

PROCEEDINGS
OF
THE ROYAL SOCIETY OF VICTORIA

Volume 133

Part 1

8 LA TROBE STREET, MELBOURNE, VICTORIA 3000, AUSTRALIA

Published by the Royal Society of Victoria
ABN 62 145 872 663
8 La Trobe Street
Melbourne, Victoria 3000, Australia
Tel: +61 3 9663 5259
Email: editor@rsv.org.au
Web: www.rsv.org.au

Copyedited and typeset by Barbara Vaughan.

The support of the following reviewers in the preparation of this issue is greatly appreciated:
Geoff Edwards, Lynne Milne, Nelson Quinn, Ian Rae and Clive Willman.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior permission of the Royal Society of Victoria.

ISSN 0035-9211

© The Royal Society of Victoria Incorporated, 2021

COVER PHOTOGRAPHS

Dingoes on Wooleen. Photograph by David Pollock.

Watercolour of Royal Society of Victoria building. Tony Broughton 2009.

THE ROYAL SOCIETY OF VICTORIA 2021

<i>Patron</i>	THE HON. LINDA DESSAU AC, GOVERNOR OF VICTORIA
<i>President</i>	MR ROB GELL AM
<i>Vice-President</i>	DR CATHERINE DE BURGH-DAY
<i>Immediate Past President</i>	MR DAVID J. ZERMAN
<i>Honorary Secretary</i>	MR JEFFREY LUCKINS
<i>Honorary Treasurer</i>	MR SIDDARTH VERMA

The above Office bearers are *ex officio* members of the Council of the Society.

Other members of the Council are:

DR JANE CANESTRA
ASSOCIATE PROFESSOR ROBERT DAY
DR SOPHIA FRENTZ
DR KEVIN ORRMAN-ROSSITER
DR VIKTOR PERUNICIC
ASSOCIATE PROFESSOR GAVIN SMITH
PROFESSOR DAVID WALKER

<i>Chief Executive Officer</i>	MR MICHAEL FLATTLEY
<i>Honorary Auditor</i>	PITCHER PARTNERS ADVISORS PTY LTD
<i>Trustees</i>	DR ALAN S. FINKEL AM PROFESSOR LYNNE SELWOOD AO

EDITORIAL STATEMENT

Proceedings of the Royal Society of Victoria is published twice yearly in an online, open-access format through an agreement between the Royal Society of Victoria and CSIRO Publishing. The *Proceedings* is now indexed in Elsevier's Scopus and has a CiteScore, which measures average citations received per document published in the serial. Scopus indexes 22,000 journals. The journal is also being digitised for the Biodiversity Heritage Library.

The Society invites original research articles, reviews and short communications for the *Proceedings*, from authors across the various disciplines of biological, physical and earth sciences, including multidisciplinary research, and on issues concerning technology and the applied sciences. Contributions on topics that are relevant to Victoria and the south-eastern Australian region are particularly encouraged. All contributions are subject to peer review and there are no page or colour charges involved.

Authors should consult papers published in Volume 128, part 1, for a guide to the format of manuscripts. Particular attention should be paid to the format of the listed references and their mode of citation in the text. In general, order references alphabetically. Note that for entries beginning with the same surname, one- and two-author entries precede those with multiple (three or more) authors; these multiple-author entries should then be ordered chronologically.

The use of images, in particular coloured illustrations, is encouraged. All images (photographs, tables, illustrations, graphs) must be supplied electronically:

- as separate files (not embedded in the text)
- with fonts embedded in the file
- as colour, black & white or grayscale
- in TIFF, JPG or high resolution PDF format
- numbered sequentially according to their appearance in the text
- preferably designed for one or two column width
- at a resolution of at least 300 dpi (for photos) and 800 dpi (for line artwork) at final size
- with lines thicker than 0.3 point.

Manuscripts should be submitted electronically by email to editor@rsv.org.au, with the word 'manuscript' in the subject bar.

Editor-in-Chief

Dr William Birch

Editorial Board

Dr Erich Fitzgerald

Dr Martin Gomon

Mr Alfons VandenBerg

CONTENTS OF VOLUME 133, PART 1

Papers for Special Issue on Stewardship of Country

B. FORAN	
Australian Rangeland futures: time now for systemic responses to interconnected challenges	7–13
P. BRIDGEWATER	
Australian landscapes from Eocene to Anthropocene	14–17
C. BRADY, P. CHRISTOPHERSEN AND J. O'BRIEN	
Incorporating Indigenous knowledge in mine closure: Ranger Uranium Mine	18–22
C. HALL	
Connections for resilience: sharing land management knowledge between farmers and politicians	23–26
D. POLLOCK	
Managing the unmanageable: reinstating the dingo for pastoral sustainability in Australian rangelands	27–31
N. SHARP	
The business of biodiversity: the role of Odonata	32–35
N. QUINN	
New stewardship of Country	36–38
Additional paper for Part 1	
G.L. McMULLEN	
'A talented young German': exploration of the early career of Jacob Braché	39–55

EDITORIAL STATEMENT FOR SPECIAL ISSUE

The devastating summer bushfires of 2019–20 and the COVID-19 pandemic have certainly highlighted a need for a new way forward for our relationship with our environment. It's clear that 'business as usual' is no longer an option, yet what are the alternatives?

'Stewardship of Country', a symposium in three parts presented by the Royal Societies of Australia and Inspiring Victoria, was a series of online events held for audiences across Australia in March 2021. Eleven presentations were delivered across multiple domains of land management practice and scholarly expertise, representing an historic collaboration between Aboriginal and Torres Strait Islander experts, industry practitioners and thinkers, convened under the auspices of the Royal Societies of Victoria, Queensland and New South Wales, with support from the CSIRO.

The series posed the question: who are we becoming, as Australians faced with an increasingly unpredictable and challenging future?

'Country' is a term with layered, nuanced meaning in Australia, drawn from the traditions of Aboriginal and Torres Strait Islander cultures. Here, it is generally recognised as a sacralised term that combines land, ecosystems and human cultures in an holistic knowledge system of complex interrelationships. Recognising the significance of the relationship Indigenous Australian cultures signal with the word, we have made use of 'Country' with the greatest respect to these deep-rooted traditions, drawn from the oldest continuous cultures and knowledge systems on the planet.

'Stewardship' is a more general term that finds its origins in the European feudal system; in its modern sense, it describes a responsibility for the health of our 'estates', which we keep in care for future generations. In practice, Stewardship may require us to reorganise around the unique characteristics of the Australian landscape. This can be achieved by significantly regenerating damaged ecosystems and deprioritising the extractive nature of constant economic growth in favour of an enduring sufficiency gathered from a productive and biologically diverse environment.

The Stewardship of Country symposium aimed to elevate a broad range of perspectives, generating a discussion on landscape and environmental management that bridges Indigenous, agricultural, scientific, economic and social perspectives with support for practical action and public good.

From the eleven presentations, six were eventually submitted for publication as a 'Special Issue' of Proceedings of the Royal Society of Victoria. An additional paper drawing together the outcomes in a general way has been included. As Editor, I wish to acknowledge the willingness of the contributors to prepare their papers and their prompt attention to the demands of the editorial process.

Readers interested in learning more about the stewardship webinar series, including all the presentations, should visit <https://www.scienceaustralia.org.au/stewardship-of-country>.

William D. Birch
Editor-in-Chief