

FAUNA RESEARCH

Blue-breasted Fairy-wrens depend on vegetation corridors

by Michael and Lesley Brooker



BLUE-BREASTED Fairy-wrens are tiny (10 g) jewels of the bird world. They live only in mallee-heath habitats scattered through the WA Wheatbelt and Eyre Peninsula in South Australia. Yet, despite their brilliant colouring, they are extremely shy birds, preferring to remain hidden in low undergrowth and rarely flying over open terrain for more than a few metres. This behavioural tendency means that they find it very difficult to move over long distances from one patch of habitat to another - something they need to do if they are to find a mate. The widespread clearing for agriculture that has taken place in the Wheatbelt over the last 100 years has meant the loss of most natural corridor routes, resulting in the disappearance of wrens from many patches of suitable mallee-heath habitat, where they might otherwise have survived.

By studying the movements of banded Blue-breasted Fairy-wrens in a complex network of patches and corridors south of Wyalkatchem over the last 5 years, we have discovered that these tiny birds can move as far as 15 km from the site where they were born - much further than wrens would need to move in an unfragmented habitat. Yet, despite the distances covered, the wrens in our study rarely crossed



All of the remnants shown in this air-photo are privately owned. The large block supports up to 30 groups of Blue-breasted Fairy-wrens. Because there is a strong network of vegetation corridors, wrens are also present in many of the very small remnants.

gaps in vegetation greater than about 60 m wide.

The inescapable conclusion is that some remnants containing suitable habitat may be virtually inaccessible to wrens, unless suitable 'corridors' are grown to facilitate movement. Other behaviourally shy species likely to be in the same boat, are the rare and declining Southern Scrub Robin, Western Yellow Robin and Shy Hylacola (its name is no accident). Even the more common White-browed Babbler has been found to prefer corridor routes during dispersal, though individuals sometimes fly across open ground for more than 250 m.

As a way of predicting the dispersal 'quality' of landscapes, we have developed a computer simulation model to mimic the way in which dispersing animals might move through the landscape,

depending on their 'gap tolerance', ie. how large a gap they are willing to cross. For any particular catchment or local area, the results of the modelling can help to determine exactly where corridors should be planted in order to obtain maximum benefit for the greatest number of species. The model can also be used to assess how effective for wildlife have been those plantings made for other purposes.

Michael and Lesley Brooker are with CSIRO Wildlife and Ecology, Floreat. They are keen to work with community groups in applying their computer model to situations involving corridor planting or revegetation assessment. They can be contacted on 08 9333 6454, email: l.brooker@per.dwe.csiro.au web site: <http://www.users.bigpond.com/LesMikeBrooker/>