

Book review

BIRD CONSERVATION: GLOBAL EVIDENCE FOR THE EFFECTS OF INTERVENTIONS

By D. R. Williams, R. G. Pople, D. A. Showler, L. V. Dicks, M. F. Child, E. K. H. J. zu Ermgassen and W. J. Sutherland 2013. Published by Pelagic Publishing, Exeter, UK, 575pp., Hardback, AU\$140, ISBN: 9781907807206.

My first reaction to this book was surprise at its small size. Despite containing over 500 closely packed pages, I was astonished that all the evidence for the effectiveness of avian conservation management actions, both positive and negative, could be contained in a single volume. But I was wrong – this is a reasonably comprehensive book. In fact the book's relative slimmness is testament to the immaturity of evidence-based conservation management as a practice.

Evidence-based medicine, the practice of basing medical care on a review of the quality of the data underpinning a treatment, began in the 19th century, but it was only in the 21st century that people like Andrew Pullin, Terri Knight and Bill Sutherland began applying the idea to environmental science. What they found shocked them. The efficacy of many common conservation practices was simply unknown and evidence that was available was rarely being used by managers. So Bill Sutherland and others at the University of Cambridge established the open-access online journal *Conservation Evidence* as a vehicle for disseminating studies that tested the effects of actions designed to conserve wild nature. The journal website also provided access to studies published elsewhere. This book comprises the essence of that website.

In total this book summarises over 3000 pieces of evidence, largely peer-reviewed papers describing experimental approaches and statistical comparisons of alternative approaches, relating to some 322 types of conservation intervention. The topics covered were determined by an advisory board and are pretty comprehensive, though perhaps with a bias for northern temperate situations because that is where the majority of studies have occurred.

I must admit that initially I was sceptical of the book's utility given that all the information is available on the web. In fact, I found the book immediately useful – and it will certainly make evidence-based management possible in the many parts of the world with unreliable web connections. Having all the material together also makes tangential browsing much easier, which the human brain does so much more efficiently than a computer.

The evidence is described at two levels. At the start of each chapter (with titles including Agriculture, Pollution, Energy production – all matching the major IUCN threat categories) are a set of key messages that describe, very briefly, the nature of available evidence. These are then followed by referenced accounts of interventions for readers needing more detail. Described here are both interventions where a positive effect has been detected and those where there had been no effect. Where appropriate, the conclusions of systematic reviews are included rather than a repeat of the detail.

Some parts are amazingly short, reflecting the level of investment. Education, for instance, covers just two pages and includes the

chilling statement 'We captured no published evidence on the effect of general awareness campaigns and public information on the state of bird populations' (p. 14). Basically, the efficacy of awareness-raising measures seems so self-evident that no-one has tested their effectiveness. Or they have never dared. No wonder that auditors-general question the return on the conservation dollar.

In fact, there are many unproven interventions, some a little obscure. For instance, until I read this book, I had fully intended to import a bag of lion dung to protect nests (although it seems hyena dung might be more effective: Muhamued *et al.* 2014). The criteria for inclusion were only that the intervention must be realistic and the effects must have been monitored quantitatively, but I did sometimes wonder whether even this level of proof was applied too rigorously, and excluded some potentially useful studies. For instance, I was surprised at the omission of the Doerr's decade of research on the importance of paddock tree retention for Brown Treecreeper dispersal (e.g. Doerr and Doerr 2005; Doerr *et al.* 2011), but perhaps this body of work was excluded because it does not include any formal experiments in which trees were experimentally removed.

Of course the answer to such criticism is to submit additional evidence to the *Conservation Evidence* website. Alternatively, one can go further and undertake reviews for the Collaboration for Environmental Evidence – a group related to the editorial board of *Conservation Evidence* – that draws together and assesses the quality of evidence for specific questions. Many people are doing so. The number of actions considered for birds on the *Conservation Evidence* website is now 25% higher than when this book was assembled, and the site has expanded its taxonomic scope and now gathers evidence for actions relating to soils, farmland, amphibians, bees and natural pest control.

As the demand for accountability in conservation biology grows, and environmental management shifts from the periphery of the economy to the mainstream, there is an increasing duty-of-care to ensure actions are backed by the best evidence available. Conservation management is a long way behind medicine. This book will help us start to catch up.

Stephen T. Garnett
Charles Darwin University
Darwin, Northern Territory
Australia

References

- Doerr, E. D., and Doerr, V. A. (2005). Dispersal range analysis: quantifying individual variation in dispersal behaviour. *Oecologia* **142**(1), 1–10. doi:10.1007/s00442-004-1707-z
- Doerr, V. A., Doerr, E. D., and Davies, M. J. (2011). Dispersal behaviour of Brown Treecreepers predicts functional connectivity for several other woodland birds. *Emu* **111**(1), 71–83. doi:10.1071/MU09118
- Muhamued, B., Lloyd, H., and Marsden, S. (2014). Can hyenas help save mainland Africa's most imperilled bird? Available at <http://stuartmarsden.blogspot.co.uk/2014/02/can-hyenas-help-save-mainland-africas.html> [Verified 12 February 2014].