

TEXAS PARKS AND WILDLIFE

The  
**JAVELINA**  
in Texas



By Rick Taylor and David R. Synatzske

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## INTRODUCTION

Early Spanish explorers, in their ventures into the "New World," encountered a pig-like animal similar in appearance to the swine of the "Old World." They called the animal *jabeli* (Arabic-Spanish for wild boar) or *jabalina* (Spanish for spear, due to its spear-like teeth). Hence, the common name of javelina by which we know it today. Also described as the Mexico musk hog, the javelina or collared peccary (*Tayassu [Pecari] tajacu*) is only distantly related to true swine believed to have shared a common ancestor some 40 million years ago. The peccaries (Family Tayassuidae) were developing in the Western Hemisphere about the same time that swine (Family Suidae) were developing in the Eastern Hemisphere.

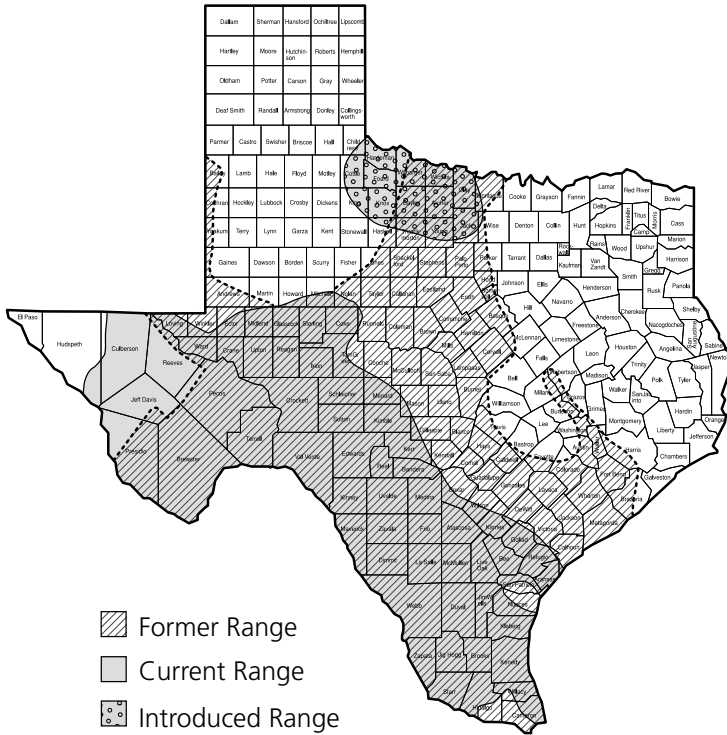


## DISTRIBUTION

The collared peccary has one of the largest distributions of any wild ungulate in the world, occurring from Argentina into the southwestern United States. Collared peccaries are relative newcomers to the southwestern United States, with the first record in literature coming from 18th-century Jesuit missionaries in or around Arizona. Archeological investigations further substantiate this record, as no evidence of javelina has been found in sites dating prior to 1700. This relatively rapid expansion of javelina range may have been inadvertently aided by humans. As colonization increased, overgrazing by domestic livestock of the Southwest's dry grasslands, may have caused the native grasses to be replaced with mesquite, prickly pear and other cacti, thus improving desirable habitat. As European settlement continued to increase and expand, the range of the javelina decreased. However, they are expanding into new areas at the northern and eastern fringes of their current range. In the United States today, the javelina is found only in Arizona, New Mexico and Texas.

Originally distributed in Texas from Brownsville to the Red River, the javelina's current range has been restricted to the southwestern one-third of the state, including portions of the lower coastal plains, the South Texas Plains, the western half of the Edwards Plateau, the Trans-Pecos, and the southern edge of the Rolling Plains. Although there is not a reliable census technique, javelina population trends have been determined from aerial surveys in conjunction with deer and pronghorn surveys. Based on this data, there are an estimated 100,000 javelina currently occupying approximately 62 million acres of Texas rangelands. Lack of suitable, contiguous habitat may limit further range expansion in Texas.

The earliest documented decline of javelina in Texas began when European settlers began commercializing tanned hides to be used as leather for a number of items including gloves, bags, purses, shoe tops and numerous ornamental items. The bristles were also used to make brushes. Robert Mauremann claimed in a 1943 Texas Game and Fish publication that one dealer near Uvalde handled



15,000 javelina hides during the 1936–1937 season, although only 2,500 were from Texas, while most were from Mexico. These early hide hunters used steel traps and hunting with dogs as their primary techniques.

In the 1990s the Texas Parks and Wildlife Department documented another decline. Recent downturns in javelina population trends in South Texas appear to follow drought cycles, habitat management treatments, and more recent emphasis on white-tailed deer management, including high fencing and predator control. Although habitat improvement for white-tailed deer, such as food plots, supplemental feeding, and water development improved habitat for javelina, in many cases it also exacerbated problems between

deer enthusiasts and javelina. Incidental and illegal harvest of javelina due to their perceived nuisance of predation, agricultural damage and competition with deer has added to this decline. Also noted during South Texas aerial surveys were reductions in javelina sightings coinciding with increased observations of feral hogs. Research conducted throughout the South Texas ecological region, specifically the Chaparral Wildlife Management Area, has reinforced recognition of this potential for competition. Although feral hogs are often viewed by hunters and landowners as an attractive addition to their hunting operations, hogs are non-native potential competitors with native wildlife species for food, water and space. Unlike feral hogs, javelina are not major competitors with native wildlife for the natural resources.

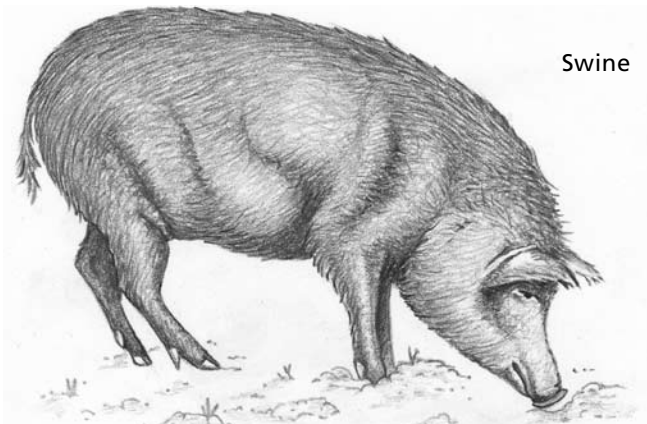
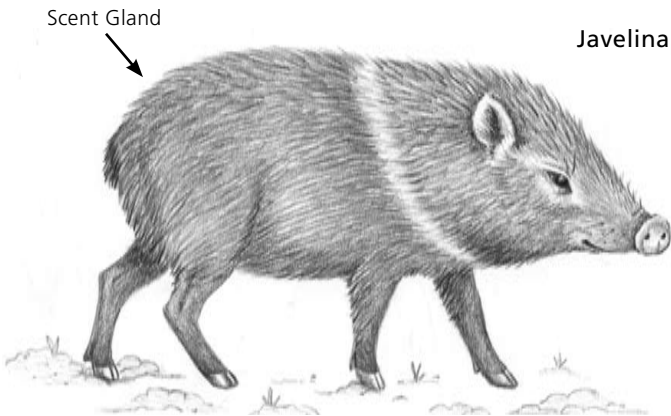
## DESCRIPTION

Javelina have the appearance of a small, thin, rangy domestic pig without a visible tail. They are much smaller than they appear, with an average adult standing 18 inches tall and weighing between 35 to 45 pounds, although individuals in the 50- to 60-pound range have been documented. Size may vary throughout their range due to annual precipitation and food abundance. From a distance, male and female javelina have a similar appearance exhibiting virtually no sexual dimorphism. Both male and female collared peccary have a "collar" of white and black hairs around the neck and shoulder that stands out from the normally darker coat, giving the species its name.

Javelina have small eyes and poor eyesight, and have difficulty recognizing objects over 100 yards away. They also have a poor sense of hearing; however, their sense of smell is highly developed. Males and females possess impressively straight self-sharpening upper and lower canine teeth, which serve little purpose in eating. They are used principally for defense and threat postures such as the "gape" (opening the mouth and showing teeth) and "chattering" or "clacking" of the teeth (a staccato movement of the jaws used in intimidation). Canines are usually most impressive in middle-aged (3- to 5-year-old) javelina, with teeth becoming worn and broken in

older animals. It is uncommon for herbivores and few carnivores to possess canine teeth as large and as sharp as those of peccaries.

Other unique characteristics of javelina include the presence of a dorsal scent gland located six to seven inches above the tail, the presence of only three toes on the hind foot, a complex stomach which allows better utilization of forage, and kidneys better attuned to water conservation by concentrating urine.



### Major Differences between javelinas and feral swine.

DIFFERENCE	JAVELINA	SWINE
SCENT GLAND	On back above tail	Absent
TAIL	Not visible	Long and hairy
EARS	Appear smaller and less visible	Appear longer and generally upright
HIND FEET	Fused dewclaw, 3 toes on hind feet	2 dewclaws, 4 toes on hind feet
HIND LEGS	Ulna and radius bones fused	Ulna and radius bones separate
TEETH	38 Upper canines grow straight down, lower canines grow straight up, upper and lower generally much shorter than swine	44, when mature Upper canines curve up, lower canines curve out, upper and lower canines can grow very long
STOMACH	Relatively enlarged and complex	Simple monogastric stomach
GALL BLADDER	Absent	Present

### HABITATS

The collared peccary occupies a wide variety of habitats existing under a wide variation in temperatures. Physiological and behavioral adaptations allow them to deal with climatic issues such as extreme heat, periodic cold and low rainfall. Javelina are found from the tropical rainforest environs of South America to desert shrublands and mountainous regions of the southwestern United States. In Texas, principal javelina habitat is characterized as semi-arid brushlands or oak-juniper woodlands, with precipitation ranging from 10 to 30 inches annually.



## HOME RANGE

Javelina live in herds where they remain throughout their lives. Herds are highly social, with members interacting through vocalizations, rubbing, raised hair displays and marking. Herds are generally stable, with equal sex ratios, and range in size from 10–40 animals, averaging 20. Herds as large as 50 have been reported. The primary advantages of herding behavior include enhanced defense against predators and more efficient foraging. Javelina utilize habitual bedding sites in heavy cover, in caves and under ledges in both summer and winter. Herd congregation tends to increase the occurrence of ectoparasites (notably fleas), as any javelina hunter will attest.

Each herd has its own territory or home range, the size of which is largely determined by habitat type, habitat quality and food supply. In general, the denser the habitat and vegetative cover, the smaller the home range. In South Texas, territories may range from 200 to 900 acres, whereas in the Trans-Pecos home ranges are generally much larger. Depending on food availability, daily herd movements from bedding areas in the Trans-Pecos may reach three miles. In dense chaparral habitats of South Texas, herds generally range within one mile of their bedding areas. Home ranges of individual herds normally overlap; however, territorial overlaps are not occupied by more than one herd at a time. Javelina are highly territorial, aggressively defending their home ranges from other herds when necessary. Scent marking of territories is usually adequate to maintain territories, and with defensive physical encounters infrequent.

### Javelina Home Range Size vs. Brush Density

South Texas

BRUSH DENSITY	DESCRIPTION	HOME RANGE SIZE
Thick	Avg. Visibility of < 20 yards	250 acres
Moderate	Avg. Visibility of 21-50 yards	400 acres
Open	Avg. Visibility of > 50 yards	700 acres

## FOOD HABITS

Javelina food habits are somewhat unique, with digestion being aided by a complex stomach. Javelina are primarily herbivores, feeding on various cacti, mesquite beans, sotol, lechuguilla, forbs and other succulent vegetation. Research indicates prickly pear cactus to be a frequent and consistent part of javelina diets in all habitats, composing up to 80 percent of diets at certain times of the year. In South Texas, prickly pear pads make up the bulk of diets in October through March with prickly pear fruits and mesquite beans being major diet components in April through September. The importance of prickly pear extends beyond providing a high-energy carbohydrate diet. It and other succulents provide a valuable water source which is very important during periodic drought cycles and in semi-arid regions. Up to 88 percent of javelina water requirements are met by eating succulent plants. If prickly pear alone were utilized to meet these water needs, a javelina would require approximately 3½ pounds of pear daily to remain hydrated. Javelina, however, will freely utilize surface water if available. Forbs and mast (or fruits) are also necessary dietary components due to their higher nutritional values. Although insect matter and carrion are consumed, research indicates less than 1 percent of javelina diets consist of animal matter.

## REPRODUCTION

The javelina is the only tropical species that can breed year-round. If range conditions and food availability are good, they may begin breeding at 11 months of age. With a gestation period averaging 145 days, the possibility of producing two litters per year exists. This offers the javelina a unique opportunity to take advantage of changing range conditions and the ability to quickly replace young should they be lost—a great advantage over most other American ungulates.

Peak breeding in South Texas normally occurs from late November through January, with farrowing in May to early June. A secondary peak in births occurs in the fall. Similar reproductive patterning in response to range conditions is exhibited in other regions. Research

in South Texas indicates pregnancy rates normally average 65 to 90 percent and fluctuate with rainfall. Average litter size is constant ranging from one to two piglets per year. Young are precocial and are able to follow their mother when only a few hours old. Although reproductive potential is high, mortality of piglets approaches 40 percent (primarily due to predation); therefore, a typical herd might consist of one-third adult males, one-third adult females, and one-third or fewer young. Javelina generally live five to 10 years, although captive animals have been known to live up to 21 years.

## **MORTALITY**

Adults have few known predators other than mountain lions, black bears and humans. Piglets are readily taken by a variety of predators (notably coyotes and bobcats). Periodic disease outbreaks can significantly reduce javelina populations, as evidenced in the 1980s when an outbreak of javelina encephalitis reduced South Texas herds. Other diseases, such as vesicular stomatitis, rabies, pseudorabies, leptospirosis and brucellosis, can also take their toll on javelina.

## **JAVELINA MANAGEMENT**

Historically, javelina were market-hunted in the United States for their hides. In many parts of their range in Central and South America they are still over-hunted for this purpose. In Texas, the javelina was first given game animal status and the protection of seasons and bag limits in 1939. Early regulations were highly variable, ranging from no open season to no closed season and no bag limits. Currently there are three distinct zones of javelina regulations, including the following: South Texas / no closed season / two javelina per year (50 counties) / two possession limit, North Texas / October–February season / two javelina per season (41 counties) / two possession limit, and the remainder of state with no open season. In 2007, a Managed Lands Javelina Permit program was initiated for landowners desiring increased management options.

The key to javelina management lies in proper range management and habitat manipulation. Land-use practices such as root-plowing large expanses of rangeland may severely impact javelina habitat, specifically cover. While perhaps 30 to 50 percent of brush can be removed without being detrimental to javelina populations, care must be taken in leaving dense brush thickets and connecting brush corridors along drainages. Information on javelina population trends indicates that overall numbers decline in areas where habitat destruction has occurred.

Although competition with domestic livestock is minimal, proper grazing practices may provide benefits for javelina. In extreme drought or overgrazed situations, livestock grazing may impact javelinas, notably in competition for prickly pear. Improving livestock watering programs has proven beneficial to javelina, although they do not require an abundance of surface water.

Since javelina rely heavily on prickly pear and mesquite beans as food items, concern has been raised about the "spread" of these species by javelina through foraging activities. Although seeds of many cactus fruits and mesquite beans may be passed unharmed through the digestive system of javelina, the impact of javelinas on the spread of these food species is no greater than that of livestock. Researchers in Arizona found that up to 1,000 viable mesquite seedlings have been obtained from a single cow chip.

Another area of concern for some landowners is the possibility of depredation on livestock, specifically lambs and kid goats. However, it is believed that individuals or a particular herd are at fault rather than depredation being a trait common to all javelina. Damage to net-wire fencing can be alleviated by staking or "pegging" holes under fences in such a fashion as to avoid further expansion. Javelina are creatures of habit and seem perfectly appeased by this approach, utilizing existing openings rather than creating new ones. Where predator control operations are common, awareness of this trait and the heavy toll that snares can take on javelina should be taken into consideration.

## NUISANCE JAVELINA

Occasionally, javelina may become a nuisance to landowners, especially if they become habituated to human presence. The primary cause of these troubles is caused by humans intentionally feeding them. Never deliberately feed javelina! Access to other food sources such as wildlife feeders, garbage, pet food, fruit trees, and certain flowering plants may also enhance nuisance problems. Keep these things away from javelina or put up an exclusionary net-wire or electric fence. If you do encounter a nuisance javelina, attempt to scare it off by throwing rocks at it while making loud noises. When a javelina loses its fear of humans, it can eventually become dangerous. Remember that the javelina is a game animal and can be harvested under legal circumstances. Local ordinances such as discharging of firearms within city limits may supersede state hunting regulations. Contact your local wildlife biologist or game warden if the problem persists.

## HUNTING

Often considered as pests and generally neglected as a game animal by landowners and hunters, javelina in Texas have not experienced the popularity as a game animal that they do in Arizona and New Mexico. However, with increased demand for hunting opportunities on private lands in Texas, the economic benefits of the collared peccary to ranchers also increases.

Javelina offer excellent potential as game animals especially for "specialized hunts," such as archery, handgun, muzzleloading and youth hunting. The trophy qualities of javelina relate to their limited distribution in the U.S., occurring in diverse habitats (each offering its own unique hunt experience), and recognized as "trophies" by Safari Club International in ranked listings. These attributes further promote hunting potential, especially in regards to out-of-state hunters. Additionally, in much of their Texas range, javelina can be hunted at any time of the year; further expanding a landowner's hunting program options.

In Texas, hunter surveys indicate javelina are the number two big game animal and rank eighth of 19 game species hunted in terms of recreational man-days provided. Annually, some 20,000 hunters take approximately 10,000 javelina; with 62 percent of this harvest occurring in South Texas.

Although hunting mortality is considered to be comparatively moderate, the herding nature of javelina presents possibilities for over-harvest. Javelina hunting should be well dispersed to avoid over-harvest of individual herds, especially in regions with high visibility such as the Trans-Pecos and in heavily baited hunt areas. Research data indicates that herds cease to exist once they are reduced to low numbers, with 60 to 80 percent harvest rates being highly detrimental. In good habitat, a harvest rate of 20 to 30 percent is recommended to maintain viable populations.

Javelina, then, might be viewed as coming of age for their potential as game animals because of their uniqueness. Rather than viewing the javelina as a potential liability, there are increasing trends towards the realization that they are an integral part of the unique ecosystems that we as landowners call home: a realization that the javelina really is a unique critter unto itself, and not just "Texas' other wild hog."

Javelina offer an exciting and challenging hunt regardless of the hunting method or hunter's age.



Photo courtesy of Keith F. Bonham

## RECIPES

Javelina is a lean meat not usually known for its culinary attributes, but when cooked properly, it may result in dishes that are very tasty. While javelina can be substituted for other types of wild game in a variety of recipes, it is best when marinated or cooked in stews, chilis and other dishes that maintain moisture in the cooking process. When substituted for chicken in King Ranch Chicken, it surprises even the most doubting of skeptics. The following anonymous recipes produce sausage that will compare with the best venison/pork sausages around. The following recipes are for link sausage and yield 10 pounds of smoked sausages after twelve hours of smoking.

### **Javelina Sausage**

Using 10 lbs. of meat (use ½ javelina and ½ pork trimmings)

Add: 4 Tbsp salt  
2 Tbsp sage  
2 Tbsp black pepper  
1 Tbsp brown sugar

**For those desiring a more heavily seasoned flavor without the sweetness:**

Using 25 lbs. of meat (½ javelina and ½ pork trimmings)

Add: 10 Tbsp salt  
5 Tbsp black pepper  
2 Tbsp red pepper  
2 Tbsp garlic powder (for pan sausage, delete garlic powder)

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