

## Evaluating Habitat for Northern Bobwhite Quail

For the past decade the quail population has been in serious decline. There is no solid consensus among researchers other than the belief that there is no one factor responsible but rather more of a “perfect storm” scenario for the population decline. No doubt the drought has been a major player, but disease, parasitism, habitat fragmentation, and increases in predator populations have all been identified as negative influences on the fragile bird. Hopefully, in the near future some or all of these pressures will be reversed and quail populations can normalize somewhat. The foundational requirement for healthy quail numbers is a good habitat. This is where the bird makes his living, raises his kids, and is protected from the storms of life. Imagine yourself on a much smaller scale- six inches tall and about 6 ounces in weight. Obviously, now you are now quite a bit lower on the food chain. Your ability to travel great distances has been severely handicapped. You will now have to find food, water, and shelter within about a one-quarter mile radius. Every moment of your life you are faced with the threat of predation or starvation. This has been the condition of the quail as long as there have been quail. It could be considered remarkable that they have survived this long. This is part of the reason that quail population dynamics are often referred to as “boom and bust” or scientifically, irruptive. What can you as a landowner, hunter, outfitter, or naturalist do to help stabilize the number of birds? Well, you have no control over the weather but there are steps that can be taken to improve habitat.

The first step in improving habitat is evaluating habitat. A suitable habitat is one that provides good nesting cover, an ample food supply, brooding areas for quail chicks, and predator protection. Let's begin with nesting cover. Quail will nest in whatever they have to work with. However, their first preference is in bunchgrass such as little bluestem or silver bluestem. A nice clump about the size of a basketball is a readymade quail maternity room. Prickly Pear is also an excellent nesting site but these need to be quite a bit bigger- about three to four feet in diameter with some secondary leaves. Yucca is also utilized for nesting by quail. The optimum yucca site will be at least three good sized plants in a triangular or circular pattern to repel nest predators. These are all examples of quality nest sites. Now let's discuss quantity. A good rule of thumb is to have a minimum of three hundred potential nest sites per acre. How can we determine that number you might ask? A quick way to measure is to find a site on the property that best represents the overall makeup of the plant species diversity. Hold your arms level at the shoulder and take off walking. Pick a spot out on the horizon and move straight towards it for 600 feet. Have someone walk behind you with pencil and paper. As you move along call out all the different suitable nest site species that are rooted within your arm span to your helper. Have your assistant record the different plant species separately. At the end of your course you will have covered roughly 8% of an acre. Then multiply the number of nesting site species individually 12.5. This should give you a decent estimate of how much nesting cover you have available. If you have at least 300 nesting sites per acre you are in pretty decent shape. Anything less and you may need to consider adjusting your stocking rates or the amount of brush control you have been administering.

Next you will need to look at available food supplies. Quail are foragers and love seeds and insects. They specifically are fond of hard seeds with a smooth seed coat. Annual broomweed, western

ragweed, and plains bristlegrass are just a few examples good quail feed. Quail chicks utilize a lot of insects during the first few weeks out of the nest. Water is an essential part of having good insect availability so keep that in mind as well. Also remember that to hold birds in your area that food supply needs to be available 365 days of the year. Becoming knowledgeable of the plants on your property is a very important but often overlooked aspect of habitat management. Invest in a few good books on plants native to Texas rangelands. Learn what you have and what may be lacking and you may have a few more answers as to why you are not holding birds year round.

As I mentioned earlier, quail live with the constant threat of predation. Not only do they have to contend with nest predators such as raccoons, skunks, feral hogs, bobcats, and snakes. The aerial predators such as the Red Tail Hawk, the Cooper's Hawk, and the Northern Harrier are also deadly to a quail. To have adequate protection from predators quail need structure spaced strategically throughout the pasture. Another good rule of thumb is to have structures about a softball's throw apart. These "quail houses" should minimally be about the size of a car but the size of a four door one ton truck is even better. These structures should provide a good canopy to keep out avian predators and open at the bottom so quail can see ground predators easily. Some good species of a "quail house" are lotebush, little leaf sumac, wolfberry, and sand plum. The spacing is important due to the physiological makeup of the quail. The northern bobwhite is a short distance bird. Unlike the mourning dove or other migratory birds, a quail is designed to have incredible speed for about a hundred yards. After that it needs a safe place and time to restore its energy.

Understanding the complexities of quail management is a daunting task but understanding habitat requirements is a step in the right direction. If you as a land manager can provide for them with good nesting habitat with plenty of food, and protect them from predators, you are placing yourself in a position to have a healthy population of quail as conditions improve.