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The effects of prescribed burns on woodland birds in the Mt Lofty Ranges

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Abstract

Prescribed burns are used to reduce the fuel load and subsequent severity of bushfires. They are typically low in intensity and therefore their effects on the structural features of vegetation are mainly limited to the understorey. However, research into the effects of prescribed burns on fauna in systems such as the Mt Lofty Ranges is scarce. Small woodland birds in this region are declining as a result of an extinction debt left behind when large-scale clearing stopped in the 1980s. Prescribed burns may be further reducing the amount of habitat available to these declining species. This study investigated the effects of prescribed burns on abundance and height-use of woodland bird species in the Mt Lofty Ranges. Bird and vegetation surveys were carried out in areas in which prescribed burns had taken place 5-months, 1-, 3-, 6-, and 9 years ago and were located in Belair National Park, Mark Oliphant Conservation Park and Scott Creek Conservation Park. A height-use based ordination was used to classify species into guilds for further analysis. Birds in the understorey ('Low' guild) were affected by long-term (6-9 years) changes in resource availability and structure of vegetation. Abundance for these species was initially low but increased in the year following fire in response to sparse vegetation cover near the ground, but abundance decreased to pre-fire levels after 3 years. 'Canopy' guild species were more likely to be affected by reduced resource availability in canopy trees, such as flowers and fruit, over a longer term (> 9 years). For this guild, abundance was lower in the burnt sites than the controls over the 9 years sampled. Species within each guild responded differently to prescribed burns, suggesting that continued study in this area must happen on a species-specific basis.