



The Importance of Riparian Habitats for Desert Turkeys

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RESTORATION OF THE WILD TURKEY is one of the most successful stories in the history of wildlife management in North America. Texas is no exception. Since the 1920s, the Texas Parks and Wildlife Department has trapped and restocked over 30,000 Rio Grande turkeys and 7,000 eastern turkeys to suitable habitats throughout the state. Turkey populations have responded favorably to the active restoration and occur in more habitat today than they did some 75-100 years ago.

For West Texas, turkey populations are generally few and far between. Their distribution has changed somewhat since the 1940s, but their numbers have generally remained the same. Because landowners value turkeys on their property, and little is known about their ecology and management in West Texas, the Borderlands Research Institute initiated a series of studies to investigate some of the more pressing questions surrounding turkeys in West Texas. Specifically, we wanted to address the following questions: What type of turkey occurs in West Texas? Where do they occur? What is adequate roosting habitat for turkeys in West Texas?

What type of turkey occurs in West Texas? Texas once contained three subspecies of turkeys: the Eastern, Rio Grande, and Merriam's. Most are familiar with the first two, but the latter is a variety of turkey that typifies the desert regions of the southwest. Merriam's once occurred in the Guadalupe Mountains and possibly the Davis Mountain regions of Texas. It is thought that Merriam's

were extirpated prior to 1900. Beginning as early as the 1920s, state and federal agencies initiated a variety of turkey reintroductions in the Trans-Pecos. Some of the restoration attempts included Merriam's, and some used Rio Grande stock.

To determine which type of turkey occurred in the Davis Mountains of Texas (where both Merriam's and Rio Grande had been restocked), we obtained genetic samples from turkeys resident to the mountain range. For comparison purposes, we obtained data from the Merriam's source population in New Mexico, as a baseline reference for the genetic characteristics of the Merriam's subspecies. Nineteen years following the introduction event, genetic data indicated that the genetic integrity of the introduced population of Merriam's turkeys in the Davis Mountains Preserve had been eroded by both immigration from and hybridization with nearby Rio Grande populations. The data also indicated that most hybrids were the result of immigrant Rio Grande males mating with resi-





ROOST SITES for turkeys come in many shapes and sizes in West Texas. In the eastern Trans-Pecos, live oaks are the primary roost tree. In other portions of the Trans-Pecos, cottonwoods, hackberries and ponderosa pines provide suitable roost sites.



dent Merriam's females. Similarly, our capture data demonstrated that Rio Grande individuals were captured with Merriam's individuals, suggesting that the two types shared habitats and likely occurred in the same flock.

Where do they occur? Turkeys are not ubiquitous across the Trans-Pecos. That is, not all habitats in the desert are suitable for turkey. To better understand what constitutes turkey habitat in the Trans-Pecos, we mapped known turkey populations and delineated suitable habitat across the region. Because turkeys may use a broader range of habitats in spring and summer times, our analysis focused on winter populations.

One of the most important habitats for wild turkey is riparian habitats. Riparian corridors are crucial to the survival of wild turkey and also provide food, water, and cover. In the Trans-Pecos, wintering wild turkey are found in riparian corridors in Jeff Davis, Presidio, Brewster, Terrell and Pecos counties. (Several small populations occur outside of the counties, but they are rare.) Using hydrology data, we mapped riparian habitats used by turkey into large flowing rivers, small rivers and streams, and intermittent streams. We then buffered these three habitats to quantify habitat availability. We then used satellite imagery to identify potential roosting habitat within these riparian zones. Terrell County had greater riparian area per county area (>10 percent) than any other county in the study, which coincides with the greater population density in the eastern Trans-Pecos counties. Brewster and Presidio counties also had high amounts of roosting habitat that were composed mostly of sugar hackberry.

What is adequate roosting habitat for turkeys in West Texas? This is an obvious question in a region of the state where a good shade tree is hard to come by. For most of the shrub- and grass- dominated landscapes of the Trans-Pecos, roosting habitat comes in the form of riparian corridors. More often than not, it is the riparian habitats that have the larger trees coupled with occasional water. However, the Trans-Pecos is diverse, and the trees that dominant the riparian habitats vary across the region.

For the eastern portion of the Trans-Pecos (Terrell and eastern Pecos and Brewster counties), live oaks constitute the majority of known roost sites. For the higher elevations (primarily the Davis Mountains), Ponderosa pine is the preferred tree for turkey roosts. For the remaining portions of the Trans-Pecos, hackberries and the less frequent cottonwoods represent adequate roost sites for turkeys in the region. Regardless of the tree type, the general rule of thumb is the larger the tree the more likely it will serve as a roost tree. Comparing trees selected for roosting by turkeys and those not selected, taller and wider trees were almost always chosen over similar but smaller trees in the vicinity. Additionally, large congregations of roost-sized trees generally supported larger flock sizes. 🍷



CONCLUSION

Turkeys have the same basic needs as other wildlife: food, cover, and water. For turkeys in the Trans-Pecos, these habitat requirements do not occur evenly (if at all) across the region. Riparian habitats are the lifeline for turkey populations in the desert, because in good years, they can provide all of these requirements. Riparian habitats can provide:

- Adequate roost sites (The largest trees in the Trans-Pecos are typically found along the riparian zones)
- Water (Most riparian zones hold water at some point during the year)
- Nesting cover (Remember, livestock will also congregate around water. So many times, grass production will be lacking if deferment does not take place)
- Mast (Most of the desert's mast producing trees are associated with waterways)
- Insects (also congregate around water sources)



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