

THE SALT OF LIFE

A Western Australian project to revegetate saline wasteland has produced trees so salt-tolerant that trials have been set up in Kwinana to irrigate them with seawater.

The five year old project combines screening and cloning technology from Murdoch University and the University of WA.

It is funded by Alcoa of Australia, the Federal Department of Industry Technology and Commerce and Neville Stanley studentships from the Technology and Industry Development Authority.

Seedlings are screened by subjecting them to varying degrees of salt and waterlogged conditions. The survivors are then cloned through tissue culture to produce plantlets with the same tolerance.

Salt-tolerant clones were first planted in WA in 1983. Today they are planted throughout the State and sold to government departments, farmers and conservation groups.



Eucalyptus citrioida
Illustration - Elizabeth Rippey (Courtesy of Alcoa of Australia Ltd)

Fifty thousand have already been sold this year with orders for more.

While Alcoa has funded the project since January, Federal Government funds supported the project for the previous three years. Funds are now being sought through the Government's National Soil Conservation Program.

Project research manager

Dr Paul van de Moezel says the project leads the world in cloning for salt tolerance.

The clones have enormous export potential. Clones have already been sent to California, Thailand and the eastern States (where the CSIRO in Canberra and Victoria's Department of Conservation, Forests and Lands are also developing salt-tolerant plants).

Countries such as Saudi Arabia are seeking plants that will grow in salt water so they can irrigate the land with seawater. India, Thailand, Middle Eastern and African countries have also shown interest.

Since the project began, more than 100 native species have been screened with the most tolerant species of eucalypts, casuarinas, acacias and melaleucas now being cloned.

River red gum (*Eucalyptus camaldulensis*) is the most cloned species. As well as being naturally tolerant to salt and waterlogging, it is tall, grows quickly, provides shelter and shade, and the timber can be used for fuel, pulp, posts and charcoal. It is presently planted in about 40 countries.

The Tasmanian bluegum and tagasaste - a shrub which acts as livestock feed in summer - have shown low salt tolerance.

Alcoa grows seedlings for the project from seed and passes them to the University of WA for screening.

The survivors are cloned at Murdoch University and the offspring multiplied to supply commercial orders.

Dr van de Moezel says the project aims to reclaim salt-affected land where virtually nothing else will grow.

Trials are being run on private land. About one hectare on each farm is ripped, mounded and weeded before planting. Clones are planted in June and July and their survival and growth is compared with unselected non-cloned seedlings.

This year 2 500 clones will be planted in trials in WA, and 10 000 in the eastern States.

Selected ectomycorrhizal fungi are being added in some trials. Specific fungi have been isolated and screened for their ability to improve growth and survival of clones under saline conditions.

CAT TALES

The northern quoll (*Dasyurus hallucatus*) is noted for its aggression and it's not hard to see why.

Its diet is varied and may include mammals, reptiles, insects and a variety of soft fruits.

It is found across northern Australia from the Pilbara region of Western Australia to the north-eastern coast of Queensland.

The northern quoll occasionally lives in or around man-made dwellings but is

most abundant in broken, rocky country with sparse vegetation.

The young are carried by the mother for 8-10 weeks. As many as one third of the young may be lost by September.

The remainder are suckled in the nest until they are about five months old, by which time the mother's nipples may be cut and infected because of her infants' sharp teeth.

Photo - Wade Hughes



LANDSCOPE

VOLUME FIVE NO 1 SPRING EDITION 1989



Perth people were devastated when a fire tore through their favourite bushland retreat. But, with Spring, new life and colour is returning.



Rottneest isn't the only unspoilt island on Perth's doorstep- what about Penguin, Garden, Seal and Carnac Islands? They are steeped in history and provide a haven for some unique wildlife.



Algae has clogged the estuaries near Mandurah, killing fish and creating an eyesore. What is the solution?



Explore the waterways of the South-West by canoe.



Jarrah dieback- the word strikes fear into any forester's heart- but research is fuelling the fight against the killer fungus.

FEATURES

ISLAND INTERLUDES KYLIE BYFIELD	10
THE DAWESVILLE DILEMMA ANDREW BELL	18
RISING FROM THE ASHES BOB DIXON	25
STILL WATERS RUN TAMMIE REID AND TANYA MAXTED	33
TREE KILLER BRYAN SHEARER AND RAY BAILEY	38
A STATELY COLLECTION CAROLYN THOMSON	45
PUTTING DOWN ROOTS TANYA MAXTED	51
PHOTO ESSAY WILDFLOWER WONDERLAND	56
R E G U L A R S	
IN PERSPECTIVE	4
BUSH TELEGRAPH	6
ENDANGERED FOREST FROGS	17
URBAN ANTICS	58
S P E C I A L S	
PHOTO COMPETITION	29
LIFT-OUT POSTER HUMPBACKS HEAD SOUTH	

C O V E R

What's new in Kings Park this spring? Artist, Susan Tingay, couldn't resist this magnificent collection of spring orchids. From left- cowslip orchid (*Caladenia flava*), jug orchid (*Pterostylis recurva*), King spider orchid (*Caladenia huegelii*), donkey orchid (*Diuris longifolia*), rabbit orchid (*Caladenia menziesii*), and pink fairy orchid (*Caladenia latifolia*).
Back Cover: Stimson's python (*Morelia stimsoni*)
Photo-Jiri Lochman



Editor: Carolyn Thomson
Designers: Louise Burch/Robyn Mundy
Production: Karen Addison
Maps: Project Mapping, CALM
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Acknowledgements: Cartoon-Louise Burch
Illustrations-Ian Dickinson, Yeon Hee Kim

Colour Separation by The Colour Set
Printed in Western Australia by Kaleidoscope
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Published by Dr S Shea, Executive Director
Department of Conservation and Land Management,
50 Hayman Road, Como, Western Australia 6152.