

Title: Landscape and regional context differentially affect nest parasitism and nest predation for Wood Thrush in central Virginia, USA

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Many empirical studies have shown that forest-breeding songbirds suffer greater rates of nest predation and nest parasitism in smaller forest patches and in fragmented landscapes. To compare the performance of different metrics of spatial habitat configuration resulting from deforestation, we studied nest predation and nest parasitism rates at 200 Wood Thrush (*Hylocichla mustelina*) nests in eight forest fragments ranging from 82 to 9,171 ha in central Virginia, USA. We analyzed nest parasitism rates using logistic regression and we analyzed daily nest predation rates under a multistate competing risks design. For both analyses we compared the performance of 16 covariates, 11 of which related to the spatial configuration of habitat (e.g., patch size, distance to edge, percent core forest) and 5 of which were unrelated to habitat (e.g., year, serial date, nest height). Distance to agriculture gained the greatest support in analyses of nest predation and suggested that elevated predation rates are manifest primarily within 50 m of edges; at 5, 10, and 20 m, respectively, the estimated predation rates were 87%, 76%, and 68%. In contrast, biogeographic region received the greatest support in analyses of nest parasitism, which also showed increasing rates of Brown-headed Cowbird (*Molothrus ater*) parasitism with percent agricultural land and road density within 500 m of a nest. Among regions, the greatest difference seemed to be a virtual absence of nest parasitism along the Blue Ridge in the absence of disturbance (agriculture or road incursion) whereas the other two biogeographic regions showed 20–50% rates of nest parasitism as background rates. Interactive models between spatial configuration metrics and region gained little support from nest predation analyses, but considerable support from the nest parasitism analyses, suggesting regional context plays a more important role in nest parasitism than in nest predation at these central Virginia sites.