



Birds Australia

BIRDS ON FARMS PROJECT IN WESTERN AUSTRALIA

1996 - 1999

Brenda Newbey

Western Australian Bird Notes, Supplement No. 5

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The expanded Western Australian farms segment of this project was only possible as a result of grants. Most of the funding was from the Gordon Reid Foundation for Conservation.

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The Gordon Reid Foundation for Conservation was established in 1990 by the Lotteries Commission. The basic function of the Foundation is to stimulate and sustain community action to conserve indigenous plants, animals and micro-organisms, and their natural environments, in Western Australia.

Thanks to Healthways for their support for the country Bird Days



Birds Australia (WA Group) supplied funding to keep the project running while grants were sought.



Cover: From a photo by P.Worts (Kojonup)

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BIRDS AUSTRALIA

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The Birds on Farms project could not have been accomplished without the contribution of a great deal of volunteer time and effort. Correct bird identification was striven for and great care was taken in filling out the registration forms. Both these factors have enhanced the quality of the results. A commitment of two years is a long time but sixty percent of the farms and most of the road verges were surveyed eight times. I do apologize for any omissions in the impressively long list below.

The volunteer surveyors of farm and/or road verge sites that I became aware of were: Susan Abbotts, Heather Adamson, George Agar, Pam Agar, Fran Alcock, George Allen, Pam Allen, Barbara Anderson, Deborah Badger, Margaret Basford, Phyllis Bentley, Peter Binstead, Freda Blakeway, Donna Blyth, John Blyth, Judy Blyth, Wendy Bradshaw, Carolyn Bramham, Lesley Brent-White, Norah Brockman, Beth Broun, Michael Burns, Geoff Burrow, Gisela Cannon, Andrew Chapman, Chloe Church, Robert Clare, Helen Clark, Desrae Clarke, Wayne Clarke, Bob Clarke, Rae Clarke, Brad Cox, Jean Craig, Michael Craig, Bronwyn Crouch, Les Cruickshank, Max Cussons, Vivienne Dare, Charlie Davies, Liz Davies, Robert Davis, Colin Davis, Alison Doley, Ernie England, Fiona Falconer, Marjorie Joy Fleay, Lee Fontanini, David Free, Pam Free, Peter French, Mary Frith, Beth Gaze, Mike Gibbs, Terry Giles, Ina Godwin, Cheryl Gole, Martin Gole, Jan Gray, Olga Green, Sallie Green, Joan Higham, Margaret Hutchinson, Max Howard, Jay Humphries, Timothy Hunt, Paul Hynes, Archie Jackson, Sue Jaensch, Juanita Jones, Erik Jorgensen, Ann Jorgensen, Buddy Kent, Sue Keogh, Terri Lloyd, Penny London, Liz Marshall, Greg Marston, Kath Mathwin, Ken Mazzucchelli, Charmaine Mazzucchelli, Tony McAleer, Vivian McCormick, Sue McDougall, Jock McLean, Eileen Melville, Claire Mercer, Penny Mossop, Wendy Napier, Clive Napier, Gloria Neal, Stephen Newbey, Michael Nield, Ada Nield, Mavis Norgard, Sue Osborne, Kerryn Oliver, John Oliver, Vera Patterson, Deborah Perry, Helen Pierce, Wendy Porter, Frank Pridham, Raymond Richter, Dick Rule, Waladek Sarafin, Ai-Ai Sarafin, George Schmidt, Leon Silvester, Valerie Spence, Anne Staniforth-Smith, Val Talbot, Jeremy Talbot, John Taylor, Anne Todd, N. Tyrer, Jan-Paul van Moort, Jane Venter, Bill Waldron, Barbara Waldron, Winifred Walker, Ernie Walker, Helen Walter, Rita Watkins, Ray Watson, Viv Wells, Gillian Wheatley, Joyce White, Joy Williams, Brian Wilson, Phil Worts, Jan Worts, Boyd Wykes, Helen Young, Wayne Zadow.

It is essential to have a cash flow and Allan Jones not only talked me into doing this job but also ensured that there was funding to carry it through. He is always assisted in his efforts by Rose Jones. Funding has mostly come from the Gordon Reid Foundation with lesser though essential amounts from Birds Australia (WA Group) and Healthways.

Geoff Barrett and Ken Hancock from the Birds Australia national office, Melbourne, kept me supplied with information and data on disk as requested.

Most data entry was done in the Birds Australia national office, but towards the end some data were entered locally by Rod Smith and David Smithdale.

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When I was out of action for a while Phyllis Bentley very capably kept the show on the road.

I have been fortunate in preparing the report to have very helpful on-going advice from Michael Brooker. Michael and Lesley Brooker did some statistical analysis and prepared the section describing the results of that analysis. John Blyth read an early draft and offered constructive comments as well as later editing with Allan Burbidge and Michael Brooker.

As well as illustrating the report so attractively, Judy Blyth prepared the *Birds on Farms in Southern Western Australia* display.

Bird Days were organized by Alison Doley (Coorow) and Heather Adamson (Merredin).

The Birds Australia (WA Group) office volunteers dealt with queries, mail and some photocopying.

A major input has been by Stephen Fryc who, although a professed non-birder, has accompanied and assisted me on several field trips. His main contribution has been with the computer - organizing and operating the databases. The mini-reports and this report, including the layout, owe a great deal to his efforts.

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1.0 INTRODUCTION

Farming can not be done without clearing. Consequently large areas of bushland have been removed to create the agricultural, fruit and vegetable growing and intensive grazing areas of Australia. To create the farms of Western Australia millions of hectares of temperate woodland, mallee and heath were stripped back to the soils so that economic production could begin. That process of simplification of the landscape more than any other has resulted in major disruption of the existing systems and has led to major problems (e.g. salinity, erosion and waterlogging) on many farms.

It is now generally accepted that the clearing was too wholesale and that farm health is now dependent on restoration of the landscape by re-introduction of woody plants. As well, frequently grazed vegetation is being regenerated by eliminating or cutting back on grazing. Woody plants are beneficial in combatting salinity, erosion and waterlogging. Additionally the planted trees and shrubs may allow many other forms of life from soil microbes to birds, to proliferate throughout the farming areas, thereby strengthening the linkages which should help to combat some of the problem pest outbreaks and decrease reliance on pesticides.

The simplification of the farm environment by replacement of many plant species by few has been echoed by a reduction in the numbers of bird species to be found on the farm as compared with nearby reserves. However the reserve system has often been inadequate for retaining all the bird species of a district. It now seems clear that all remnant native vegetation is valuable not only for combatting land degradation but also for providing habitat for birds and other animals.

As birds are near the top of the food chain, the diversity of bird species could be said to indicate health of the environment as a whole.

Wild birds are always to be found on farms and in the rural landscape. Some bird species have been favoured by farming and have become more common and widespread. Others have declined in abundance and range. This project looked at the distribution of birds on farms and country road verges, their relative abundance and their habitat choices.

It is the land managers who are involved in the revegetation programs on farms. As with all projects it is useful to measure progress. Birds are part of the process but also as the most visible class of native fauna, are potentially useful for monitoring restoration progress.

The Birds on Farms project has generated a great deal of valuable data. This report offers a preliminary look at some of those data. It is designed to be of interest both to land managers in rural Western Australia, and also to others working towards maintaining the quality and diversity of farming land.

2.0 THE SURVEY

2.1 GOALS

The project was designed to look at birds in the rural environment and to address questions such as these. What birds occur on Western Australian farms and how common are they? Are revegetation and other practices effective in attracting woodland birds onto the farm? Does bird diversity from farm to farm vary in a predictable way? Are there species which are not being attracted onto farms? Which species could be most useful for monitoring?

2.2 HISTORY

The Birds on Farms Project was an initiative of Birds Australia. Birds Australia, formerly the Royal Australasian Ornithologists Union (RAOU), is Australia's premier national bird organization. Its focus is Australia's wild birds with the aims of research, conservation, education and enjoyment. At the head office, Melbourne, Dr Geoff Barrett was appointed project co-ordinator in mid 1995. By 1996 the project design was complete and the project was extended beyond north-east Victoria to farming areas elsewhere in Australia.

Birds Australia (WA Group) decided to support the project strongly for three main reasons.

* There is a lot of activity at present on WA farms with regard to revegetation and much effort towards sustainability.

* There had been a recent study on birds in farming areas (Saunders and Ingram 1995) which highlighted the dramatic changes that have occurred in WA's bird fauna between the 1930s and 1980s mainly as a result of the extensive clearing for agriculture. As Saunders and Ingram point out: it is not possible to clear over 90% of a landscape and retain the fauna intact. They listed all bird species in wheatbelt farming areas, and comparing old records with recent survey results, were able to show many changes in distribution and abundance. It was hoped that the Birds on Farms Project would be able to look especially at species found by Saunders and Ingram to be in decline to get a picture of their current situation across the farming areas of southern Western Australia.

* Birds Australia (WA Group) is interested in worthwhile community-based projects that will both offer an opportunity for members to utilize their bird-identifying skill and to assist non-members to add to their level of bird-awareness and knowledge.

The WA co-ordinator was appointed in August 1996. Data collection began in earnest in WA in spring 1996 and ended in autumn 1999.

In March 1997, Main Roads WA joined the project. The Main Roads department has run a program of land acquisition (strips of farmland adjacent to main roads) and revegetation of the resultant wider verge for thirteen years in some regions. A study of bird use of these verges has not previously been undertaken. Main Roads data collection ended in winter 1999.

A total of 138 volunteers took part in the project, some for a short time, many for the duration. A few volunteers took on more than one farm, with one couple doing a circuit of over 1 000 km to survey four farms. Some surveyors undertook both farm and road verge surveys.

Data entry for both farms and road verges was done at the Birds Australia national office in Melbourne until November 1998 (farms) and June 1999 (verges). Thereafter, data were entered by volunteers from the WA Group.

2.3 OUTCOMES AND PROJECTED OUTCOMES

The project will result in the production of a scientific report produced by Birds Australia on the project at the national level. The book will be ready early in 2000. One scientific paper (Barrett and Davidson in press) is a chapter in a soon-to-be released book on temperate woodlands. There have been two articles in *Wingspan* and a related *Wingspan* supplement. ('Renaissance on Lanark' vol. 9 no. 1, March 1999). *Wingspan*, a quarterly, is the membership magazine of Birds Australia.

In WA feedback is being offered to the participants in the project in the form of this report. Participants are also to receive Mini-reports which are being individually prepared to include some data from their farm or the farm that they surveyed. There will be only one or two copies of each Mini-report - one if the farmer surveyed his/her own farm, two if the surveyor was not the farmer. The WA data are to be incorporated into the Birds Australia (WA Group) database and landcare officers and others will be encouraged to make use of them. Some of the data will be used in the current Birds Australia Bird Atlas project.

In spring 1999, Bird Days were held at Coorow and Merredin (Plate 1). Bird Days comprised a school visit with the Birds on Farms display, a bird walk, and in the evening a talk with the display and slides. The Birds on Farms display was on show in the Ongerup-Needilup Museum for the final week of the Ongerup Wildflower Show.

The process of surveying led to several farmers becoming more familiar with the birdlife on their properties, which in turn enriches the local knowledge base. Several city birdwatchers had the opportunity to visit farms regularly, offering a different perspective to both parties.

Although this report contains information based on most of the Main Roads data, a separate and more detailed report will be prepared for Main Roads WA.

2.4 FUNDING

Birds Australia obtained funding from Environment Australia's Save the Bush Fund and the Thyne Reid Education Trust.

In WA the majority of the funding has been from the Gordon Reid Foundation. Some funding was obtained from Birds Australia (WA Group) and some from Healthways. Main Roads WA has supplied funding for the road verge segment of the project.

2.5 METHODS

Methods will be described more fully in the national report on Birds on Farms which is to present a detailed scientific analysis of the project results. It is to be produced by Birds Australia (Melbourne office) and should be complete early in 2000.

Species order and scientific name follows Christidis and Boles (1994) in this report. Neither white-tailed black-cockatoos nor corellas were consistently differentiated to species level throughout the survey so each is presented only to genus level with all records being grouped. The Yellow-rumped Pardalote is not now considered to be a separate species and records are combined with the Spotted Pardalote.

Status refers to change in the range and numbers of a species. Those that have increased in numbers and/or in range over agricultural areas are status 1 and those that have decreased in numbers and/or in range as a result of clearing and other practices related to agriculture are status 3. Those species for which there has been no discernable historical change brought about by the introduction and practice of farming or for which there has been insufficient evidence on which to make a clear allocation to status 1 or 3, are listed as status 2. *Status* follows Saunders and Ingram (1995) where these categories are represented with symbols +, -, and 0.

Differences between this list and Saunders and Ingram are as follows. A few species appear on this list which were not on the original list or not allocated a category. These are Mallard, Pied

Cormorant, Buff-banded Rail, Sulphur-crested Cockatoo, White-breasted Robin and Grey-crowned Babbler. Each has been placed in category 2. The Black-winged Stilt has been changed from category 1? to category 2. Red-tailed Black-cockatoo refers here to both the northern and the forest subspecies and so 1, which referred only to the northern subspecies, is replaced with 2. The Western Corella, herein included with the Little Corella, retains the Little Corella category 1. Spotted Pardalote retains category 3 although it now includes a few Yellow-rumped Pardalote (status 2) records.

Survey sites: The project was based on two types of survey site: the fifty hectare site comprising diverse habitat and the twenty-minute site of more uniform habitat and only half a hectare in size. It was suggested that the fifty hectare site be surveyed in three hours. The twenty-minute sites could be within a fifty hectare site or separate from it. Ideally surveys were to be undertaken once per season over a period of two years, resulting in eight surveys per farm.

Surveys involved both identification of bird species and counting the birds of each species present on the site during the survey. There was no constraint on recording birds flying over a site. However it was suggested that counting need not continue after forty birds of one species had been recorded. Most but not all surveyors ignored this suggestion. Consequently, count data for species that occur in large numbers is conservative.

The road verge sites were all twenty-minute sites (half hectare). They were all along one side of a road. Because of the variation in width of the verge their shape varied, the narrowest being 10 metres wide, and the widest 50 metres. As they were main roads, all had a hard surface with a bare gravel shoulder. The width of the bare area (road plus shoulder) varied from 12 to 35 metres.

Site registration: There were comprehensive registration forms for both the fifty hectare sites and the half hectare sites. The fifty hectare registration form covered such information as tree cover and clumping, age of trees, land-use, and changes in bird populations. The uniform half hectare site registration forms (Appendix 1) were designed to enable detailed analyses to be made, listing various characteristics of the site such as tree history and understorey with a



(a)



(b)

PLATE 1: BIRD DAYS, SEPTEMBER 1999

- (a) A primary class at Coorow is introduced to the Regent Parrot now scarce in their district.
- (b) High school students at Merredin take a close look at the Birds on Farms display.

Photos: (a) F. Falconer (b) B.J. Newbey

