

SECONDARY EFFECTS OF BT SPRAY ON AVIAN PREDATORS: THE REPRODUCTIVE SUCCESS OF CHESTNUT-BACKED CHICKADEES

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ABSTRACT – Chestnut-backed Chickadees (*Parus rufescens*) and their relatives make extensive use of caterpillars as a food resource for their growing nestlings. *Bacillus thuringiensis* (BT) is lethal to many caterpillars. When used for control of the Gypsy Moth (*Lymantra dispar*), spraying of BT could adversely affect reproductive success of chickadees by reducing populations of Lepidopterans. A total of 167 nest boxes at 11 sites in Lane County and the Portland area in Oregon were used to monitor chickadee nest activity in 1986. Nestlings were weighed and visual diet samples collected before and after BT spraying occurred at four of the sites. Cold rainy weather probably caused many nest abandonments, so only 25 nests could be studied, and only five were in the treatment areas at the time of the spraying. The proportion of caterpillars was significantly lower in diets of chickadees nesting in sprayed areas, however there was no difference in nestling weights, or in the percentages of eggs hatched, nestlings fledged, or nests fledging at least one young. Spraying for Gypsy Moth control with BT did not result in any detectable adverse secondary effects in the parameters of Chestnut-backed Chickadee reproductive success that were investigated.