

Impacts of willow (*Salix × rubens*) invasion on riparian bird assemblages

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Summary Although woody plant invasions threaten riparian zones worldwide, surprisingly little is known about their impacts on higher trophic orders, such as birds. This study investigated the impacts of willows on diurnal bird assemblages along the lower Tarago River in southern Victoria in spring and summer. Bird species richness, species and foraging guild composition, the abundance and diversity of invertebrates and the vegetation structure were compared along river corridors lined with native woody species, white-crack willows (*Salix × rubens* Schrank), or cleared of woody vegetation.

Overall, 70 bird species from 14 foraging guilds were observed, of which the superb fairy-wren (25% of all bird records), grey fantail (17%), brown thornbill (14%) and white-browed scrubwren (7%) were most abundant. Native sections had significantly more birds,

more bird species and a greater diversity of foraging guilds than either cleared or willow-invaded sections, with woodland-dependent bird species being almost twice as abundant along native sections. Willow-invaded sections provided significantly fewer branch invertebrates and a simpler habitat structure than native sections. Willow invasion directly into the native riparian zone is likely to reduce markedly the abundance and variety of birds. Also, its spread into previously cleared areas is unlikely to assist many woodland dependent species. The eradication of willow and its replacement with native woody vegetation is therefore recommended in order to rehabilitate degraded riparian zones.

Keywords Invasive plants, willows, *Salix × rubens*, riparian, birds, terrestrial invertebrates.