SALT FLATS PROVIDE CLUES ABOUT SALINITY

A tract of seemingly uninteresting samphire flats, running along the northern side of Great Eastern Highway between Meckering and Tammin, has proved to be a treasure trove of biological diversity that could help landowners unlock further strategies in the bid to counter salinity.

Recent surveys by the Department of Conservation and Land Management have found that the Mortlock salt flats represent one of the most extensive and biodiverse, naturally saline braided drainage lines in this part of the Wheatbelt. The flats extend over 6300 hectares, and were documented during the recent five-year biological survey of the Wheatbelt.

Further survey work by the department's WA Threatened Species and Communities Unit (WATSCU), funded under the State Salinity Strategy, has revealed that many of the salt flats are teeming with life and are home to more than 80 plant species.

These species include a recently rediscovered plant not seen since the 19th century—Drummond's frankenia (*Frankenia parvula*)—and a number of other rare plants, including Royce's saltmat (*Roycea pycnophylloides*), Hopkins's salt rush (*Hopkinsia anoctocolea*) and purple samphire (*Sarcocornia globosa*). A variety of microscopic animals also live in the lakes and temporary pools dotting the flats.

An interesting feature of the area is that, while many trees and larger shrubs had obviously declined, other species—also thought to be intolerant of flooding and high salinity—have survived on the sandy islands and banks within the flats.

The department is now investigating how the vegetation of the flats is surviving, when many other areas have succumbed to salinity and rising groundwater. It is not yet clear if the area will remain intact, due to the presence of complex water properties and its movement in relation to the land (hydrology), or if the vegetation of the area will collapse within the next few years.

The department is currently preparing a plan to work with neighbouring landowners to allow them to study the hydrological processes of the system. It is hoped that the study may lead to new strategies to help landowners combat salinity on their farms and in other parts of the catchment. There may also be implications for other naturally saline systems elsewhere in the Wheatbelt.

The Wheatbelt biological survey revealed that as many as 450 native plant species were at risk from rising water tables and resulting salinity.

If researchers and landowners can gain a better understanding of how salinity is impacting on native vegetation and ecological communities, then there is a greater chance that strategies to combat salinity will have broad ranging benefits economically, socially and environmentally.

People in the Meckering-Tammin area who are interested in the department's work at the Mortlock salt flats can contact Jill Pryde at WATSCU on (08) 9405 5128 or by email (jillp@calm.wa.gov.au).

Right: Purple samphire is found from Meckering to Lake King.

Photo – Bindy Datson

Below: Mortlock salt flats in the Wheatbelt.

Photo – Sheila Hamilton-Brown

Winner of the 1998 Alex Harris Medal for excellence in science and environment reporting.

LANDSCOPE

VOLUME EIGHTEEN, NUMBER 3, AUTUMN 2003

Once thought to be extinct, Gilbert's potoroo has overcome many obstacles. What is being done to improve its chances of survival? See page 28.

Cane toads are poisonous, prolific breeders and are getting closer to the WA border. Hop to page 10.

Discover some of the prehistoric megafauna that once roamed the State in 'Walking with WA giants' on page 23.

The tuart once typified the coastal strip north and south of Perth. Why should we cherish this majestic tree? See page 16.

Lichens decorate Lake Muir, near Manjimup, with varying colours and shapes. Turn to page 43 to learn more about these fascinating life forms.

FEATURES

REGULARS

Executive editor: Ron Kawalilak.
Editors: David Gough, Carolyn Thomson-Dans.
Bush Telegraph editor: Verna Costello.
Story editor: Rhianna Mooney.
Scientific/technical advice: Keith Morris, Kevin Kenneally, Paul Jones, Alan Danks.
Design and production: Tiffany Aberin, Maria Duthie, Gooitzen van der Meer.
Illustration: Gooitzen van der Meer.
Cartography: Promaco Geodraft.
Marketing: Estelle de San Miguel ☎ (08) 9334 0296 Fax: (08) 9334 0498.
Subscription enquiries: ☎ (08) 9334 0481 or (08) 9334 0437.
Colour Separation by Colourbox Digital.
Printed in Western Australia by Lamb Print.

Please do not send unsolicited material to *LANDSCOPE*, but feel free to telephone the editors.
Visit NatureBase at www.naturebase.net
Published by the Department of Conservation and Land Management, Dick Perry Avenue, Kensington, Western Australia.

COVER

Royal hakea rises above the surrounding heath, straight and column-like. When sunlit from above or below, its unusual large variegated leaves appear to glow like lanterns, so the shrub is also known as the Chinese lantern bush. Among the birds that obtain nectar from its flowers (hidden at the base of the leaves) is the western spinebill.

Royal hakea grows almost exclusively in Fitzgerald River National Park, an area that was reserved on the recommendation of then Government Botanist Charles Gardner (see 'Botanic Guardian' on page 36).

Cover illustration by Philippa Nikulinsky

DEPARTMENT OF Conservation AND LAND MANAGEMENT
Conserving the nature of WA