## BUSH TELEGRAPH

## DEALING WITH DEATH IN THE VASSE-WONNERUP WETLANDS

Action is being taken to reduce mass fish deaths in the Vasse-Wonnerup wetlands.

Because of community concern over the large number of fish deaths, and the death of trees fringing the estuary, a report outlining strategies to protect the estuary has been prepared by the Vasse Estuary Technical Working Group.

This group has representatives from the Department of Conservation and Land Management (CALM), the Water and Rivers Commission, the Water Corporation, Fisheries WA, Agriculture WA, the Shire of Busselton, and GeoCatch.

Group Chairman Charlie Broadbent, of CALM, said likely causes of the problem had been identified and a range of options for preventing further deaths were being considered.

"Mass fish deaths in the estuary have a long history. Many dead fish were reported in February 1905, and there were further kills between then and 1960. Since then, there have been mass deaths in 1966, 1988, 1989, 1997 and again last summer," he said.

"The main cause is believed to be temporary falls in oxygen levels, probably as a result of algal blooms and high water temperatures. Algal toxins are also a factor."

Mr Broadbent said agencies on the Working Group had already begun to implement several strategies to combat the problem.

These included opening the sandbar across the mouth of the Wonnerup

Inlet at the beginning of January

Above: Collecting algal growth on the Vasse-Wornerup estuary.

Inlet at the beginning of January to improve water quality and allow free movement of fish from the estuaries, and a fish and water-quality monitoring program.

Tree planting on the banks of the Vasse estuary exit channel has also been proposed, to provide some shade over the water and reduce its temperature.

"The deaths of nearly 800 mullet in the Wonnerup estuary early in January this year came out of the blue, as there was no history of mass deaths in that body of water," Mr Broadbent said.

"Since then, we have been monitoring the Wonnerup estuary on a daily basis and have saved more than 4000 fish by two strategically timed openings of the floodgates to maintain appropriate water levels.

"By checking the estuaries each day, and piecing together information from the monitoring program, we're getting a better idea of the conditions that cause fish deaths.

"If these measures prove unsuccessful in reducing the fish kills, we will investige additional measures, subject to funding."

Mr Broadbent said the Group recognised the efforts made by landowners and other sectors of the community to reduce fertiliser run-off from the catchment and to eliminate point sources of nutrients such as dairy herd waste.

"If nutrient loads to the estuary are not reduced, the fish kill problem will almost certainly worsen," he said.

"The formation of the land conservation groups

and the catchment coordinating body GeoCatch, was an important step in implementing better management of the Vasse-Wonnerup and Geographe Bay catchments.

Left: Vegetation fringing

estuary is threatened by

the Vasse-Wonnerup

raised water levels in

summer-autumn.

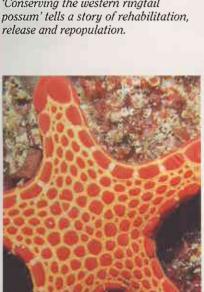
Photos - Jim Lane

"The Group's findings on technical aspects of the fishdeath problem emphasise the complex nature of local environmental problems and the need for a cooperative approach to solving them.

Copies of the technical report are available for \$5.00 from CALM's office in Queen Street, Busselton. It can also be viewed at the Busselton offices of CALM, Agriculture WA, Fisheries WA, GeoCatch, the Shire of Busselton and the local library.



'Conserving the western ringtail



Discover the fascinating world of 'Starfish, Urchins and their Relatives' on page 10.

Computers and the Internet

on page 40.

Herbarium within easy reach of

are putting CALM's Western Australian

enthusiasts. See 'From Here to Eternity

researchers, students and wildflower

Illustration by Philippa Nikulinsky

# LANDSCOPE

VOLUME THIRTEEN NUMBER 4. WINTER 1998



'The Art of Interpretation' on page 36 discusses how interpreters use a variety of techniques to enrich our experiences.



What have rabbits done to our land and what have we done about them? Find out in 'Run, Rabbit' on page 49.



Learn about a study of life in the tropical mudflats of Roebuck Bay on



-	- C	10 A SH	4.0	99 5 3		 100.00
- 11	0.46	M	0.0	10.44	9.9	 - 100

STARFISH,	<b>URCHINS</b>	AND 7	THEIR	<b>RELATI</b> \	/ES
ANN STORRIE.					1

## THE TEEMING MUD OF ROEBUCK BAY THEUNIS PIERSMA, GRANT PEARSON AND MARC LAVALEYE...16

2

## CONSERVING THE WESTERN RINGTAIL **POSSUM**

DALIL A. TODEC	CUITANINE DOCLED	AND CODDON D	AUNIE DO
PAUL DE TUKES.	SUZANNE ROSIER	AND GORDON PA	AINE ZO

## THE ART OF INTERPRETATION

GIL	FIELD AND	DAVID	GOUGH.	77.77	 		 en.	.36

## FROM HERE TO ETERNITY

IEVILLE.	MARCHANT				4	3
LVICEC	(417)15(147)143)143)143	 ,,	 	 		_

#### DUM DADDIT

NON, NADDII	
TONY START AND SANDRA	GILFILLAN

	R	Ε	G	U	LS	Α	R	S
			-			-	_	_
RUSH	ITEI	EGI	RAPH					

CNIDANICEDED	

#### FNDANGERED BIODIVERSITY IN MINIATURE......42

# **URBAN ANTICS**

CHOOK OF THE BUSH	Y.

Executive Editor: Ron Kawalilak Managing Editor: Ray Bailey

Editor: David Gough

Story Editors: Carolyn Thomson-Dans, David Gough, Mandy Clews, Mitzi Vance, Penny Walsh, Verna Costello

Scientific/technical advice: Andrew Burbidge, Ian Abbott, Keith Morris, Neil Burrows, Paul Jones and staff of CALM's Science and Information Division

Design and production: Maria Duthie, Sue Marais, Tiffany Aberin 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

 $\otimes$  ISSN 0815-4465. All material copyright. No part of the contents of the publication may be reproduced without 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