

# NEST PREDATION, PREDATOR ABUNDANCE, AND AVIAN DIVERSITY IN TRANSMISSION LINE CORRIDORS AND ADJACENT HABITATS IN EAST CENTRAL TEXAS

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Transmission line corridors and other types of rights-of-way (ROW) are narrower and more continuous than other types of disturbances and, therefore, result in a proportionately higher amount of “edge” in the vegetation types they bisect. These ROW corridors may have differential effects on wildlife communities in adjacent vegetation types in a heterogeneous landscape. I evaluated the effects of ROW corridors on avian and nest predator communities in forests and pastures in east central Texas in 1998 and 1999. I measured nest-predation rates, avian richness and abundance, and predator abundance in ROW corridors and in edges and interiors of adjacent forests and pastures. Forest blocks had higher ( $P < 0.05$ ) bird richness and abundance than ROW corridors and pastures. Bird richness and abundance increased ( $P < 0.05$ ) in forests with increasing distance from the forest/corridor edge. Nest-predation rates were higher ( $P < 0.05$ ) on forest sites than on pasture sites and did not differ ( $P > 0.05$ ) between edge and interior. Mammal predator abundance was higher ( $P < 0.05$ ) in adjacent sites than in ROW corridors in 1998 and was higher ( $P < 0.05$ ) in forest than in pasture in all but one trial. Predators may not use ROW corridors as travel lanes through all vegetation types. These corridors may act as filters of activity for birds, evidenced by the decreased activity near corridors and increased activity in forest interiors, which may effectively decrease available habitat for birds. “Edge effects” may extend to the interiors of forests due to patch size and the level of disturbance in the larger landscape. Small forest patches in this agricultural landscape may serve as an ecological trap for birds due to “predator saturation”. Consolidation of ROW corridors and planning for ROW construction along the peripheries of existing vegetation types may be less deleterious to wildlife communities.

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