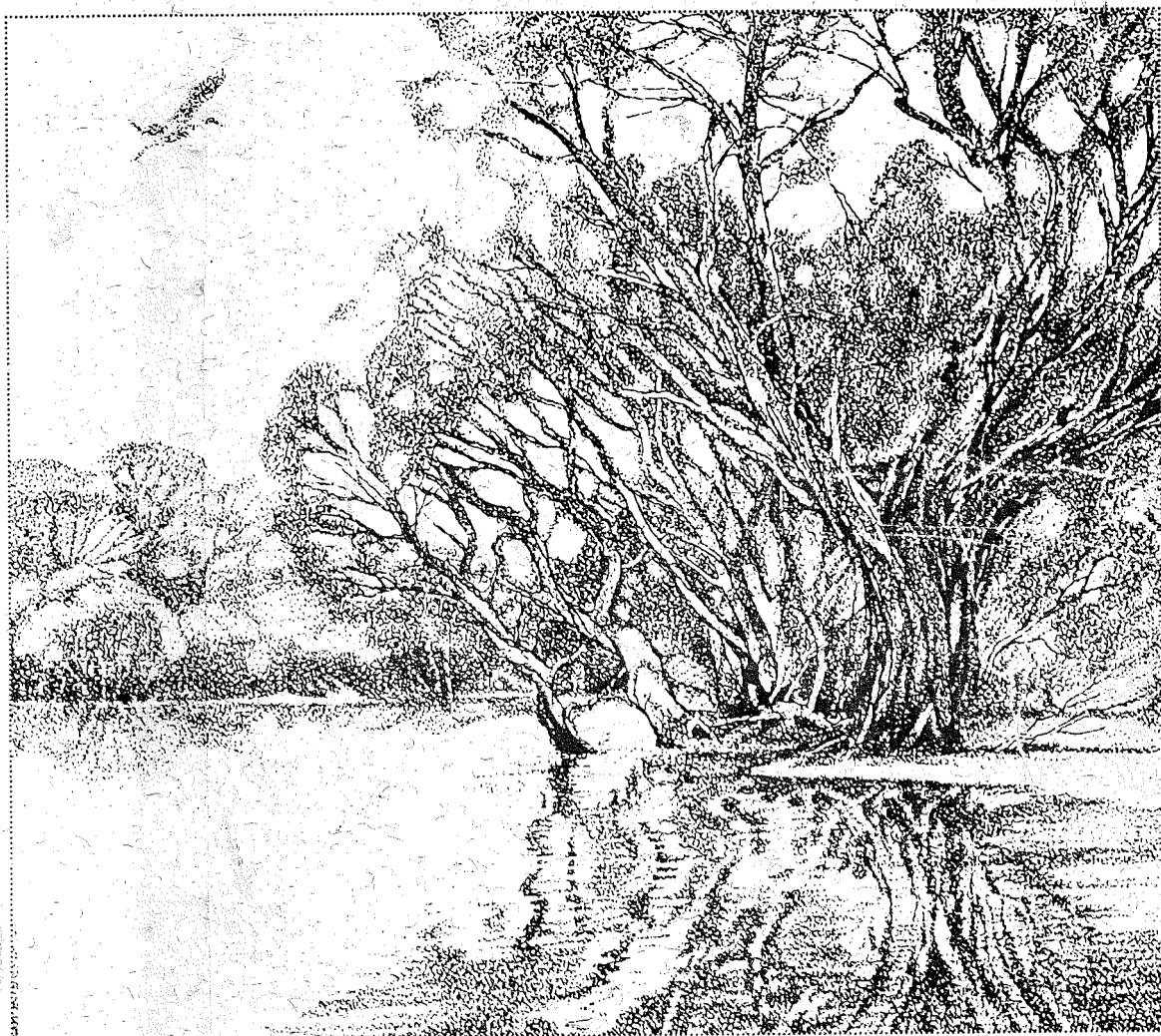


A Guide to Wetland Management on the Swan Coastal Plain



Edited by:

Norm Godfrey Philip Jennings Owen Nichols

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Chapter 1

Introduction

by Philip Jennings, Wetlands Conservation Society

The Swan Coastal Plain lies between the Darling Escarpment and the Indian Ocean and stretches over a distance of more than three hundred kilometres from the Moore River in the north to the Vasse River in the south. It is an area of sand dunes and sediments which were once covered by dense vegetation and thousands of diverse wetlands. Today it is still a region of abundant fresh water although much of the original vegetation has been cleared and most of the wetlands have been drained. Those that remain support a large population of wildlife including many migratory waterbirds which congregate on the Coastal Plain at the end of summer.

Because of its pleasant climate and abundant natural resources the Swan Coastal Plain is also the most heavily-settled part of the State. This has led to frequent conflicts between the proponents of various land uses such as conservation, agriculture, urban development, mining and water supply. The Coastal Plain contains abundant, high quality groundwater resources which are heavily exploited for human consumption and agriculture. However this groundwater also supplies the wetlands and wildlife and its exploitation has had substantial impacts on the environment.

In the past, little regard was paid to the value of wetlands and they were often drained or filled with rubbish to convert them into land suitable for farming or housing. Almost 80% of the original wetlands on the Swan Coastal Plain are believed to have been totally destroyed and most of the remainder have been heavily modified (EPA, 1991). In

the southern section of the Swan Coastal Plain, between Harvey and Dunsborough, more than 95% of the original wetlands have been drained for agricultural purposes (Fisheries and Wildlife, 1978).

The remaining coastal wetlands are now a vital habitat for the wildlife of the Coastal Plain and for waterbirds from the north and the interior which migrate to the coast in search of fresh water at the end of summer. Many of these wetlands are now threatened by urban expansion and by pollution from fertilisers and other agricultural chemicals. Increasing groundwater extraction from the coastal aquifers is also having an adverse impact on some of the coastal wetlands.

Towards the end of the 1970s the community began to appreciate the value of these coastal wetlands for recreation, conservation and landscape enhancement. This was largely due to the rising interest in nature conservation and the growth of recreational activities such as bushwalking and bird-watching. These groups began to campaign for wetland conservation and some significant steps were taken to protect important wetlands. The Cockburn Wetlands Study (1976) drew attention to the value of the wetland system and recommended conservation and management initiatives.

In the System Six Report (1983) the Environmental Protection Authority recommended the conservation of a large number of important wetlands on the Swan Coastal Plain. The EPA proposed a Regional Park system to conserve important natural areas, including wetlands, many of which were

privately-owned. Several of these Regional Parks have now been established including the Canning River, Herdsman Lake, the Beeliiar and Yellagonga Regional Parks. However many of the EPA's recommendations for wetlands are still awaiting implementation.

During the 1980s the community began to play an active role in wetland conservation. The Friends of Star Swamp succeeded in saving that important wetland from destruction in 1983.

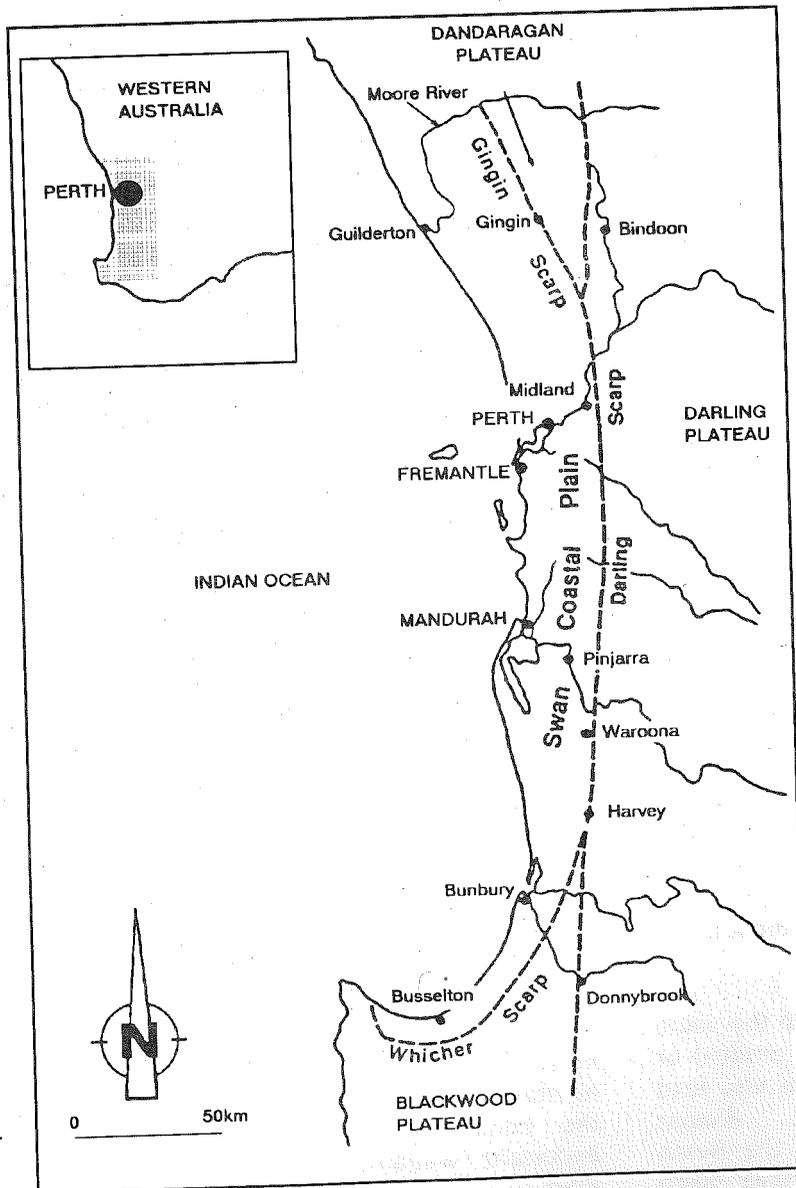
The Wetlands Conservation Society was formed in 1985 and began to campaign for

the conservation of the Beeliiar, Rockingham and Jandakot wetlands. The Waterbird Conservation Group was formed at about the same time and it began to campaign for the conservation of waterbird habitat. The Royal Australasian Ornithologists Union began its annual waterfowl counts in the early eighties and their data led to a much better understanding of the value of particular wetlands for waterfowl.

Government agencies, including the EPA and the Departments of Conservation and Land Management and Planning and Urban Development began to protect and manage wetlands in the mid eighties. Some major projects included the Herdsman Lake rehabilitation project, the Forrestdale Lake Management Plan and the Swan Coastal Plain Wetlands Policy.

The University of WA took over the management of Lake Banganup and has managed it as a wildlife refuge and research station. The City of Melville has produced management plans for Lake Booragoon and Bull Creek and several other local authorities are taking an active role in wetland management. The Shire of Swan allowed the creation of several large artificial wetlands at Ballajura and these have been successful after some initial problems.

Industry has also begun to play an important role in wetland creation and rehabilitation. Alcoa has been a leader in this field and its work in rehabilitating the Spectacles Swamps in Kwinana has been quite outstanding. This formerly degraded wetland is now a showpiece of biological diversity. Alcoa has also created artificial wetlands on the clay soils of the Pinjarra Plain at Wellard and these are now a wildlife sanctuary. AMC Mineral Sands Ltd, a sand mining company, has converted old mining pits into attractive wetlands near Capel.



THE SWAN COASTAL PLAIN
[Source: EPA (1991)]

In recent years public interest in conservation and rehabilitation of the natural environment has reached new heights as a result of rising concern about the apparent deterioration of the environment.

This has led to many community tree planting projects and several attempts by local groups to rehabilitate or conserve coastal wetlands.

This book is based on our experience in wetland creation, rehabilitation and management. It is our contribution to the growing effort by the WA community to reverse the trend of wetland loss on the Swan Coastal Plain. We have shown that degraded wetlands can be restored to health by careful attention to some simple and inexpensive details which we have described in subsequent chapters.

The task is vast but you can succeed with persistence and know-how. Persistence is essential for you are certain to encounter setbacks and disappointments and it is always helpful to work with a group which can share the task.

This book is organised into two main parts. Part A focuses on case studies of wetland rehabilitation on the Swan Coastal Plain. It includes examples of rehabilitation following farming, roadworks, and urban development. Part B contains specific advice on the techniques of wetland creation. It is based on our cumulative experience in many rehabilitation projects.

The Appendices contain detailed information which will assist people who wish to undertake their own wetland rehabilitation projects.

Our society is facing a major challenge to stem the tide of environmental decay. Wetlands are amongst the most diverse and valuable of biological systems. They support abundant plant and animal life and they play a vital ecological role.

In WA wetlands are relatively rare yet we have proceeded to destroy most of our coastal wetlands. Those which remain are degraded and threatened but there is still time to conserve most of them and even to create new ones.

We hope that this book will give you the knowledge and the inspiration you need to help in the job of restoring our wetland heritage.

REFERENCES

Cockburn Wetlands Study (1976), Editor P Newman, Institute of Environmental Science, Murdoch University

EPA (1991)
Draft Environmental Protection Policy (Swan Coastal Plain Wetlands), Perth

Fisheries and Wildlife Department (1978)
Wetlands of the South West of WA, with Special Reference to the Busselton Area

Giblett R (1991)
A City and Its Swamp Setting: Decolonising Perth's Wetlands, Australian Studies

System Six Report (1983), Department of Conservation and Environment, Perth, Report 13
