



Translocation of Desert Mule Deer in Southeastern Brewster County

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Photo by Jennilea Campbell



A helicopter at Elephant Mountain Wildlife Management Area picks up mule deer does from a healthy population to transplant to areas with low mule deer numbers.

Historically mule deer occurred across vast areas of Texas, residing across the Trans-Pecos, Panhandle and Edwards Plateau regions. However, this changed by the early 1900s when populations were isolated to just a few pockets in the Panhandle and Trans-Pecos regions because of changing land use practices, over-hunting and urbanization. Since then, mule deer populations have rebounded in most areas in the Trans-Pecos and Panhandle thanks to efforts from private landowners and the Texas Parks and Wildlife Department (TPWD). Drought, habitat quality, disease and predation are some of the factors that limit mule deer population growth. One such area of Texas that has fewer mule deer than expected is Black Gap Wildlife Management Area (BGWMA). During the 1960s, this area's estimated population ranged from 2,000 to 4,000 mule deer within the wildlife management area. In contrast, the estimated mule deer population was less than 200 at the WMA in 2013.

In order to understand why mule deer numbers struggled, researchers with TPWD, Cemex (USA and Mexico) and Borderlands Research Institute



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A tagged and collared mule deer doe, post-release at Black Gap Wildlife Management Area. Tracking such individuals helps us understand home range, daily movements and survival following different release methods.

conducted a restoration project in the BGWMA and a neighboring ranch. Our goal was to try to boost the mule deer populations at these locations with multiple translocation efforts as well as to compare different release methods for future translocations.

To conduct these translocations, we followed TPWD's Trap, Transport and Transplant guidelines and pulled mule deer does from source populations that could support the removal of these does. Once our source populations were determined and met all the TPWD guidelines (disease surveillance), we used a helicopter and net-gun to capture individual does. Deer were then brought to a processing station for disease monitoring by a veterinarian, and some were fitted with a VHF or GPS radio collar for tracking individuals after their

release. The mule deer does were then transported to two release sites.

These release sites make up the Black Gap Complex, which follows the Rio Grande River just east of Big Bend National Park. The first portion of our complex was the BGWMA (103,000 acres). This release site was utilized for the soft-release pasture (524 acres) created for bighorn sheep re-introduction in the 1960s. The soft-release pasture allowed us to keep the mule deer in the enclosure for two weeks to acclimate the individuals to the new environment before opening the gates and allowing the deer to move freely across the landscape. Our second release site was at the Cemex-owned El Carmen Land and Conservation Company (35,000 acres). This area was used for our hard-release site. A hard-release method is when

the animal is released straight from the trailer into the environment without an acclimation period.

This study was conducted during the spring of 2015 through the summer of 2017. During this time, we were able to translocate 116 mule deer does to the Black Gap Complex. Of these 116 mule deer, 96 were fitted with either VHF or GPS radio collars for post-release monitoring. With these radio collars, we were able to compare movements (home ranges, daily movements, etc.) as well as monitor survival following both release methods.

Mule deer in our soft-release cohort had home ranges varying from 1,027 to 5,718 acres, while our hard-release cohort had a home range varying from 1,490 to 26,477 acres. Site fidelity followed a similar trend. We noticed



Photo by J.C. Kiddo Campbell



Once home to 2,000 to 4,000 mule deer, the vast Chihuahuan Desert ecosystem of the Black Gap Wildlife Management Area is one site that the Texas Parks and Wildlife Department and Borderlands Research Institute are working to restore. The latest mule deer population estimate at Black Gap is about 400 individuals and continues to increase with habitat management and translocation efforts.

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a higher loyalty to release location in mule deer that were soft-released compared to hard-released. However, there were still large movements within both release methods: one mule deer doe moved about 42 miles straight-line from the hard-release site into Mexico and returned in a couple of weeks, while in the soft-release group, three individuals moved 20 to 30 miles north of BGWMA and returned within one week of leaving. These are just some of the large movements that we documented, along with multiple international movements into Mexico. The mule deer population at BGWMA was estimated at about 400 during fall surveys in 2017. As with all deer management, it is important to clearly identify your management goals prior to implementing a management strategy, as well as to evaluate your successes and failures.

This study occurred during 2015-2016 and involved CWD surveillance prior to translocating those deer. Nonetheless, because of serious concerns for the potential of CWD transmission, TPWD has since made the decision to cease all deer translocations to or from state-owned properties. ☺

