

# POTENTIAL FACTORS INFLUENCING NEST DEFENSE IN DIURNAL NORTH AMERICAN RAPTORS

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ABSTRACT – Nesting habitat, predator type, and level of reproductive effort influence nest defense behaviors in many bird species, yet no study has examined these or other possible factors influencing nest defense in a cross-species comparison for raptors. Using data from the literature, we grouped the nest defense behaviors of 19 diurnal North American raptors into four categories based on a gradient of aggressiveness. For each species, we identified the cover types where nesting occurred and accessibility of nest location and examined associations between these factors and nest defense behavior. Included as additional independent variables were two indices of reproductive effort for each species: one representing effort during the early part of the nesting period (egg laying stage) and one representing effort in the latter part of the nesting period (incubation and nestling stages). We also examined responses by raptor species to different predator types including diurnal avian, nocturnal avian, mammalian (not human) and human. Most raptor species with high reproductive effort throughout the nesting period or only during the early nesting period exhibited very aggressive nest defense. Most raptor species nesting in open cover types and species with accessible nests showed aggressive nest defense. While many raptors react very aggressively toward diurnal and nocturnal avian predators, they exhibit less aggressive defense against potential human predators. Results from this study suggest that a variety of factors may influence nest defense strategies used by diurnal North American raptors. However, more work is needed on the relative influence of these factors (including predation risk) and variation in raptor nest defense strategies before general patterns can be elucidated.