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FITNESS CONSEQUENCES OF NEST DESERTION IN AN ENDANGERED HOST, THE LEAST BELL'S VIREO

BARBARA E. KUS¹

USGS Western Ecological Research Center, 5745 Kearny Villa Road, Suite M, San Diego, CA 92123

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¹E-mail: barbara_kus@usgs.gov

Abstract. Recent analyses of the impact of cowbird parasitism on host productivity suggest that while parasitism reduces productivity on a per-nest basis, the ability of pairs to desert parasitized nests and re-nest allows them to achieve productivity comparable to that of unparasitized pairs. This has implications for the management of several endangered species that are highly vulnerable to parasitism and consequently the target of cowbird control programs. I calculated seasonal nesting effort (number of nests per pair) and productivity of 568 pairs of Least Bell's Vireos (*Vireo bellii pusillus*) monitored over 11 years at the San Luis Rey River in San Diego County, California (where cowbird trapping has reduced, but not eliminated, parasitism), assigning pairs to one of three groups: (1) deserters, (2) rescued (parasitized pairs with nests "rescued" from probable failure by the removal of cowbird eggs), and (3) unparasitized. Parasitized pairs attempted significantly more nests per season than did unparasitized pairs, with deserters producing more nests than rescued pairs. However, productivity of deserting pairs was significantly lower than that of both rescued and unparasitized pairs, largely because subsequent nests of deserting pairs were also parasitized. Seasonal productivity of rescued and unparasitized pairs was comparable, indicating that in this species, reduction of cowbird impacts through nest manipulation to remove cowbird eggs is effective. Desertion by Least Bell's Vireos does not appear to be an adequate natural defense against parasitism, suggesting the need for continued cowbird control while vireo populations are re-established.

Key words: brood parasitism, Brown-headed Cowbird, endangered species, Least Bell's Vireo, *Molothrus ater*, nest desertion, *Vireo bellii pusillus*.