

S4.10- Burbidge, A.H.^{1,2}; van Dongen, R.¹; Ball, J.³ and Ford, S.⁴

¹Department of Parks and Wildlife, PO Box 51, Wanneroo, WA, 6946, Australia; ²School of Natural Sciences, Edith Cowan University, Perth, Australia; ³Curtin University, WA, Australia; ⁴Biota Environmental Sciences, Leederville, WA, Australia.

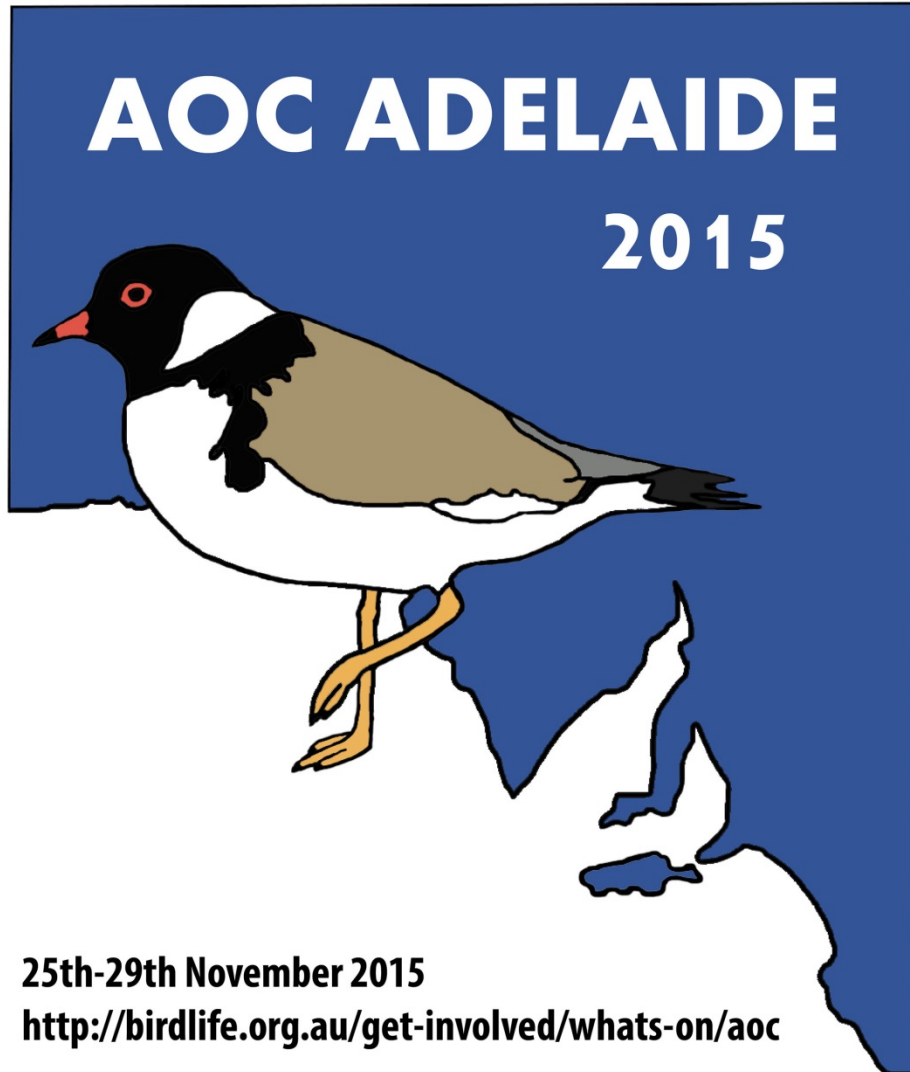
allan.burbidge@dpaw.wa.gov.au

Monitoring and modelling the distribution of rare birds on Dirk Hartog Island: how threatened are they?

Dirk Hartog Island is a large (62,000 ha) island in the Shark Bay World Heritage Property. Three endemic subspecies (of Rufous Fieldwren, black and white White-winged Fairy-wren and Southern Emu-wren) are listed as threatened, but little is known of their ecology and status. The endemic subspecies of the Western Grasswren is considered extinct. As part of an ecological restoration project set up following conversion of the pastoral lease to national park, we commenced a multi-faceted monitoring program to provide predictive models of species distribution on the island, using presence data from 30 sampling sites, and estimates of density from 30 two kilometre transects using distance sampling. Vegetation structural data and nadir photographs that could be calibrated with Landsat images were collected from the sites for subsequent spatial modelling. Preliminary results indicate that vegetation cover and a 'weediness' index, both derived from Landsat imagery, were significant variables in data driven models when identifying suitable habitat for the Southern Emu-wren and White-winged Fairy-wren ($p < 0.001$). The regular and free availability of Landsat data means that the model can be rerun as required to monitor changes in the extent of suitable habitat. As a result of the program, the conservation status of each taxon is being reassessed, with a recommendation to remove one taxon from the threatened list. Continued monitoring and modelling will also provide insights for conservation management of the bird fauna of the island.

AUSTRALASIAN ORNITHOLOGICAL CONFERENCE 2015

Flinders University, Adelaide, South Australia



25th-29th November 2015

<http://birdlife.org.au/get-involved/whats-on/aoc>

