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Wild Turkey Research at CKWRI

Using Man-Made Roosts to Improve Wild Turkey Habitats and Populations in South Texas

Article by WILLIAM P. KUVLESKY JR., PH.D., ALFONSO "PONCHO" ORTEGA, PH.D. and LEONARD A. BRENNAN, PH.D.

There are three subspecies of wild turkeys that inhabit Texas. Most people are familiar with the Rio Grande wild turkey, which inhabits rangelands throughout basically the central part of the state from the Panhandle south to the Rio Grande River. The Eastern wild turkey is a subspecies that inhabits forests; it can be found in at least 30 counties in East Texas. In addition to the Rio Grande and Eastern subspecies of wild turkey, a small population of Merriam's wild turkeys occupies Guadalupe Mountains National Park in the Trans-Pecos bordering southeastern New Mexico. The Merriam's subspecies is a bird of the western U.S., occupying generally mountainous terrain. A few Merriam's wild turkeys may remain in the Davis Mountains, along with a few other mountain ranges, but they are disappearing due to hybridization with Rio Grande wild turkeys which have been expanding their ranges into the Trans-Pecos via riparian habitats along rivers and creeks. Texas currently has millions of wild turkeys, primarily Rio Grandes, but the statewide population appears to be declining in recent years, which has prompted concern among wildlife scientists. Therefore, Texas Parks and Wildlife Department officials and wildlife scientists from several universities are conducting a number of studies to try to determine what is causing the apparent wild turkey decline.

Scientists at the Caesar Kleberg Wildlife Research Institute (CKWRI) at Texas A&M University-Kingsville have been studying Rio Grande wild turkeys in South Texas for the past decade. CKWRI scientists are focusing on potential wild turkey habitat issues in the southern half of the Rio Grande Plains and have enlisted the cooperation of almost a dozen landowners who are interested in wild turkey conservation. Like all wildlife species, wild turkeys have important habitat requirements and among the more important habitat requirement for wild turkeys is roosting habitat.

In South Texas, large mature trees, such as live oak and hackberry, are the most common trees that provide roosts. Unfortunately, many of these large trees have died throughout South Texas due largely to the recent three-year drought. As a result, natural roosts may be limited, and if natural roosting habitat becomes limited for wild turkeys, survival will decrease and/or wild turkeys will abandon areas where there are no roosts. Therefore, wild turkey populations in South Texas may begin to decline as their natural roosting habitat disappears. However, wild turkeys will use man-made structures as roosts where natural roosts are limited or unavailable. It is not uncommon to see wild turkeys roosting on power lines or transmission towers throughout South Texas where natural roosting habitat is limited. Moreover, CKWRI has helped landowners design and locate constructed roosts on their ranches. Turkeys began using some of these roosts shortly after they were constructed. What appears to be important relative to wild turkeys using these constructed roosts is placing and designing them correctly. Our experience and knowledge of wild turkey natural history and ecology enabled us to establish roosts at locations where turkeys will use them, but in reality this was simply guesswork. Scientific research was sorely needed to learn where to site constructed roosts in locations where there would be a high probability of wild turkey using these man-made structures. Therefore, we initiated a project in 2014 with the objectives of learning; (1) where to site wild turkey constructed roosts on south Texas landscapes where natural roosts are limited and: (2) determine what kind of roost design is favored by wild turkeys.

Field work was initiated during the summer of 2014 on eight ranches that have 87 constructed roosts. We also enlisted another five cooperators who want constructed roosts established on their ranches. Field work entailed collecting data about the vegetation within a quarter of a mile of each constructed roost, specific data about habitat composition with each vegetation community, as well as the distance from a roost to the nearest feeder or source of water. We compared these data

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between constructed roosts that are used by wild turkeys and those that are not used in an effort to isolate factors that are associated with wild turkey use of constructed roosts.

Results are very preliminary and are associated with turkey use of constructed roosts during summer. We have learned that platforms with larger areas (minimum of 60 square yards.) were important features of constructed roosts used by wild turkeys, whereas unused roosts had structures that were smaller (23–47 square yards). Evidently turkeys prefer a strong, platform on which to roost, as well as one that will accommodate as many birds as possible. The vegetation data collected around constructed roosts has not yet revealed much relative to specific turkey habitat preferences, but we have more fieldwork to do over the coming year and anticipate learning more about habitat preferences. This project will continue throughout the year for the next two years so that we can continue to learn more about the habitat preferences associated with constructed roosts and additional aspects of structural roost designs wild turkeys prefer.

Another research project that was initiated involved trapping and attaching radio transmitters to wild turkeys to study their movements during the breeding, nesting and poult-raising seasons (spring and summer). Numerous landowners have told us over the years that they see turkeys during the winter, for example, and then never see turkeys again until the following

Photo courtesy of CKWRI

fall, thus indicating to the landowner that turkeys have moved away and gone somewhere else to spend the spring and summer months. We learned from previous research conducted on King Ranch that wild turkey hens will move up to five miles from winter roost habitat to areas with good grass cover to nest and hatch eggs, so we know wild turkeys do make extensive movements during spring.

However, the climate in the western Rio Grande Plains is drier and grassland habitats are not as abundant therefore wild turkey hens may indeed be moving significant distances to nest during the spring. To examine this in more detail, we are using radio telemetry to determine how far wild turkeys move (particularly hens during the breeding season), and identify home range sizes, as well as habitat preferences during turkey movements in spring and summer. This project will be a landscape study that will use Geographic Information System technology to quantify vegetation community preferences on a seasonal basis, document changes in home range sizes seasonally and help ascertain use of constructed roosts in an effort to identify key locations for siting constructed roosts. Thus far almost a dozen wild turkeys have been radiomarked and are currently being monitored at least three times per week. Radioed wild turkey monitoring will continue for the next 15 months, and we will add additional radioed birds to our study when trapping efforts resume next November.

Our research effort would not be possible were it not for the generosity of numerous South Texas ranchers who are dedicated to wild turkey conservation. Mr. Renato Ramirez, owner of the El Veleno Ranch has spear-headed efforts among Zapata area ranchers to fund our wild turkey study and provide study sites. The Encino Lodge south of Hebbronville has also provided funding as well as food, lodging and logistical support for project personnel. Mr. Charlie Hoffman, owner of the Hoffman H30 Ranch near Alice is also helping to fund our work and providing study sites. Las Huellas, a Conservation Organization in Brownsville dedicated to wildlife conservation and youth, is also generously funding our research. Additionally, Buddy and Ellen Temple, Stuart Stedman, Henry Hamman, Lee Bass and Jose Guevara are generously allowing us to use their ranches as study areas.