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BOOK REVIEW

Birds and Habitat: Relationships in Changing Landscapes

By: Robert J. Fuller

Publisher: University Press, Cambridge, UK, Ecological Reviews Series (2012), 542 pp.
Paperback ISBN: 978-0-521-72233-9

At the start of his second chapter, Rob Fuller says, "It is unwise to be dogmatic about the habitat associations of any bird species. Even the classification of species as habitat generalists or specialists requires careful consideration." Fortunately for us, despite his own pessimism, Rob persists in his hunt for the secret of avian habitat relationships with a glittering array of invited contributors that make this book much more than just a valiant effort at unlocking the secrets.

It is inevitable that we, as mere humans, cannot see features of the environment that affect the way that birds select their habitats. Birds have more immediate needs that relate directly to food abundance and availability, energy, water and temperature balance, social contact, familiarity, predator detection, shelter and refuge from predation than the often complex aggregations of features we perceive on their behalf as 'their habitat'. Nevertheless, there is no doubt that it is urgent for us to understand the requirements of bird species from their surroundings as human development pressures, habitat loss and climate change conspire to accelerate our need to make best use of those habitats we can manage for the remaining populations that persist. This is what makes this book such a vital contribution to our knowledge.

Any review work must be worth more than the sum of the parts, and this is certainly the case with the vast majority of the chapters of this mighty review. Rob Fuller has structured a lively and well-organised content, starting with an exploration of the complexities of the pattern and process involved in examining habitat selection amongst birds in the first seven sections, which sets the scene for the rest of the book. This includes a particularly good review of how heterogeneity in European agricultural landscapes affects birds at multiple spatial scales, from sward types and nest sites, through field-level and farm scale pattern, to the effects of agri-environment schemes at the landscape and region scale. Also greatly entertaining is the chapter on spatial variation and temporal shifts in habitat use across Europe, by Tomasz Weslowski and Rob, which turn many British preconceived ideas about habitat selection on their heads with reference to those occupied by the same species elsewhere.

A magnificent set of case studies follow, written by a glitterati of experts in their field, including British moorlands (Murray Grant & James Pearce-Higgins), European Arctic-Alpine (Des Thompson et al.), reed beds and fens (Gillian Gilbert & Ken Smith), wet grassland waders (Malcolm Ausden & Mark Bolton), estuaries (Jenny Gill), non-estuarine coast (Niall Burton) and a hugely enjoyable review of woodlands (where Rob is on home territory and in superb form, along with his

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coauthors). Each study offers a marvellous potted review of the state of the art, and each is an excellent review in its own right.

The final section is a lavish array of what Rob has called 'wider perspectives'. This kicks off with Theunis Piersma giving the most sumptuous narrative as he wanders through the marvellous landscape, inhabited by his amazing group, trying to unearth the secrets of how waders use their habitat and select between foraging opportunities. I think it is almost worth buying the book for this story alone, as Theunis (in his own inimitable way) slowly unravels the path of exploration and the sequence of events that gradually unveils his understanding of the processes that guide shorebird distribution and habitat selection. This section ends with the confirmation that the serendipity of digging into food selection and energetic profitability was indeed just the right place to start probing when trying to understand the mechanics of shorebird habitat exploitation. Beat Naef-Daenzer challenges us to think about linkages between life history strategy and habitat use, and there is an absolutely splendid review by Christiaan Both, from his lofty viewing gallery, of the way climate change is affecting habitat quality and, inevitably, avian habitat selection. In the first of two very welcome breaks from the confines of Europe, Tara Martin and her colleagues present a ripping explanation of how European people have devastated the Australian continent, and how the pattern and scale of these changes have had an impact upon the native avifauna and their use of habitats. Then, Jean-Louis Martin and his happy band of coauthors assemble a stunning comparison of the effects of the imposition of cultural landscapes (essentially forestry, agricultural and urban) in North America and Western Europe on bird-habitat relationships in a really cool assessment of both the similarities, as well as the more obvious differences, that accrue from the differences in speed and timing of the patterns of change across two continents. Rob rounds off with some outstanding and thought-provoking views on how to use this masterful synthesis to best effect, especially to support the development of more effective nature conservation management strategies, at a time when resources are failing and we seem to be racing towards a world of what he sees as 'greater volatility, disturbance and uncertainty'. You must decide for yourself whether or not he pulls this off, but he provides an excellent set of conclusions and clear series of considerations from the many and varied contributions that he has been so spectacularly successful in soliciting.

I think this is a marvellous book; my copy is already beaten and dog-eared, and I keep coming back for more. Rob himself ponders on how parochial a tome on birds and habitat seems, but the reality is that we simply cannot afford to be parochial. I write this review from eastern China, where the pace of habitat change is so terrifying that it is already too late to even dream of what constituted 'natural' habitat selection for many avian species. Successful avian conservation builds entirely on improving our understanding of bird requirements and their habitat use. This book gives so many good directions and I urge you to buy it. Whether as a student, researcher or nature conservation professional involved in policy or management, these reviews are some of the best you can find and you ignore them at your peril. Thanks, Rob, for orchestrating this vital synthesis for us mere mortals!

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