

Microhabitat Structure of Winter Turkey Roosts in South Texas

Casey E. Phillips, Caesar Kleberg Wildlife Research Institute, Texas A&M University–Kingsville, 700 University Blvd., MSC 218, Kingsville, TX 78363

William P. Kuvlesky, Jr., Caesar Kleberg Wildlife Research Institute, Texas A&M University–Kingsville, 700 University Blvd., MSC 218, Kingsville, TX 78363

Stephen J. DeMaso, Caesar Kleberg Wildlife Research Institute, Texas A&M University–Kingsville, 700 University Blvd., MSC 218, Kingsville, TX 78363

Leonard A. Brennan, Caesar Kleberg Wildlife Research Institute, Texas A&M University–Kingsville, 700 University Blvd., MSC 218, Kingsville, TX 78363

David G. Hewitt, Caesar Kleberg Wildlife Research Institute, Texas A&M University–Kingsville, 700 University Blvd., MSC 218, Kingsville, TX 78363

J. Alfonso Ortega-Santos, Caesar Kleberg Wildlife Research Institute, Texas A&M University–Kingsville, 700 University Blvd., MSC 218, Kingsville, TX 78363

Abstract: We located 18 Rio Grande wild turkey (*Meleagris gallopavo intermedia*; RGWT) winter roost sites and 18 random sites at three study areas in Brooks and Kennedy Counties from December 2006 to February 2008. Our objective was to determine microhabitat structural characteristics of RGWT winter roosts that distinguished them from random locations in south Texas. At each roost, we measured tree height, diameter at breast height (dbh), canopy cover, and tree density. Variables were tested for normality using a Kolmogorov-Smirnov test. A *t*-test was used to examine differences between roost and random sites for those variables found to be normally distributed; the Mann-Whitney test was used for variables that were non-normally distributed. Roost trees were 33.0% taller ($P \leq 0.0001$; $x = 9.39 + 0.08$ m [SE]) than trees at random points (6.32 + 0.04 m) and had 41.3% larger dbh ($P \leq 0.0001$; $x = 31.79 + 0.59$ cm) than random points (18.66 + 0.22 cm). Percent canopy cover was 21.0% greater ($P = 0.0014$; $x = 56.97 + 1.27\%$) at roost trees than at random points (45.03 + 1.02%), but tree density was 67.0% lower ($P = 0.0462$; $x = 644.84 + 79.99$ trees/ha) at random points than at roost sites (1076.91 + 284.19 trees/ha). Groups of trees ≥ 9.0 m in height with canopy coverage $>56.0\%$ can potentially provide important roosting habitat for RGWTs in south Texas. Sites with these characteristics should be protected during brush management operations on rangelands if RGWT habitat is a management objective. If there are no groups of large trees, groups of trees with the potential to reach heights of ≥ 9.0 m should be conserved.

Proc. Annu. Conf. Southeast. Assoc. Fish and Wildl. Agencies 62:211