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THE BENEFITS OF SUPPLEMENTAL WATER

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Managing for wildlife species in Texas can be a much more taxing and complex task than other states around the nation. Texas is diverse in species abundance, experiences great fluctuation in climate throughout the year and is large. Given these circumstances, managers and landowners need the knowledge and skill to understand what factors are influencing their target species to truly see the end results they desire.

Knowing and understanding what is actually influencing species abundance and fluctuation means understanding target species' limiting factors. Limiting factors are intuitively defined as the factors that limit a target species population from increasing beyond a threshold. Depending on the species limiting factors can be influences like foraging habitat, nesting or birthing cover, food availability, predator abundance or climate impacts like temperature or water availability. In Texas and from past research of my own, water availability is one of the main drivers of species abundance and tends to lend itself as the most critical limiting factor of them all.

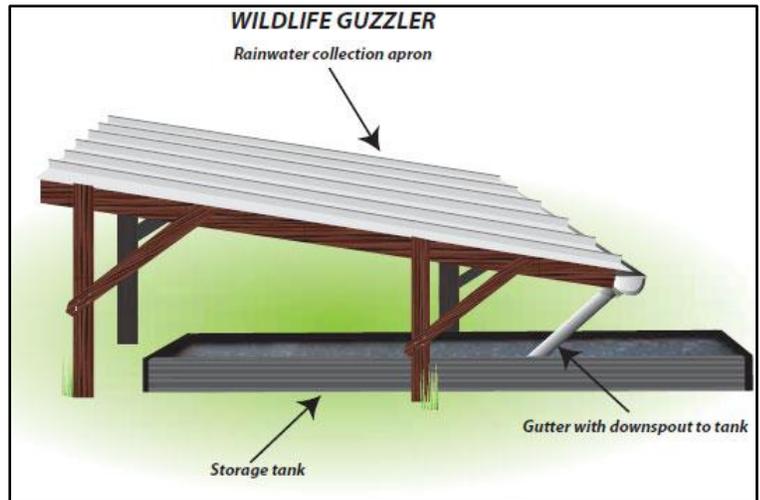
As you move from East to West across Texas, yearly precipitation accumulation averages decreases with parts of East Texas receiving upwards of 45 to 50 inches of rainfall per year and West Texas averaging between 12 and 18 inches per year. Historic rainfall data such as these have shaped species diversity across the ecoregions in Texas. However in some years such as 2011, those yearly averages can be thrown out the window when yearly rainfall was reduced to half and in some places a quarter of the their yearly average. Summer droughts like these make for extremely difficult times for wildlife species as food availability dwindles, temperatures sky rocket, cover is limited and of course ground water availability is virtually removed. For bobwhite quail, studies show that upwards of 92% of the fluctuation in bobwhite quail abundance from one year to the next can be attributed to timely rainfall and total rainfall received within that year. Similar results have shown that white-tailed deer in terms of fawning success, recruitment numbers and antler growth are effected by timing and amount of precipitation in a year. Knowing that water is such a key factor in long-term species viability, landowners have invented very intuitive and cost efficient ways to mitigate against those years when rain just refuses to fall.

The most common form of supplemental water is building water troughs or water pilas. Troughs are usually concrete or aluminum and are filled by a pumped water well located on the ranch or a windmill located close by. These troughs act as great resources for all wildlife including deer, quail, turkey, migratory birds, meso-mammals and reptiles.

At times ranches will even allow the trough to over flow a little to allow species easier access to available water and also increase forage availability around the trough. This same water trough idea can be applied to already existing ponds/tanks as well. Instead of piping water into a built trough, pipe the water into a dry tank to provide ground level water that is even more accessible to wildlife.



Another great tool used more frequently in the Trans-pecos are water guzzlers. In short, guzzlers utilize large surface area aprons usually constructed with galvanized sheet metal to catch as much rainfall as possible. The water then flows to a catchment pipe where it is then transported to a storage tank or straight into a water trough. The storage tank is placed at a lower level so that rainwater that is collected gravity flows into the catchment area without the need of a pump. Covering the storage tank or water pila is also ideal as to not lose water due to evaporation. As we all know the Trans-pecos and other parts of Texas tend to get pretty hot.



Water pilas and guzzlers are just a few of the many different unique supplemental water techniques that can be implemented on a piece of property to provide additional available water for wildlife. Public resources such as the Natural Resource and Conservation Services (NRCS), Texas Parks and Wildlife (TPWD) and the Soil Conservation Service (SCS) also offer tremendous help when trying to decide if providing supplemental water is that limiting factor for your rangeland and the correct method to implement a supplemental water structure for your property. Landowners that are truly dedicated to providing supplemental water for wildlife also may qualify for cost sharing projects and grants offered by the agencies listed above.

The state of Texas is very large and diverse considering the various climate types and species that can be found. Understanding what factors limit a population is imperative when deciding to initiate changes or projects like improving water availability. Without this understanding improvements can be a waste of time and money. However conversely and with a strong understanding of the limiting factors hindering population growth of your target species, you as a landowner are armed with the knowledge to take the necessary steps and address the factors to improve the ecosystem that will allow for population growth of your desired species.

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HIGHLIGHTED PROPERTY

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DESCRIPTIVE POINTS: GUADALUPE RIVER RANCH

This 76-acre Guadalupe River ranch is a prime investment or development holding in Canyon Lake, TX and could serve as an incredible recreational property during the holding period. Over half a mile of deep, pristine, accessible Guadalupe River frontage just south of FM 306.

Boasting deep, alluvial soils and completely level all the way to the second bank of the river, this property can be built on almost anywhere. There is no floodplain outside the river banks, and no known history

of flooding outside the current FEMA floodplain. Recent hydro-axe work has rid the property of much of the re-growth mesquite allowing the native grasses to re-grow this spring. A picturesque line of elms, pecans, and sycamores separates the accessible Guadalupe River frontage from the rest of the property.

There is a large population of white-tailed deer in the area, as well as a herd of axis deer which frequent the property. Additionally, numerous songbird and waterfowl species can be observed on a regular basis. The Guadalupe River has long been a prized recreational river draw for the area, but it is also an underrated largemouth bass fishery. Most of the river can be waded or floated for fly or light spinning tackle fishing.

The ranch is located in Canyon Lake, TX. In short the property is approximately 13 miles from I-35/FM 306 in New Braunfels, TX, 53 miles from downtown Austin, and 46 miles from downtown San Antonio. The Canyon Lake area boast a population of approximately 21,300 which includes unincorporated communities such as Canyon Lake, Sattler, Startzville, Canyon City, and Cranes mill.

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