

The status of natural wildlife habitats around the world is precarious. Important wildlife habitat is rapidly lost or fragmented in the course of urban development, oil and gas exploration and extraction, and the conversion of land to agricultural uses. Some of the damage to wildlife is visibly the result of humans encroaching on wildlife habitat. Rapid increases in housing and business developments, in addition to rural community growth, have disturbed or destroyed numerous wildlife habitats hindering the chances of survival for much of the natural wildlife in the surrounding areas (The Wildlife Society, 2017).

In Bexar, Bandera, Comal, and Kendall counties there is an increased potential for disturbing natural wildlife habitats due to rapid growth in the population. The 2021 U.S. Census Bureau reported a population of approximately 2.16 million for the four-county area (U.S. Census Bureau, 2021). There has been an estimated population growth of 16.7% in the KCF counties of interest since the 2010 census.

Likewise, the extreme weather conditions that often affect South Central Texas, including floods and droughts, place animals at additional risk for harm. Data suggests that climate change will have a negative effect on Texas wildlife if efforts for conservation are not met.

Scientists from many parts of the world believe that climate change will have a cataclysmic effect on wildlife in the years to come. Already in Texas, above average temperature is changing the migratory patterns of some

species. It is possible to see an influx of invasive species that could potentially damage the state's native wildlife population, leaving them to compete for natural resources (Texas Parks and Wildlife Department [TPWD], n.d.b). Together, these factors reveal the need for preserving wildlife and their natural habitats.

History of Wildlife Preservation in the USA

The wildlife preservation initiative was started by President Theodore Roosevelt who established the first wildlife refuge on Pelican Island in 1903. Located in Florida, it serves mainly to protect various types of birds (U.S. Fish and Wildlife Service [FWS], 2015).

70 years later, President Richard Nixon signed the Endangered Species Act acknowledging the need for the preservation of wildlife and their environments:

- Requires federal agencies to ensure actions do not jeopardize the continued existence of any endangered or threatened species
- Prohibits destruction or adverse modifications of critical habitat (FWS, 2020).

Efforts to preserve animals and their environments continue. The total acreage for the National Wildlife Refuge System is over 95 million acres and includes 567 wildlife refuges (FWS, 2021a).

In Texas there are:

- 18 Wildlife Refuges
- Approximately 400,000 acres
- Majority located along the Gulf of Mexico (FWS, 2021a)

Texas Parks and Wildlife

In 1963 the Texas Parks and Wildlife Department (TPWD) was established as a consolidation of several conservation/preservation agencies (parks, fish, and game). In 1983 the Texas legislature passed the Wildlife Conservation Act giving TPWD authority for managing fish and wildlife resources in all Texas counties. TPWD currently consists of 13 departments including state parks, coastal and inland fisheries, resource protection, and wildlife (TPWD, n.d.a).

The Current State of Wildlife Preservation in Texas

As of January 2021, the U.S. Fish and Wildlife Service listed 1,656 native species of the United States as endangered or threatened (FWS, 2021b). Specifically, there are 209 species found in Bandera, Bexar, Comal, and Kendall counties that are designated as *species of greatest conservation need*. 36 of those are officially listed as threatened or endangered (TPWD, n.d.d).

Over the years the state of Texas has developed programs to make sure that native species are protected. In 1973 the Texas Legislature allowed Texas Parks and Wildlife to create a list of animals considered at risk for extinction. The department split them into two lists:

- *Endangered* – the Executive Director of the Texas Parks and Wildlife Department has deemed these animals as “threatened with statewide extinction”
- *Threatened* – species that could become endangered in the future

Some listed species in the four counties are the same species and others only pertain to one county, but the breakdown is as follows:

Bandera

- | | |
|----------------|---------------|
| ◆ 4 Amphibians | ◆ 19 Mammals |
| ◆ 10 Birds | ◆ 2 Mollusks |
| ◆ 5 Fishes | ◆ 32 Plants |
| ◆ 6 Insects | ◆ 9 Reptiles |
| ◆ 1 Crustacean | ◆ 5 Arachnids |

Bexar

- | | |
|----------------|-----------------|
| ◆ 6 Amphibians | ◆ 20 Mammals |
| ◆ 9 Arachnids | ◆ 2 Mollusks |
| ◆ 14 Birds | ◆ 36 Plants |
| ◆ 5 Fishes | ◆ 14 Reptiles |
| ◆ 16 Insects | ◆ 4 Crustaceans |
| ◆ 2 Arthropods | |

Comal

- | | |
|-----------------|---------------|
| ◆ 7 Amphibians | ◆ 13 Insects |
| ◆ 14 Birds | ◆ 18 Mammals |
| ◆ 7 Crustaceans | ◆ 14 Mollusks |
| ◆ 5 Fishes | ◆ 30 Plants |
| ◆ 11 Reptiles | ◆ 4 Arachnids |
| ◆ 1 Arthropod | |

Kendall

- | | |
|-----------------|--------------|
| ◆ 6 Amphibians | ◆ 5 Fishes |
| ◆ 11 Birds | ◆ 21 Mammals |
| ◆ 2 Crustaceans | ◆ 5 Mollusks |
| ◆ 3 Insects | ◆ 26 Plants |
| ◆ 9 Reptiles | |

(TPWD, n.d.d)

There are no National Wildlife Refuges in San Antonio or the surrounding areas despite the U.S. Fish and Wildlife Service’s recognition of the great numbers of endangered species living in the area. The Bureau of Land Management has primarily subsurface acreage (federally owned oil, natural gas, and minerals) in Texas, the only exception being the Cross Bar Property near Amarillo (Bureau of Land Management [BLM], n.d.b). This property is “a 12,000-acre tract originally purchased by the Federal government in 1931 as part of a program to establish a strategic helium reserve. Today the land is used for a variety of ecological and archeological research projects and for public recreation” (BLM, n.d.a). There is no specific mention of wildlife preservation.

There are however, many non-government organized wildlife conservation efforts and refuges in the state, including Audubon Texas (2021), Bat Conservation International, Inc. (2021), Cibolo Nature Center (n.d.), The Nature Conservancy (2021), and the San Antonio Zoo (n.d.) that are not only committed to conservation, but also provide related education.

Wildlife Management Areas (WMAs)

Texas has established other departments in an effort to help and better understand wildlife. Wildlife Management Areas, which are operated by the Wildlife Division of TPWD, were established as sites to perform research on wildlife populations and habitat, conduct education on resource management, and provide a variety of outdoor recreation activities. There are currently 50 WMAs encompassing 748,768 acres. These areas were established to represent habitats and wildlife populations typical of each ecological region of Texas. Apart from driving tours and special education events, WMAs require special permits for visitors. Visitors are asked to take into consideration all COVID 19 precautions (TPWD, n.d.f).

Wildlife Rehabilitation

Wildlife rehabilitation centers care for injured, ill, and orphaned animals with the objective of returning the healed creature back to its native habitat (National Wildlife Rehabilitators Association, 2021). 79 Texas counties currently have wildlife rehabilitation centers and/or independent rehabilitators. Bexar County is host to two rehabilitation organizations, Wildlife Rescue and Rehabilitation, and Last Chance Forever – The Bird of Prey Conservancy (both of which also serve Kendall County) as well as four independent rehabilitators. Comal County is home to two independent rehabilitators (TPWD, n.d.g).

Orphaned and injured animals are a very common occurrence in the spring and summer seasons. Records indicate that many ill, orphaned, and injured animals are in this condition because of human intervention. Things like cars, trains, mowers, and high line wires can be responsible for the animal's suffering. Many times, birds are thought to be abandoned, but the mother is most likely practicing a defense mechanism called "hiding." Mother birds hide as to not attract prey to her young. Although people mean well, too often they take the young from its parent making it difficult for the young animal to readjust to the

wild. One recent study found that "40% or more of the deer fawns referred to her [rehabilitator] were not orphans or injured, but "kidnapped" from their mothers. Typically, these incidents were well-meaning but misguided attempts to "save" seemingly abandoned fawns" (TPWD, n.d.c).

The need for rehabilitation centers is crucial because of the special skills and knowledge needed to care for these animals. Rehabilitators must be able to administer basic first aid and physical therapy. The goal for these organizations is to release the fully rehabilitated animal back into the wild. Rehabilitators try to keep human contact to a minimum when helping wildlife. It is widely believed that animals must maintain their fear of humans for the purpose of survival. Animals that cannot be released into the wild are euthanized humanely, or they are sent to education facilities if the animal is still functional but considered at risk in the wild (National Wildlife Rehabilitators Association, 2021).

All rehabilitators must be licensed by TPWD to house and treat the animals that they receive. Rehabilitators generally work out of their home and many of them volunteer their time. What make these centers and their volunteers so special is that there is no Federal or State funding for their facilities. Texas Parks and Wildlife may permit them to house the animals through special licensing, but all veterinary, caging and food costs are the responsibility of the rehabilitator (TPWD, n.d.e).

In order to release an animal back into the wild the following guidelines and criteria apply:

- Wildlife cannot be released in an area where they can become a nuisance or a depredation threat
- Wildlife may not be released into fenced or enclosed spaces—they should be able to escape if they face a predator.
- If it is difficult to find somewhere to release the wildlife, it is possible to release them onto TPWD property with special permission from the department

- The release of animals on private property is also a possibility, but one must have written permission from the landowner, lessee, or operator in charge of the land
- Protected wildlife shall be released only to habitat appropriate for the species (TPWD, n.d.e.)

In the end, the health and livelihood of all wildlife species depends on the preservation of natural habitats and nature reserves. Wildlife preservation not only benefits wildlife species and local and regional environments, but it also provides numerous individuals with a source of entertainment and education.

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