

FEATURE ARTICLES

EFFECTS OF DISTANCE TO EDGE AND EDGE TYPE ON NESTLING GROWTH AND NEST SURVIVAL IN THE WOOD THRUSH

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Abstract. Many studies investigating edge effects on forest-nesting birds have focused on nest success. Fewer have examined edge effects on other components of fitness. Nestling growth rates have been positively correlated with food availability, which may differ at edges compared to the forest interior. However, previous work has not examined growth as a function of distance to edge and edge type. We investigated whether edge type, distance to edge, hatching date, brood size, brood parasitism, year, and site influenced growth rates of wings, tarsi, and mass of nestling Wood Thrushes (*Hylocichla mustelina*) using regression tree analyses. Simultaneously, we examined edge effects on daily nest survival. We conducted our study in southwestern Michigan in 2002 and 2003. We located 175 nests and measured nestlings from 61 nests. Contrary to expectations, tarsal and mass growth rates were more rapid near edges than in the forest interior and tarsal growth rates were more rapid near gradual edge types than near abrupt edge types. Wing chord growth rates were more rapid in the forest interior than at edges. Mass and tarsal growth rates were more rapid later in the breeding season, when brood sizes were smaller. We found no effect of edge type or distance to edge on nest survival. The influence of edge on nestling growth rate but not nest survival suggests nestling growth rates may indicate edge-interior and edge type differences in habitat quality, even when high regional fragmentation levels overwhelm potential edge-interior differences in nest survival.

Key words: distance to edge, edge effects, edge type, *Hylocichla mustelina*, nest survival, nestling growth rates, Wood Thrush.