

Management for Bobwhite Quail

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Native Texas quail occur throughout the state. Bobwhites occupy the eastern two-thirds of Texas, while scaled quail occur in the dryer western areas. Mearns' and Gambel quail are limited to very small areas of West Texas.

Bobwhites live in diverse vegetative areas. They can do well in the Piney Woods region and the Postoak belt. They are found in the grasslands of the Rolling Plains, the Blackland and the Coastal Prairie, the oak-juniper region of the Edwards Plateau and the brush country of South Texas. Although these vegetative regions are very different, there are common elements found throughout the bobwhite's range that relate to the animal's needs.

All animals need food, shelter and water, though not the same kinds or proportions. The habitat of a species must supply all of that animal's needs in order for it to exist. Identifying specific needs and compensating for habitat deficiencies are important roles in wildlife management. Let's examine bobwhite needs and see how management can provide for them.

Water

Water is generally not a problem with bobwhites because there are sufficient natural ponds, livestock water facilities, rain puddles and dew to meet their needs. However, blue quail in the dryer western part of the state may benefit from water facilities constructed for them.

A concrete catchment slab with a covered storage container has been used successfully. A variation of this idea is a sheet metal collection structure, where the water is stored in a metal tank and flows out through a float-controlled valve to a water trough.

Food

Food is of prime concern because so frequently it is deficient. The right foods must be available at the right place, the right time and in the right amount.

Weeds, as a group, are extremely important to quail. They produce seeds which are a mainstay of the fall and winter diet. Not all kinds of weed seeds are eaten. Some seeds are too small and some are not palatable. Perhaps 200 plants are eaten by quail, but only a few will be important at any single location. Examples of some important food plants are snow-on-the-mountain and goat weeds or dove weeds, which are found throughout the

bobwhite's range. They can be easily encouraged with livestock grazing or soil disturbance.

Sunflowers, while a curse to the row-crop farmer, provide excellent food for both quail and dove. Partridge pea, a wild legume, is locally important. However, in some circumstances it may cause livestock poisoning problems.

Many small legumes, including bundle flower, wild bean, snout bean and vetches, provide seeds which are important food items. They also are palatable food plants for grazing animals, however, so they must be protected to produce good seed crops. Shallow discing during late winter will encourage weed growth during the spring and summer. The effects of discing should last for 2 to 3 years, so alternate strips could be disced every other year to get maximum benefits. This is usually the cheapest, most consistent way to increase quail food.

Woody plants with fleshy fruits may be important locally. Possum haw, gum elastic and hackberry are examples. Others include American beautyberry, swamp privet and dewberry. Many of the shrubs and woody vines respond favorably to "cool" winter fires.

Sumac is a widespread plant. Though only a fair quality food, it increases following fire. Some trees are locally important. Acorns are palatable items wherever they occur. Other important tree mast includes pine, elm and sweetgum. It is important to leave a sufficient number of these trees when brush control or timber stand improvements are made.

Supplemental feed

Food plots may be planted to provide supplementary feed. However, farming is required and adaptable plants must be chosen for the region and soils involved. Several grasses with big seeds are appropriate. German millet is one example. Proso millet is another widely adapted plant with a short growing time and general tolerance to dry conditions; grain sorghum is yet another good choice.

Combination plantings, such as peas and corn, are popular in the southeastern states. The corn is harvested but the peas are left for quail. A drawback to this is that deer are attracted to peas and may destroy small plots.

Bicolor lespedeza has been highly praised as a quail food plant, but nearly all of Texas is too far west for its successful establishment. Kobe lespedeza, a variety of common lespedeza, is appropriate for East Texas conditions.

An economical approach to food plots in farm land is to simply leave several rows of small grain unharvested around the edges of the field. This is also attractive to doves. The basic shortcoming of cultivated crops is that their seeds deteriorate rapidly once in contact with damp soil. Fall plantings of small grains for winter greens also will contribute to the critical winter diet.

Feeders

Various feeders have been tested for many years to try to solve the problems of farming food plots and rapid deterioration of seed. Commercial chicken type feeders have been used. Their capacity is small, so they require frequent filling. As with most feeders, they do not exclude use by many other species of wildlife. One study showed that quail got only 5 percent of the grain, with other birds, rats, mice, squirrels, raccoons, etc. getting the bulk.

Placing the feeder on a raised platform is one way to reduce depredation. Using a different size seed has also been tried. These efforts can change the species involved but may not change the loss. Timed feeders raised on long legs are less subject to some types of depredation and they have large storage capacity, but their initial cost may be high.

All feed, whether natural or artificial, should be close to escape cover for best use by the birds. Scattering feed along roads or trails is one way to place the food next to cover.

Cover

Cover performs at least two important functions. It shelters the birds from weather and hides them from predators. For vegetation to serve as cover for quail it must be scaled to the size of the birds. Quail only stand about 6 inches tall. They are extensive walkers, and they generally nest, roost and feed on the ground.

Different activities dictate needs for different kinds of cover.

Nesting Cover

Nesting cover is extremely important. Approximately 80 percent of the fall population of birds is comprised of young from that year, so nesting success is a necessity for abundant quail. The nest is a small grass structure on the ground with grass extending over it to form a canopy. This structure conceals the sitting hen and protects the eggs from scalding sun and drying winds. The hatchability of eggs decreases significantly when temperature and humidity deviate from an optimum of about 100 degrees and 90 percent. The young birds are active upon hatching,

therefore, the nest is best located in rough grass adjacent to open ground where the small birds can travel with the hen. Low woody cover is needed for shelter. The nest and its surrounding area should be as protected as possible from predators such as snakes and skunks, which eat the eggs and small birds.

Roosting cover

The birds commonly roost on the ground in an open area with grass high enough to hide the birds.

Escape cover

Escape cover protects the young birds from active predators, such as hawks, after they begin moving with the hen to feed. Escape cover is generally woody vegetation with a low, tight canopy. This protects the birds from above, yet is open enough on the ground for the birds to move freely. An old fence row with brush and vines is a prime example throughout Central and East Texas.

Old, established wind breaks in the Rolling Plains may also be prime escape cover, allowing the birds to feed for short distances in adjacent fields. Fingers of low brush along drainages running into grassland may form escape cover. Commonly the structure of this vegetation can be improved for quail by cutting appropriate brush in such a way that the tops fall to the ground but remain attached and alive.

Loafing, dusting area

A thick grass sod is unsuitable for quail, as they feed from the ground. Therefore, grassland with scattered brush may form excellent quail habitat. However, brush that is too thick or too large can be improved by mechanical means. The objective is to create a growth form in the woody vegetation similar to an undisturbed plum thicket. It is low and the canopy is dense. The ground underneath is open and there is more grass and weed area than woody area. The plum thicket might also represent a different cover requirement, the covey headquarters, which is a loafing and dusting area for the covey.

Livestock grazing probably has the most pervasive impact on bobwhite habitat in Texas. Regardless of the vegetative region, heavy grazing can destroy or severely decrease food and cover. Quail cannot exist on bare ground. Hedging of palatable woody plants indicates that most of the seed producing legumes and grass cover are gone. This is not to imply that all grazing is bad for quail. Cattle grazing in a deferred rotational grazing system can be very beneficial in maintaining good quail habitat. Problems arise with livestock's effect on the vegetation, not their mere presence.

Time and Space

The elements of habitat are affected by time and space. A grain sorghum field after harvest has an abundance of food until the seeds rot on the moist soil, or it might have no seeds as a result of immediate plowing after harvest to preserve moisture and control volunteer plants in succeeding crops.

It is possible to have all the necessary elements for quail survival on a given farm or ranch, but located so far apart in time and space that few, if any, birds can exist. Simply providing better distribution of food and cover in the quail's home range is a major goal of management. Large, unbroken expanses of cultivated fields or improved pastures will not support many birds, nor will extensive forests. The distribution of food, cover and water must be scaled to the quail's size and movements for optimum bird population. Some of the best quail habitat is comprised of a mixture of grassland, shrubby brush and cultivated land.

Living Space

Living space is a final element in the habitat picture. It is not a quantity in itself but rather represents time and space relationships in regard to food, cover and water. All the elements necessary for survival must occur within the quail's home range. Bobwhites might have a home range of 15 to 50 acres. This is not the maximum movement, which would be much greater, but is an area which supplies daily or seasonal needs. Extensive acreage of single purpose land can, with planned management, accommodate good quail populations. For example, small block cuttings and reduced stand density can provide for quail in a timber operation. Managing habitat to provide food, cover and water in a favorable time and space relationship will produce an abundance of bobwhite quail.