

# Rancher Perceptions of the Coyote in Florida<sup>1</sup>

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## Background

Coyotes are becoming a common sight in Florida. Each year, more people catch a glimpse of a coyote crossing a road or running across open fields, or notice their scat along hiking trails. The recent increase in the appearance of coyotes in the Florida landscape is a product of their expansion throughout North and Central America. Due to their generalist diet and their ability to live close to humans and use open habitats, coyotes are one of the few animals that have substantially benefited from human-caused alterations of the landscape. The clearing of forested land for agriculture and other purposes, as well as the extermination of larger predators such as gray and red wolves, have created ideal environmental conditions for the adaptive coyote. Coyotes have rapidly taken advantage of these environmental shifts and expanded into new areas. They are now found throughout the continental United States and large portions of Canada and Central America.

Florida is one area in the United States recently colonized by coyotes. Most likely, they entered the Sunshine State from Georgia and Alabama probably 40–50 years ago. Early reports of coyote presence in Florida were limited to the Panhandle, but coyotes have rapidly expanded their range to the south, and their presence has been confirmed in all of Florida's 67 counties. They have even been spotted

in Key Largo in the Florida Keys. Based on verbal reports from state and federal landowners as well as the agricultural community, coyotes appear to have rapidly increased in numbers and can be considered common throughout Florida. Based on coyote home range studies it appears that densities in rural areas approximate one pair per 10–15 mi<sup>2</sup>.

As coyotes become a fixture of the Florida landscape, there is potential for conflict with humans. Coyotes have long been a source of conflict with ranchers across the United States. The animosity by segments of the ranching community towards coyotes is primarily the result of real and/or perceived predation on livestock, particularly sheep and goats and occasionally calves. These depredations may result in substantial monetary losses for ranchers. Coyotes are now a permanent part of Florida's environment. Since coyotes are here to stay, it is necessary to understand the agricultural community's perception of the influence of coyotes on livestock and wildlife while also developing management actions and policies to address these concerns. This document provides results of ongoing statewide surveys of cattlemen in Florida regarding the influence of coyote on their operations.

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## Rancher Survey

We conducted surveys of Florida cattle producers during 1998 and 2014 to assess the perception and trends of the effects of coyotes on the cattle industry in Florida. Fifty-six surveys were completed from ranchers in 1998 and fifty surveys were completed by ranchers in 2014. Together, they highlight trends that correspond to a steadily increasing coyote population in Florida. One pertinent result shows that the number of Florida cattle producers who reported calf losses to coyotes increased steadily from 1992 through 2014 (Figure 1). Ranchers from the 2014 survey were also asked when they remembered first observing or encountering livestock suspected of being attacked by coyotes, and 65% of ranchers recall their first observation of coyote attacks occurring after 2007. This suggests in the last 10 years coyotes have likely increased in number or more have learned that calves are prey. In addition, when asked the question “Have coyotes increased or do you see or hear more coyotes in your area than 10 years ago?” an overwhelming 98% of ranchers agreed or strongly agreed

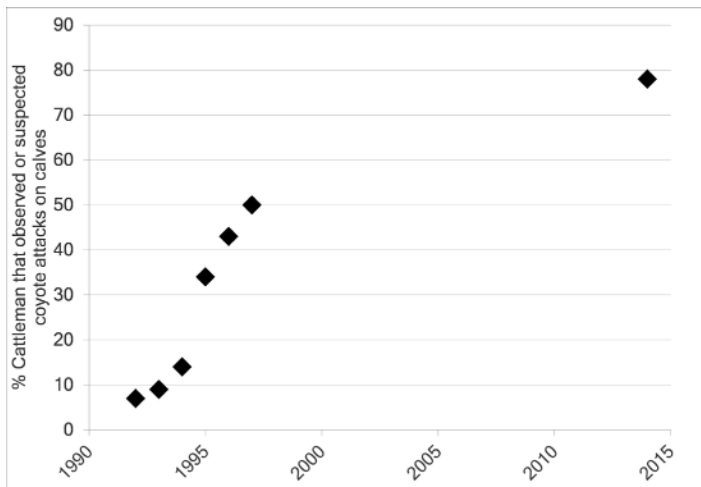


Figure 1. Percent of ranchers that observed or suspected coyote attacks on calves from 1992–2015. No information collected between 1998 and 2013. Results based on UF/IFAS 1998 and 2014–15 survey of Florida cattle producers.

with the statement.

Of the fifty respondents to the 2014 survey, thirty-five indicated that coyotes attack livestock on their ranches. Among these respondents, 43% had observed a direct attack or kill by a coyote. What is more typical is the 90% who have found indirect evidence, such as a coyote observed at a carcass, a carcass that had been dragged, bite marks, evisceration, or coyote footprints and sign around a carcass. Florida ranchers from both surveys reported that the majority of coyote activity and livestock damage from coyotes occurred during October–April, which coincides

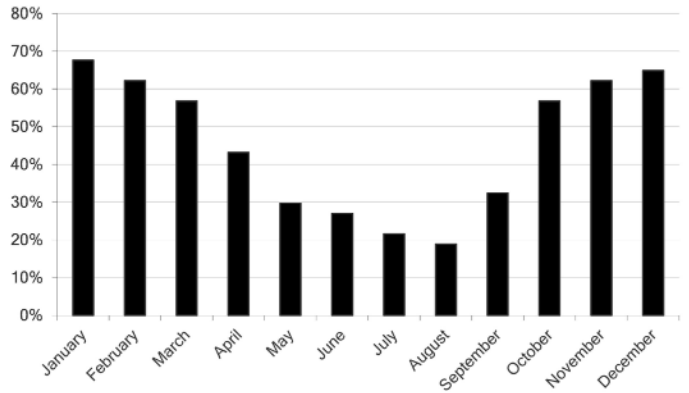


Figure 2. Time of year ranchers in Florida observed calves suspected of being attacked by coyotes. Y-axis is a percent of respondents who answered yes for that age category. Results based on UF/IFAS 2014 survey of Florida cattle producers.

with calving and the presence of nursing calves in Florida (Figure 2).

Results from the 2014 survey revealed that calves of different ages were attacked, but that the majority of attacks occurred on calves between birthing and 21 days of age

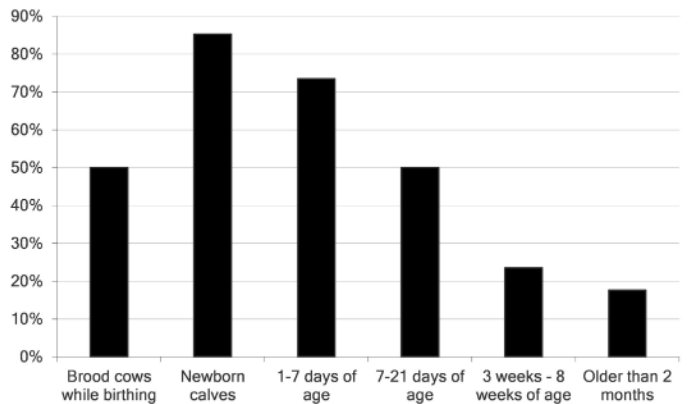


Figure 3. Age at which cattle were observed attacked or presumed killed by coyotes. Y-axis is a percent of respondents who answered yes for that age category. Results based on UF/IFAS 2014 survey of Florida cattle producers.

(Figure 3). These results are consistent with information that suggests attacks are most likely to occur during the main calving seasons in Florida (fall and spring).

Coyotes are opportunistic and will take advantage of any easy food source that becomes available. Young calves may present a tempting opportunity for coyotes and some coyotes do learn to prey upon calves. However, not all coyotes prey upon livestock. Studies have repeatedly shown that the primary diets of coyotes are rodents, other small animals, insects, fruit, seeds, and even grass. Coyotes also eat carrion, including stillborn calves. Coyotes are capable of preying on white-tailed deer and will even prey upon the occasional pet cat when the opportunity presents itself.

Coyotes are initially attracted to cattle herds actively birthing so as to scavenge placenta and other birthing remains. There are likely more coyotes observed during calving than other periods because they are attracted to the birthing herds but ranchers are also more actively working their herds at this time, allowing increased observation.

We caution attributing observed calf loss to coyotes without evidence because a variety of other causes may be at play, including stillborn calves, sickly calves not likely to survive, and abandoned calves. Other predators are also reported to kill calves, including feral dogs, black bears, Florida panthers, bobcats, and especially vultures. Identifying calf predation versus scavenging of stillborn calves is challenging but important. Calves killed by coyotes usually have a lot more bleeding, are often attacked around the head, and are often killed by a bite to the ventral side of the neck/throat, where canines puncture the skin and enter deeply into subcutaneous tissue. Coyote-killed calves will also often be eviscerated and the carcass often remains at the kill site, but not always. Coyotes may also take calves down from behind and latch onto the tail and ears. Stillborn or already-dead calves don't show the same kill evidence and often show no extreme bleeding and little to no hemorrhaging or bruising in the tissue around bite areas. Other conditions such as scat, footprints, and fur may be present to indicate the type of predator if the rancher suspects a kill, but these clues will also be present when already-dead calf carcasses are scavenged. Clues on how to identify the predator responsible for attacking livestock are available in "Predator Identification of Livestock Using Forensic Evidence" (EDIS WEC-141). As is the case with many predators, the coyote's relationship with its prey is often dependent on how hard the prey is to acquire and whether the predator has learned successful capture techniques. When prey is plentiful and easily acquired, coyotes will target those prey species; these are the conditions that will allow a coyote problem to occur and persist. People experiencing problems with coyotes may obtain assistance through the Florida Fish and Wildlife Conservation Commission (FWC) Regional Office serving your area <http://myfwc.com/conservation/you-conserve/wildlife/coyotes/>

Efforts to effectively control coyotes are expensive and provide only short-term results. For example, there was a substantial increase in the number of hours that ranchers devoted to coyote control from 1992 to 1997, and 64% of the 2014 survey respondents agreed that they had to continually control coyotes to reduce livestock predation on their property. The use of firearms was the preferred method of coyote control by ranchers, and control efforts

resulted in 13 coyotes killed in 1992 and 100 coyotes killed in 1997. However, although more coyotes were killed in 1997, ranchers actually killed fewer coyotes per hour of control (10 coyotes/100 hours of effort) than they did during 1992. The second most common control method was trapping, and we suggest that professional trappers be employed when control is deemed necessary. It is important to recognize effective "control" of a coyote population requires roughly 75% of the resident and surrounding coyote population to be killed every year. This will lower the density of coyotes, but it will be expensive—and it may not be as effective as other, more subtle methods of control. Because coyotes are territorial, resident coyotes that have not developed calf-killing behaviors may actually reduce risk of livestock loss by defending their territory against other coyotes that have learned how to kill calves. Removal of the territorial alpha male or female coyotes may open the opportunity for new and potentially problem-causing coyotes to become established. For this reason, and because coyotes are now common in Florida and will quickly re-occupy vacant territories, it is usually more effective and less expensive to target problem animal(s) for removal when calf attacks are documented or suspected, rather than to try to "wipe out" the entire population of coyotes which would require a regional or state level effort.

If you have a coyote problem, you are allowed to legally remove them from your land. Licensing and tagging requirements classify coyotes as furbearers. As such, coyotes may be taken throughout the year using gun, bow, dogs, live traps, or snares. However, possession and transport of live coyotes is prohibited unless authorized through a captive wildlife permit from the Florida Fish and Wildlife Conservation Commission (FWC). There are several general FWC regulations that affect taking coyotes. No permit is needed to kill coyotes causing damage to personal property, and landowners may use traps and snares (excluding steel traps) on their own property to catch coyotes. Hunting coyotes at night using a gun and light is allowed on private property with landowner permission, but trapping coyotes with steel traps requires a special permit from FWC. The use of any poison is illegal.

The 1998 survey also revealed that ranchers perceived a decline in native wildlife populations associated with an increase in the number of coyotes from 1992–1997. Coyotes are capable of reducing populations of certain wildlife species such as rabbits, raccoons, other small prey and white-tailed deer, and also competing with fox, bobcat and other predators; but too much remains unknown about coyote ecology in Florida to accurately predict how they

are truly impacting native wildlife. It is worth noting that in some parts of the United States, coyotes have been shown to benefit ground-nesting birds such as ducks and potentially bobwhite quail by reducing populations of smaller predators, such as rats, opossums, skunks, raccoons, and fox, that actively search for bird nests and have greater impacts than coyotes. While coyotes may cause livestock losses in some instances and put predation pressure on certain native wildlife species, they may also have positive effects on Florida's ecosystems. Unfortunately, not enough is currently known about coyotes in Florida to do more than speculate about potential impacts on game species and other wildlife.

Wildlife and Ecosystems Program" website at <http://www.rangelandwildlife.com/>.

Another atypical observation from the 1998 survey was that over half of the survey respondents reported seeing 2–4 coyotes traveling together and 5% reported seeing more than 4 coyotes together in the same area. These groups of coyotes were probably family groups composed of parents and offspring. Interestingly, in Florida, there are a number of observations of coyotes hunting together, and this may be in response to types of available food sources. Coyotes do form larger packs in other areas of the United States in response to the availability of large prey, such as wintering herds of elk and deer.

## Concluding Thoughts

Ranchers who responded to these surveys appear to perceive the coyote as an agricultural and ecological nuisance to Florida ranching operations. The number of coyote observations, observed livestock depredations, and coyote control efforts has continued to increase since 1992. There is a need to understand more about the general ecology of the coyote in Florida and the extent to which calf depredation occurs.

The overall negative attitude from ranchers towards coyotes may have biased their perceptions about the true effects of coyotes on livestock and native wildlife populations. Nevertheless, ranchers surveyed indicated there was a need for additional information and research on coyotes, an encouraging sign that people are interested in making informed, intelligent decisions concerning coyote management in Florida. At present, the University of Florida's Range Cattle Research and Education Center's Rangeland Wildlife and Ecosystem Program continues to study coyotes in Florida and examine their interaction with cattle, including occurrence of calf predation, home range size, and habitat selection throughout cattle ranches in south-central Florida. For more information about coyotes and current research efforts, please visit the "Rangeland