

Evidence for the decline of the Varied Sittella in the Hunter Region

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The Varied Sittella *Daphoenositta chrysoptera* was recently listed as vulnerable under the *Threatened Species Conservation Act 1995* (NSW). The following information was submitted in support of the listing.

Although the species continues to be moderately often recorded in the Hunter Region, and is probably best described as uncommon, there is evidence that it is continuing to decline as was indicated earlier by the results of the New Atlas of Australian Birds in 2003 (Barrett *et al.* 2003). Furthermore it is increasingly threatened by the progressive removal of its core woodland habitat and ongoing fragmentation of remnant vegetation. We draw upon the results of long-term bird monitoring studies in the Lower Hunter Region to support these claims.

One of the most comprehensive data sets for woodland birds in the Hunter Region is for an area of woodland at Green Wattle Creek, Butterwick (32°40'S 151°39'E) near Paterson. This study commenced in April 1996 and involves monthly surveys, typically of four hours duration, during which a census of all birds is made using a constant effort/fixed route approach based on Birds Australia's Birds on Farms Project protocols. Thirteen years of data involving 156 surveys have recently been analysed and published (Newman 2009). During these surveys the Reporting Rate (percentage of surveys Varied Sittellas were recorded) was 36 percent. To put this value into perspective, 136 species were recorded on the Green Wattle Creek surveys and the Reporting Rates for the most common species, the Superb Fairy-wren *Malurus cyaneus* and the Grey Fantail *Rhipidura fuliginosa*, were 100 percent. The Varied Sittella ranked well down the list based on its Reporting Rate. The Crested Shrike-tit *Falcunculus frontatus* and the White-bellied Cuckoo-shrike *Coracina papuensis*, two other species which are relatively uncommon in

the Hunter Region, had Reporting Rates of 44 and 22 percent respectively.

There was a 25 percent fall in the Reporting Rate of the Varied Sittella between the periods 1997-2002 and 2003-2008 (72 surveys in each period). However a 50 percent decrease is necessary for the decline to be statistically significant at the $P < 0.05$ level.

During the Green Wattle Creek surveys Varied Sittellas were usually encountered as a single flock. The records indicate its continuous presence for a number of months, including breeding, interspersed by prolonged periods of absence. Hence the impression is gained of a species which is locally nomadic rather than holding a fixed territory indefinitely. This view is supported by two similar parallel studies on farms in the lower Hunter with approximately 15 percent remnant vegetation where Varied Sittellas were also periodically present, but at lower Reporting Rates than at Green Wattle Creek (Newman 2007; Newman & Lindsey 2008). Collectively these studies support the view that connectivity of remnant woodland will become increasingly important as core habitat continues to be lost to development.

The habitat at Green Wattle Creek is approximately 150 hectares in extent, situated on the edge of the Paterson River floodplain. It is surrounded by farmland and has limited connectivity to similar woodland. It has not been burnt for over 20 years. Cattle grazed the area until shortly after the surveys commenced. Consequently, understorey and ground cover vegetation increased during the study. Narrow-leaved Ironbark *Eucalyptus crebra*, Spotted Gum *Corymbia maculata* and Grey Gum *Eucalyptus punctata* dominate the canopy vegetation which is typically 30m in height.

REFERENCES

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