

Preface

When Europeans settled Western Australia over 200 years ago the indigenous value system and appreciation of the life-sustaining importance of native vegetation changed – no longer were natural systems essential to life. Bushland was seen as hostile to human endeavour, to be harnessed, contained, controlled and subjugated.

Many ecological mistakes were made along the way. From the early description of the Swan River Colony as containing 'grassy meadows' – the English undoubtedly mistook the widespread and common sedges and rushes (Cyperaceae and Restionaceae – essentially grass-like but generally non-palatable) for grasses – to the loss of biodiversity (Western Australia has one of the highest per capita species extinction rates) our approach to managing and conserving our unique biological and landscape heritage has been sadly lacking.

Indeed the reluctance of early settlers to acknowledge natural values in native ecosystems led to the wholesale clearing of large tracts of native bushland with little regard for what the land was telling them. Where biodiverse and ancient ecosystems once existed, these were replaced with annual pastures and primary production systems that fought with the Australia environment, systems that were foreign, highly invasive and corrupted the subtle and ancient ecological processes of the Western Australian landscape.

Virtually overnight, 60 million years of biological evolution was reduced to mere vestiges in many areas including our coastal regions. Results of this lack of ecological perception have far-reaching economic and social consequences. Salinity claims an area the size of a football field every few hours, invasive weeds threaten almost every remnant conservation area, and pest and diseases from dieback (*Phytophthora*) to cane roads and starlings place remaining bushland areas at risk.

And coastal ecosystems have been at the frontline of ecological damage. Probably the earliest recorded weed impact in Western Australia was in coastal areas where the aggressive weed, rose pelargonium (*Pelargonium capitatum*) was thought to have been introduced via ballast in ships arriving from South Africa. More than most other native ecosystems, coastal areas in south-west of Western Australia are highly vulnerable to invasive species with many weeds adapted to man-made disturbances.

The lure of beachside living continues to be a major impact on coastal ecology with the Perth metropolitan coastline having the highest degree of artificial fragmentation and ecological decline of any other natural area along the Western Australian

coastline. The metropolitan coastal strip has been described as an ecological disaster zone as marinas, boat ramps, weeds, pests and inappropriate management erode the fragile coastal fringe and threaten the precious fragments that remain.

Appreciating and understanding how to conserve, restore and manage coastal natural areas is the aim of this book. By understanding the diversity and vulnerability of our coastal fringe we can manage and ameliorate the mistakes of the past and preserve for future generations our unique natural coastal heritage.

This guide to the plants of the west coast region – their ecology, biology and restoration – provides a window on the natural richness and ecological vulnerability of our coastal zone.

The reason for the book is clear. West coast ecosystems, particularly in the Perth region, continue to experience threats to coastal biodiversity and ecological integrity. Even though Western Australia has one-third of the 34 000 km of coastline of mainland Australia, our coastal ecosystems have undergone radical alteration in their ecological integrity. Weeds, fire and inappropriate development have contributed to a substantial loss of ecological function in metropolitan coastal ecosystems. Simple practices such as introduction of foreign plant species to stabilise mobile dunes have resulted in most of these species becoming major pests.

This book provides an inventory of the most abundant and ecologically important 100 species found along the west coast and supporting information on seed biology, ecological processes and restoration technology. Plants in this guide occur on the Quindalup Dunes (coastal dunes, often within 500 metres of the high water mark), mobile coastal sands and near-shore communities including limestone outcrops from Busselton to Geraldton. Much of the information contained in this guide is also applicable to off-shore islands in the region.

As with any text on natural systems, particularly such complex coastal systems as those along the Perth coast, knowledge develops, processes change and technology advances. The information presented here is a snapshot of the current leading practice in restoration and management approaches; however, these approaches will evolve and improve over time.

Appreciation through knowledge is the guiding principle of this book so that more people will come to understand and respect the biological richness of our coastal ecosystems. In the words of Baba Dioum,

*We will conserve only what we love,
We love only what we understand, and,
We understand only what we are taught.*

The producers of this guide, Cambridge Coastcare hope that fellow coastcarers and those who cherish the natural values of our precious coastal ecosystems will learn from this book and help protect and enhance the extraordinary natural beauty and fragility of our coastal heritage for future generations.