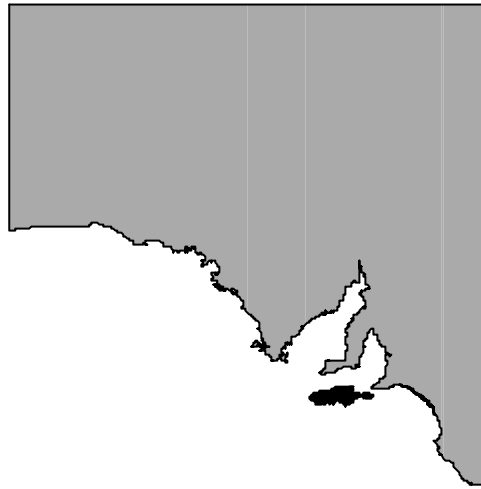


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# A BIOLOGICAL SURVEY OF KANGAROO ISLAND SOUTH AUSTRALIA IN NOVEMBER

1989 and 1990

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Editors

**A. C. Robinson**

**D. M. Armstrong**

Biological Survey and Research Section

Heritage and Biodiversity Division

Department for Environment, Heritage and Aboriginal Affairs, South Australia

1999

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## Kangaroo Island Biological Survey

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The Biological Survey of Kangaroo Island, South Australia was carried out with the assistance of funds made available by, the Commonwealth of Australia under the 1989-90 National Estate Grants Programs and the State Government of South Australia.

The views and opinions expressed in this report are those of the authors and do not necessarily represent the views or policies of the Australian Heritage Commission or the State Government of South Australia.

The report may be cited as:

**Robinson, A. C. & Armstrong, D. M. (eds) (1999)**  
**A Biological Survey of Kangaroo Island, South Australia, 1989 & 1990.**  
**(Heritage and Biodiversity Section, Department for Environment, Heritage and Aboriginal Affairs, South Australia).**

Copies of the report may be accessed in the library:

Environment Australia GPO Box 636 CANBERRA ACT 2601	or	Department for Environment, Heritage and Aboriginal Affairs 1 <sup>st</sup> Floor, Roma Mitchell House 136 North Terrace, ADELAIDE SA 5000
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### EDITORS

A.C. Robinson, D.M. Armstrong, Biological Survey and Research, Heritage & Biodiversity Section, Department for Environment Heritage and Aboriginal Affairs PO Box 1047 ADELAIDE 5001

### AUTHORS

D M Armstrong, P.J.Lang, A C Robinson, Biological Survey and Research, Heritage & Biodiversity Section, Department for Environment, Heritage and Aboriginal Affairs PO Box 1047 ADELAIDE 5001

N Draper, Australian Cultural Heritage Management Pty Ltd, 53 Hackney Rd. HACKNEY, SA 5069

G Carpenter, Biodiversity Monitoring and Evaluation, Heritage & Biodiversity Section, Department for Environment Heritage and Aboriginal Affairs. PO Box 1047 ADELAIDE 5001

**D. Ball**

C/- Post Office PENNESHAW, SA 5222

S. Carruthers, D Goodwins, A. Kinnear, Geographic Analysis and Research Unit, Planning SA, Department for Transport, Urban Planning and the Arts, GPO Box 1815, ADELAIDE 5001.

P Horton, C M Kemper, South Australian Museum, North Terrace, ADELAIDE 5000.

A Belperio, R Flint, Geological Survey Primary Industry and Resources South Australia, PO Box 151, EASTWOOD 5063.

### CARTOGRAPHY AND DESIGN

Biological Survey and Research, Natural Resources Group, Department for Environment and Natural Resources Public Communications, and Visitor Services, Department of Environment Heritage and Aboriginal Affairs.

Geographical Analysis and Research Unit Planning SA, Department for Transport, Urban Planning and the Arts. ã Department of Environment Heritage and Aboriginal Affairs 1999

ISBN 0 7308 5862 6

### PRINTED BY

Endeavour Press, Adelaide

### Cover Photograph

Sugar Gum woodland on the DeMolle River in Cape Torrens Conservation Park  
Photo: A. C. Robinson

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# PREFACE

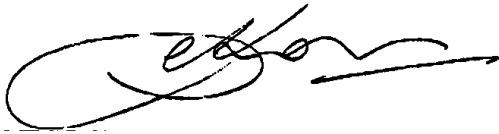
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*A Biological Survey of Kangaroo Island, South Australia* is a further component of the Biological Survey of South Australia

The program of systematic biological surveys to cover the whole of South Australia arose out of a realisation that an effort was needed to increase our knowledge of the remaining vascular plants and vertebrate fauna of the state and to encourage its conservation.

Over the last fifteen years, there has been a strong commitment to the Biological Survey by Government and an impressive dedication from hundreds of volunteer biologists.

It is anticipated that the Biological Survey will achieve complete statewide coverage by 2015 and will be an achievement for which we can be very proud. Biologists in the future will be able to measure the direction of long-term ecological change, and we will have substantially improved our knowledge of the biodiversity of South Australia and our ability to adequately manage nature conservation into the future.



MRS DOROTHY KOTZ MP

MINISTER FOR ENVIRONMENT AND HERITAGE

# ABSTRACT

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A vegetation survey was carried out on Kangaroo Island in November 1989 which sampled 341 quadrats. This was followed by a vertebrate survey in October-November 1990 that sampled a sub-set of 120 quadrats. These sites aimed to sample representative areas of all the remaining natural vegetation on the island in proportion to the broad habitat variability of these areas. In addition, at least one sampling site was located in all of the 17 reserves under the National Parks and Wildlife Act on the island at that time. The total number of records contributed to the Biological Survey Database as a result of this survey were: 10 370 plants, 255 amphibians, 967 reptiles, 4 804 birds and 1 463 mammals.

An analysis of the plant quadrat data resulted in the description of 10 broad communities that were divided into 36 more detailed floristic units. Using this analysis as a basis, a vegetation map of the island was produced comprising 37 major vegetation groups based on the dominant upperstorey plant. Within these 37 major groups, 132 sub-groups have been identified and mapped.

Because of the relatively low number of different species of vertebrates and their tendency to exhibit broader habitat preferences on Kangaroo Island, pattern analyses tended to show poor patterning. Consequently, only the bird analysis is presented here. This resulted in the recognition of seven bird communities, some of which appeared to have more ecological integrity than others.

The survey results were combined with previous records from Kangaroo Island to produce consolidated total species lists.

Kangaroo Island supports 1179 distinct plant taxa, with 10 species being added as a result of this survey. A total of 652 taxa or 55% of the total species now known from the island were recorded during the survey. Of the taxa recorded on the survey, 89 (15.8 %) are alien. Kangaroo Island supports a surprisingly rich and diverse flora for its size. There are currently 45 vascular plant taxa recognised as being endemic to Kangaroo Island. A further 11 taxa are 'almost endemic', having only a minor part of their distribution in an adjoining region. This is a relatively high level of regional endemism, comparable with that of the Grampians in Victoria, which is well known for its endemic flora.

There are six species of amphibians recorded from the island, all appear to be widespread and common and no endemic island forms are currently recognised.

Of the twenty species of reptiles known from the island, two (the Eastern Bearded Dragon and Common Long-necked Tortoise) have been introduced since European settlement. No endemic island forms are recognised, but populations of the Heath Goanna and the Pygmy Copperhead are significant for the overall conservation of these species.

Two hundred and sixty-seven species of birds have now been recorded from Kangaroo Island and its surrounding waters, while reports of a further seven species await confirmation. This includes sixteen Australian species deliberately introduced to the island, of which four have established feral populations. Five species of domestic game fowl have taken advantage of the fox-free environment to establish free-range, possibly self-sustaining populations. Six exotic species have reached the island apparently unaided. Eighty-eight (74%) of the 119 land birds on Kangaroo Island were recorded during this survey. Kangaroo Island's one endemic species, the Kangaroo Island Emu was extirpated soon after European settlement. Six endemic subspecies are currently accepted.

Bird species of conservation significance on Kangaroo island include: the Glossy Black Cockatoo and Bush Stone Curlew, considered endangered in South Australia. Vulnerable species include the Painted Button Quail, Brown Quail, Leewin's Rail, Latham's Snipe and the Yellow-tailed Black Cockatoo.

Twenty-five species of non-marine mammals (including bats) are now known to occur on Kangaroo Island. Eight of these are introduced. At least two species thought to be present on the island at the time of European settlement (an unknown Quoll species and the Brush-tailed Phascogale) are almost certainly extinct while several of the introductions appear to have failed. There is one endemic species the Kangaroo Island Dunnart, which is known from a limited number of localities and may be threatened.



**The Western Pygmy-possum *Cercartetus concinnus* is very common in the heathlands and forests of Kangaroo Island where it feeds on insects and nectar.  
Photo: A. Robinson**



**Evening light through the Sugar Gums in Flinders Chase National Park.  
Photo: A. Robinson**