantation is to be transformed into Perth's biggest park.

Photos - Jiri Lochman

Right: The new park, which will take in the plantation and surrounding State forest, is expected to cover 50 000 hectares



Maritime pine's preferred growing conditions, an intensive breeding program by the Department of Conservation and Land Management (CALM) to improve the tree's performance still further, and new markets for softwood thinnings have led to a new timber industry in Western Australia: pine sharefarming. This expands CALM's existing sharefarming program, based on bluegums, into areas where the eucalypt will not grow. A recent assessment by CALM indicates that commercial tree farming with maritime pine is possible on as much as 500 000 hectares of already cleared agricultural land. Planting trees on this

land will provide vital landcare by lowering water tables, preventing erosion and reducing fertiliser run-off.

GROWING A NEW PARK

This development creates a unique opportunity at Gnangara: as the pines mature, the 23 000-hectare plantation can be progressively cleared and revegetated. This will complement the surrounding 27 000 hectares of State-owned banksia woodlands that will also be part of Gnangara Park. The new park is expected to cover 50 000 hectares, stretching from Gnangara Road, past Wanneroo and Yanchep National Park nearly as far north as Moore River (see



map). Under plans to enhance the conservation of Western Australian plants and animals, the cleared area will be replanted, offering new nature-based recreation opportunities and protecting water quality on the Gngangara mound.

Drifts of wildflowers will replace the first pines harvested, as Gngangara begins to blossom into a conservation and recreation park. Seeds from last spring's record display of everlastings in the Murchison have been collected and are being stored ready to plant this winter at a site in the south of the plantation, where pines have already been harvested.

Other areas of the former plantation will be planted with species from different parts of the State. The incredible diversity of WA's native plants and animals is known internationally, and soon Gngangara Park will bring examples of different habitats to the city doorstep, creating a place for residents to relax, as well as an attraction for visitors. It will also give students a chance to see a range of species in a natural setting.

All visitors will be able to learn more about Aboriginal culture. Bush tucker, dye plants and medicinal plants will be grown, and CALM will run Aboriginal cultural programs. Gngangara (or Ngangara) is thought to mean 'spring of water' in the local Nyoongar dialect, and there are strong cultural links with wetlands in the area around the proposed park.

ON THE CITY DOORSTEP

With careful planning, the park will include areas representing diverse Western Australian landscapes, from the heathlands of the south coast and the woodland trees of the Goldfields, to the carpets of everlastings in the Murchison. Mass plantings of flowering species will provide colour and a source of food for nectar and insect-feeding animals every month of the year, from Morrison featherflowers (*Verticordia nitens*) from November to January to WA Christmas trees (*Nuytsia floribunda*) in December. The new plantings will be integrated with the extensive groves of balgas (grass trees), which grow in the bushland around the plantation. Together, they will provide habitats for marsupials and other animals.

CALM's Western Shield project—to control European foxes and feral cats, and return native animals to their former habitats (see 'Western Shield',

Right: The brilliant Morrison featherflower is already a familiar sight around Gngangara. Early plans for the new park include mass plantings of wildflowers so that something is in flower every month of the year.

Photo – Len Stewart/Lochman Transparencies

Below: The first pines were grown at the 'remote' Gngangara nursery in 1926.

Photo – CALM



REDUCING THE RISK

Large areas of continuous pine plantation as close to residential areas as the Gngangara plantation are at risk from accidental and deliberately lit fires. The cost of protecting the plantation and surrounding property with fire prevention and firefighting forces is high. Even with modern firefighting technology, there is a high risk of large areas of plantation being damaged by fire when weather is extremely hot and windy. Thoughtless acts of vandalism have already destroyed significant areas of valuable pines and caused other areas to be harvested prematurely to salvage burnt trees. There were 62 fires in the Gngangara plantation in the summer of 1995–96, 45 of which were known to be arson and another 12 suspected of being deliberately lit. Statistics for the two previous summers show arson was proved or suspected in 47 out of 59 fires in 1994–95 and in 96 out of 116 fires in 1993–94. As the Gngangara plantation is progressively harvested and new pines are planted in dispersed country areas, the risk of loss from fire will decrease.

LANDSCOPE, Winter 1996)—will be extended to Gngangara. Predator baiting will take place in a fenced section of the park, so foxes and feral cats cannot reinvade the area. Visitors to this sanctuary will be able to see a range of reintroduced animals, including rare numbats and dighters, as well as woylies, bandicoots, kangaroos, wallabies, possums and dozens of different species of waterbirds.

The string of wetlands north and south of Perth is vital for waterbirds from as far away as Siberia. Migratory birds from the northern hemisphere are regular visitors, feeding alongside local species, and both will find new havens in Gngangara Park. Children who now know more about lions and tigers than they do about many of this country's animals will be able to go on 'safaris' to see Australian wildlife.

CONSERVATION ARK

As well as being a sanctuary for animals, the park will be a living conservation ark for plants. Conservation efforts will, of course, continue in the wild, but back-up collections of rare plants will be grown at Gngangara. One example would be scarlet banksia (*Banksia coccinea*), which is threatened in its natural habitat by dieback and canker (see 'Wildflower Killers', *LANDSCOPE*, Spring 1991). Planting rare species and protecting the remaining bushland in and around the existing pine plantation will create a massive seed orchard for CALM to use in the rehabilitation of degraded areas—whether planting new scarlet banksia seedlings on the south coast, or restoring urban bushland.

Existing wetlands and vegetation will be protected and enhanced—patches of

tuart trees on the limestone ridges near Yanchep National Park will be extended to form a new tuart forest. The new park will share a boundary with the national park, greatly extending the area of protected land and improving the conservation values of the national park itself.

WHAT HAPPENS NEXT?

The detailed planning necessary to transform Gngangara has already begun with the collection and assessment of data, including information on native vegetation in the area, landforms and soil types. Public comment has also been invited on various aspects of the proposal, such as general ecosystem management issues, what type of recreation areas should be included in the park, what animals should be present and how to cope with weeds and fire management. More than 400 people responded to last November's invitation to express a view on these issues and register on a mailing list to receive further information as the planning process unfolds.

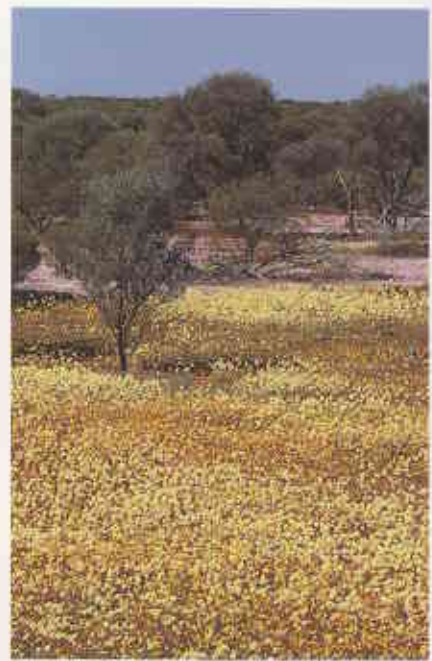
Below: Fox-baiting, under CALM's Western Shield Program, will make it possible to introduce rare animals, such as numbats, to a specially fenced sanctuary within the park.
Photo – Jiri Lochman

Below right: Although parts of the pine plantation are highly modified, it still retains a suite of animals, including western grey kangaroos.
Photo – Marie Lochman



It will take 20 years for all the pines to mature and be harvested, so revegetation work and the installation of new visitor facilities will be gradual. Zoned areas of the park will become available for recreational pursuits, such as trail-bike riding, horseriding and other sports. Facilities for picnicking, bush walking and bird watching will be located across the park, as appropriate. The first plantings on former plantation land will begin this winter.

Although Gngangara was once thought to be remote from Perth, the new park will grow in what is now a thriving suburban area of the city. It will be a park for the people in the same way the Colonial Government intended when they reserved the land we know today as Kings Park. Like Kings Park, the proposed Gngangara Park has large areas of original vegetation. There is also a huge pine plantation to move—but the challenge of revegetating this area gives us an opportunity at Gngangara Park that John Forrest might well have envied.



Above: Seeds from last year's spectacular flowering of everlastings in the Murchison will be planted at Gngangara this winter in an area where pines have already been harvested.
Photo – Jiri Lochman

Above left: Existing wetlands and vegetation, such as this seasonal wetland near Ellenbrook, will be included in the new Gngangara Park.
Photo – Marie Lochman

Caris Bailey is a project officer with CALM and can be contacted on (09) 442 0306 or e-mail carisb@calm.wa.gov.au.



LANDSCOPE

VOLUME TWELVE NUMBER 3, AUTUMN 1997



Aquatic bugs are helping scientists to determine the health of WA's waterways. See Spineless Indicators on page 49.



CALM's new Marine Conservation Branch gets in deep (page 10) to play its vital role in safeguarding the health of WA's unique marine environment.



Called 'Karlamilyi' by desert Aborigines, Rudall River National Park (page 28) is steeped in history and bristling with wildlife.



The economic, social and conservation potential of Acacia in WA, a story of a golden future on page 16.



Fancy a walk? Join us while we look at the environment, history and building of a new Bibbulmun Track. See page 36.

FEATURES

OCEANS OF WEALTH
CHRIS SIMPSON, NICK D'ADAMO AND CAROLYN THOMSON.....10

AUSTRALIA'S GOLDEN FUTURE
BRUCE MASLIN.....16

PARK FOR THE PEOPLE
CARIS BAILEY.....23

RUDALL RIVER NATIONAL PARK
DAVID GOUGH.....28

BUILDING A BETTER BIBBULMUN TRACK
JESSE BRAMPTON.....36

MOUND BUILDERS OF THE PILBARA
STUART ANSTEE, TONY START AND KEITH MORRIS.....42

SPINELESS INDICATORS
MIKE SMITH, WINSTON KAY, ADRIAN PINDER AND STUART HALSE.....49

REGULARS

IN PERSPECTIVE.....4

BUSH TELEGRAPH.....6

ENDANGERED THE NIGHT PARROT.....27

URBAN ANTICS.....54

COVER

The tiny pebble-mound mouse of the Pilbara (see story on page 42) is a tireless night-worker and the architect of many odd, red gravelly mounds, which look like miniature volcanoes among spinifex.

Illustration by Philippa Nikulinsky



Managing Editor: Ron Kawalilak
Editor: David Gough
Story Editors: Verna Costello, Mitzi Vance, John Hunter
Scientific/technical advice: Andrew Burbidge, Ian Abbott, Paul Jones and staff of CALM's Science & Information Division
Design and production: Maria Duthie, Sue Marais
Finished art: Maria Duthie, Sue Marais, Gooitzen van der Meer
Illustration: Gooitzen van der Meer, Ian Dickinson
Cartography: Promaco Geodraft
Marketing: Estelle de San Miguel ☎ (09) 334 0296 Fax: (09) 334 0498
Subscription enquiries: ☎ (09) 334 0481 or (09) 334 0437
 Colour Separation by Prepress Services
 Printed in Western Australia by Lamb Print
 © ISSN 0815-4465. All material copyright. No part of the contents of the publication may be reproduced without the consent of the publishers.
 Visit **LANDSCOPE** Online on our award-winning Internet site **NatureBase** at <http://www.calm.wa.gov.au/>
 Published by Dr S Shea, Executive Director
 Department of Conservation and Land Management,
 50 Hayman Road, Como, Western Australia