



For the birds

*by David T. Bell, Gavan Mullan,
Gary Hearle and Janine Guenther
photos by Janine Guenther*

Each winter, a team of volunteers from BirdLife Western Australia travels with Parks and Wildlife to remote areas throughout the State to survey birds. Their data help to construct a picture about the distribution and status of Western Australian birds and informs management decisions. In 2016, the group travelled to the former Waldburg and Yaringa (part) pastoral leases where they spotted a number of our magnificent native species and yielded some fascinating results.



In the arid, inland regions of the Midwest and Goldfields, a number of rangeland leases are being transformed from sheep and cattle stations to sanctuaries for land and nature conservation. These leases were purchased by the then Department of Conservation and Land Management (CALM) between 1999 and 2001 and are now mostly destocked and managed for conservation.

One of the most important principles of conservation is to construct an accurate picture of what species occur in the area, how many there are and how they group together. Each July, volunteers from BirdLife Western Australia, in cooperation with Parks and Wildlife, conduct surveys of the bird populations on former pastoral leases and conservation reserves. They collect data on the status of the bird populations, including observations about whether the birds are growing or retracting from previous years. This information then helps form management strategies for the area.

In July 2016, 17 BirdLife Western Australia volunteers worked with Parks and Wildlife staff to survey the birds on the former Waldburg and Yaringa (part) pastoral leases. The former Waldburg pastoral lease is in the Gascoyne region, south of Mount Augustus National Park and the section of the Yaringa pastoral lease, now managed by Parks and Wildlife, is on the eastern shores of Shark Bay, south of the Wooramel Road House.

On Waldburg, the 2016 surveys identified 89 species, with eight species recorded for the first time on this property. These included the tawny frogmouth, rufous field-wren, slender-billed thornbill, striated pardalote, brown-headed honeyeater, orange chat, brown songlark and the welcome swallow. The 2016 surveys were the first on the Parks and Wildlife-managed former Yaringa (part) pastoral lease. Seventy-four bird species were recorded, including the most easterly documentation of the black sub-species of the white-wing fairy-wren and some other unusual sightings, such as of the stubble, little-button and brown quails, banded



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Main The chiming wedgebill is full of character and has a distinctive call.

Above An Australian owlet-nightjar was one species the volunteers recorded from the former Waldburg pastoral lease.



lapwings, western bowerbirds, orange and crimson chats and Horsfield's bushlark.

During the five-day survey periods on each station, all the bird species seen were recorded and estimates of how frequently they occur were made by intensively surveying 25 permanently marked circular plots with a 500-metre radius spaced throughout the reserve. This data was then compared to any pre-existing pastoral lease records and lists of species in each survey site that have been previously submitted to the *Australia Bird Atlas*. The detailed numerical information provides indications of the variations in bird populations between particular geographic regions and the assemblages of birds occupying different vegetation types and how they change across different seasonal conditions.

Subsequent surveys of the GPS-located survey points can also document changes over time in bird populations that are affected by recent rain or drought episodes and various conservation and land management practices.

TRACKING VARIATIONS

For example, surveys on the former Doolgunna and Mooloogool pastoral leases conducted in 2004, 2007 and 2011 demonstrated that some bird species show preferences for particular vegetation types, such as mulga woodlands, riparian eucalypt woodlands, grasslands or shrublands. These surveys also noted that the majority of bird species are permanent residents in these arid interior regions, although particular nomadic and migratory bird species add to the resident



Above BirdLife Western Australia volunteer Martin Knight in the acacia woodland of Yaringa pastoral lease.

Right Black-eared cuckoo was observed on former Yaringa pastoral lease.

Far right Flowering *Eremophila* is a favourite for nomadic honeyeaters.

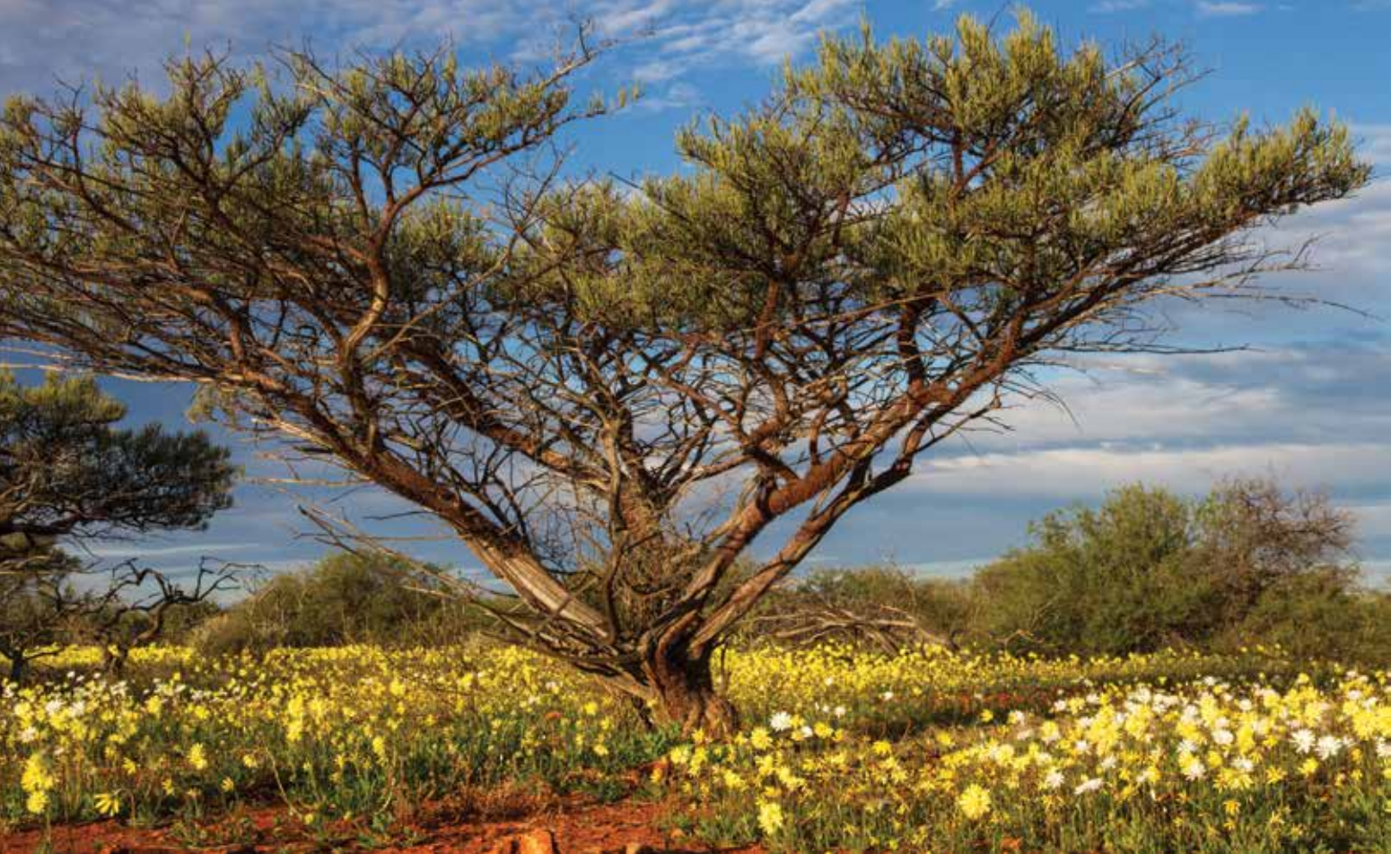


population on a seasonal basis or following good rains. For example, exceptional rainfall in early 2013 resulted in increased flower and grass-seed production in the lands adjacent to the Fortescue Marsh in the Pilbara and so an increase in the presence of seed-eating birds, such as diamond doves, zebra finches, budgerigars and cockatiels was observed. Increased flowering in the *Eremophila* shrubs on the former Lakeside pastoral lease in 2014 led to increased populations of a number of nomadic honeyeaters. These included pied, black, white-fronted and spiny-cheeked honeyeaters. Early winter rains during 2015 on Wanjarri Nature Reserve in the Goldfields led to a hatch of hairy caterpillars and an invasion of migratory cuckoos, including Horsfield's bronze, pallid and black-eared cuckoos.

“ They collect data on the status of the bird populations, including observations about whether the birds are growing or retracting in abundance from previous years.”

As many of the former pastoral leases have come under conservation management by Parks and Wildlife in relatively recent times, documenting the impact of sheep and cattle grazing on the current status of bird species is of particular importance. Significantly reduced populations of chestnut-rumped thornbills were recorded on sections of the Fortescue Marsh, due to reduced shrub-layer vegetation in the surveys of

2012. Introduced camel and feral cattle populations also impacted the shrub layer on Kurrara Kurrara (formerly Earraheedy pastoral lease), resulting in reduced occurrences of inland thornbills and redthroats in the 2014 surveys compared to the adjacent Matuwa (formerly Lorna Glen pastoral lease), which has much reduced concentrations of feral grazing animals. Feral cat baiting that was carried out as part of Parks and Wildlife's *Western*



Shield program before the bird surveys on Matuwa resulted in the increased occurrences of a number of the shrub-layer inhabiting birds, such as slaty-backed and inland thornbills.

The surveys also uncover aspects of the basic ecology of bird populations and assemblages. The plant communities on Yaringa and Waldburg are predominantly acacia woodlands with identical foliage layer composition but different species. So the data accumulated could separate the influences of the vegetation structure from the effects of taxonomic variation. Also, aspects of the present mixture of insectivores, granivores and nectarivores, the proportion of predators to prey species and the presence of keystone and indicative species are important considerations for conservation and management.

The impacts of fire on bird assemblages in spinifex-dominated sites were also assessed on Matuwa in 2014. The bird assemblages at sites where the entire area had been burnt by a single fire event were compared to sites that had been burnt using a mosaic patch burning technique, used by Aboriginal people, which resulted

in various ages of growth. While this information is valuable, additional studies with different burning regimes are needed to determine whether there are differences in the bird assemblages of the two management options.

FUTURE SURVEYS

Future surveys by the BirdLife Western Australia volunteers, in cooperation with Parks and Wildlife staff, are planned for a number of former pastoral leases and nature reserves in the Gascoyne, Murchison, Goldfields and Pilbara regions in the coming years. New surveys and re-surveys of previously visited reserves will provide a baseline record to help determine aspects of climate change, the impact of future Parks and Wildlife management techniques and potential changes due to alterations of adjacent pastoral lease use on bird populations and their conservation. Cooperative programs with volunteer public groups often lead to ways to better conserve and manage aspects of animal populations in Western Australia. More information about getting involved can be found at www.birdlife.org.au.

Above Winter ephemeral understorey in the acacia woodland of the former Yaringa pastoral lease.

Below Volunteers Roma Bell and Professor David T. Bell.



Professor David T. Bell was Associate Professor of Ecology at The University of Western Australia, now retired. He can be contacted on (08) 9407 8938 or by email (dtrcbell@iinet.net.au).

Gavan Mullan is a senior operations officer in Parks and Wildlife's Geraldton District based in Carnarvon. He can be contacted on (08) 9941 3754 or by email (gavan.mullan@dpaw.wa.gov.au).

Gary Hearle is an operations officer and also based in Parks and Wildlife's Carnarvon Office. He can be contacted on (08) 9941 3754 or by email (gary.hearle@dpaw.wa.gov.au).

Janine Guenther is a photographer, journalist and tour operator. She can be contact on 0487 085 596 or by email (j.guenther@verlag360grad.com).