

FERAL HOGS AND DROUGHTS

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Time periods of below-average rainfall can fluctuate in duration and severity, but in Texas they are an expected part of normal weather patterns. Droughts vary across the state with the western regions being more prone to arid conditions. Natural resource managers are aware of the strains a drought can place on native species and agricultural investments, but the effect of a drought on pests such as feral hogs is less well known.



Figure 1. A feral hog in the Texas Hill Country seeks out water in the Llano River during drought conditions in summer 2022. (Photo by Nanette Randall)

Feral hogs are a non-native, invasive species originally introduced to North America by European explorers. Today, they have established invasive populations throughout Texas and in many other regions around the world. In their native and introduced ranges, wild boars encounter a variety of climates and have proved to be highly adaptable in various conditions. When it comes to feral hogs and droughts in Texas, there are several behavioral responses that are often observed.

Feral hogs are habitat generalists, meaning they can make use of a variety of habitat types and conditions. Primary factors in habitat selection often include food availability and water access. As opportunistic omnivores, diet constraints are very flexible for feral hogs. Water access can be a less flexible habitat requirement for these animals, especially in warmer

conditions. Feral hogs are unable to sweat to regulate their temperature and, therefore, rely on behaviors to remain cool. These behaviors include finding shaded areas and wallowing in mud. During periods of drought, feral hogs will select areas where food and water still exist. When large numbers of feral hogs concentrate on limited resources, there are a few results that can be expected, and some management opportunities that are available during that time.

CHANGES IN HOME RANGE

Changes in the size of feral hog home ranges during a drought is more apparent in females of the species, than in males. Female feral hogs (i.e., sows) travel in large groups called sounders that are typically comprised of related females and their offspring. When resources such as food and water become limited by drought conditions, the home ranges of sows tend to shrink as they concentrate their habitat selection to areas with adequate food and water (Baber & Coblenz, 1986; Dexter, 1999). While male feral hogs (i.e., boars) also require access to these resources, studies have shown that they still maintain their typical home ranges during drought conditions (Baber & Coblenz, 1986; Dexter, 1999). Experts suggest that boars maintain larger home ranges even during a drought to ensure that they still have opportunities to breed (Dexter, 1999).



Figure 2. A feral hog in the Texas Gulf Coast tidal flats. Feral hogs can concentrate in sensitive aquatic environments when water access is limited across the landscape. (Photo by Jane Dixon)

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INCREASED DAMAGE IN SENSITIVE ENVIRONMENTS

Drought conditions limit the availability of water on the landscape. Areas where natural water remains often include critical habitats for many species to survive during drought conditions (e.g., streams, rivers, marshes, and swamps). During dry conditions, feral hogs have been shown to concentrate in these habitats to maintain access to water and soils that provide easier foraging opportunities (Cahill et al., 2003; Sousa et al., 2017; Zengel & Connor, 2008). The rooting behavior feral hogs exhibit while foraging for food underground, the wallowing behaviors they utilize to regulate their temperatures, and the bacterial contamination caused by their feces have been documented damaging watersheds, even in optimal conditions (Kaller et al., 2007). However, during a drought, the impacts of these activities are amplified.

IMPACTS TO NATIVE WILDLIFE

Feral hogs negatively impact native wildlife populations through competition, disease transmission, habitat destruction, and outright predation. During drought conditions, some of these effects can be amplified for wildlife that rely on the water sources frequented by feral hogs. Aquatic and semi-aquatic wildlife populations can be impacted by the loss of limited habitat from feral hog rooting and wallowing, excessive turbidity and sedimentation from soil disturbance, and by abnormally high concentrations of fecal content (Kaller & Kelso, 2006; Zengel & Connor, 2008). For example, feral hog rooting has been documented to disrupt the shallow and fragile aquatic environments that salamanders rely on for the larval stage of their lifecycle (Means & Travis, 2007). Additionally, as opportunistic omnivores, feral hogs have been



Figure 3. A feral hog foraging in a wetland alongside ibis. Many native species rely on the aquatic environments that feral hogs damage, especially during a drought. (Photo by Craig McIntyre)

documented consuming aquatic wildlife, such as mussels, which are more concentrated and easily accessible during drought conditions (Sousa et al., 2017). In both examples, feral hogs add to the existing impacts that a drought can cause for native wildlife.

FERAL HOG POPULATION REDUCTIONS

As with native species, periods of drought can impact the survival of individual feral hogs, which could result in lower populations the following year. Additionally, studies have found that a lower percentage of sows choose to breed during a drought, which would result in lower population growth the following year (Fernandez-Llario & Carranza, 2000; Fernández-Llario & Mateos-Quesada, 2005). Finally, the survivability of piglets can be lower during a drought due to poor body condition in the mother, which may result in smaller offspring and poor lactation quality (Fernandez-Llario & Carranza, 2000; Fernández-Llario & Mateos-Quesada, 2005).

INCREASED RISK OF DISEASE TRANSMISSION

Feral hogs are able to carry many diseases that are transmissible to native wildlife, as well as humans, pets, and livestock. During a drought, limited access to food and water can lead to poor body conditions, making feral hogs more susceptible to contracting a disease. An international study identified an increased rate of disease-positive hogs that were harvested after a drought (Abrantes et al., 2021). Drought conditions can cause feral hogs to converge on areas where food and water are most accessible (Baber & Coblenz, 1986; Cooper et al., 2010; Dexter, 1999). High concentrations of pigs in close proximity to one another at such sites can increase the rate of disease transmission, and the warm, moist soils associated with rooting and wallowing can provide ideal conditions for some diseases to persist in the environment long after feral hogs leave (Abrantes et al., 2021; Cooper et al., 2010; Pirtle, 1991).

A study conducted in South Texas examined issues associated with resource sites occupied by feral hogs, which identified supplemental water and food plots intended for wildlife and livestock as areas of high risk for disease transmission between feral hogs and cattle, especially during drier conditions (Cooper, 2006; Cooper et al., 2010). Livestock operations should take precautions to ensure that supplemental food and water intended for livestock do not attract feral hogs, which may be carrying harmful diseases. These precautions are always a best practice for managers but can be crucial during droughts when alternative resources on the landscape are limited.

MANAGEMENT IMPLICATIONS

During a drought, the range and behavior of feral hogs can change from what has typically been observed. While damage from feral hogs may be less widespread or less visible during a drought due to dry and compacted soils, a property that maintains accessible food and water may actually concentrate feral hogs while resources are limited across the landscape. Concentrated feral hog populations can create an opportunity for successful trapping. Since feral hogs will likely travel less during severe drought, managers should ensure that any trapping efforts are strategically located in areas that are actively being used by feral hogs, especially those with permanent water.

Alternatively, properties that have frequently had issues with feral hogs in the past, may see a decline in feral hog damage, trapping success, or other signs of their presence if access to food and water becomes limited in their area. However, it is important to remember that the visual absence of feral hogs does not mean that the issue has been solved. When rainfall levels return to normal, feral hogs may also return to areas they occupied and damaged pre-drought. Regular monitoring of resources that will attract feral hogs is critical to implementing a successful management plan for these invasive animals as soon as they appear on a property.

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