

# Scaled Quail Habitat Management

Revised by Sam Smallidge<sup>1</sup>

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Scaled quail (*Callipepla squamata*), often called blue quail or cotton tops, are native to the Chihuahuan desert and the surrounding grasslands of the U.S. Southwest and northern Mexico. Their habitat is generally arid to semi-arid, averaging 8–15



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in. of precipitation annually. They inhabit most of New Mexico in varying densities (except the higher-elevation, more mountainous areas). Scaled quail are swift afoot and often prefer to run rather than hide or fly. They tend to prefer areas that are open at ground level where they can use their running abilities. When flushed, they often fly a short distance, glide to the ground, and continue to run for some distance before they hide in whatever cover is available. Their running makes them difficult to observe, and once a covey is located, they often disappear into the landscape.

Scaled quail are like other quail—monogamous, ground-nesting birds with the sexes similar in color. Clutch size is usually 12–14 eggs (range of 5–22). The nesting period may extend from May through September. Nest failure is common, and scaled quail will re-nest, although clutch sizes are smaller. Mortality of young is high, with rates of 70% or more being normal. As the young mature, family units tend to join to form winter flocks (coveys) that range in size from about 8 to 200 birds. As winter progresses, the number of birds in the flock decreases due to hunting, predation, weather-related deaths, and other causes. In spring, the coveys break up and the birds pair up to begin the reproductive process again. Large fluctuations in population size are common from year to year, with the lowest numbers associated with prolonged drought.

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## **FOOD**

Scaled quail usually feed in the early morning and late evening. Seeds are a large part of the adult birds' diets year-round, but fluctuate in the diet as seed availability fluctuates. Even when seeds are not abundant they are sought out by the quail and remain relatively high in the diet. Many different seeds are eaten by scaled quail. They prefer seeds from native woody plants and forbs, but seeds from grasses and field crops may comprise a considerable portion of the diet at times. Preferred seeds may include croton, bristlegrass, sumac, mesquite, sunflower, sandsage, and ragweed. Snakeweed comprises a large portion of winter diets in New Mexico when it is relatively abundant and few alternative foods exist.

Other foods important to quail are green herbage and insects. Green herbage makes up a larger portion of scaled quail diets than other quail species. Young nutritious plant shoots are important to quail preparing for the breeding season. Plant shoots are also an important source of moisture for quail. Insects are important, primarily in the spring and summer, since they are the primary food for hatchling quail for the first several weeks of their lives. Insects supply the high nutrition necessary for the growth and development of young quail, but they are also an important source of nutrition and water for adult quail. After the first month, plant material becomes increasingly important in the young quails' diets.

## **COVER**

Cover is an essential part of the scaled quail's habitat, and lack of cover is a limiting factor over much of its range. Scaled quail use cover in several ways: daytime resting, hiding, escape, roosting, and nesting. A variety of types of cover are used, from small forbs and grasses to large woody plants and brush piles.

Nesting cover may be the most important because nesting is when the quail are most vulnerable to predation. Nesting cover should offer concealment for the nest, but not be so dense that the nesting quail cannot escape when danger approaches. Without good nesting cover, nesting success will decrease.

Daytime loafing (resting) cover is also an important scaled quail habitat. Loafing cover provides overhead and lateral protection, has a central vegetation-free area, and offers many avenues of escape. Good scaled quail habitat will consist of scattered pockets of this cover—about one acre in ten. Mesquite, skunkbush, sumac, shinnery oak, cholla, and sandsage are exam-

ples of plants that provide loafing cover. Brush piles and abandoned buildings, corrals, and equipment may substitute for natural cover. If food such as mesquite beans, sumac berries, or the seeds of small forbs are closely associated with the cover, its value increases. Scaled quail routinely use a select few clumps of resting cover, spending much of their time mid-morning through mid-afternoon there.

Closely associated with loafing cover is hiding or escape cover, which scaled quail seek when flushed from their resting cover. If they are then flushed from the hiding cover, they tend to fly farther and run farther before ducking into other hiding cover. The more pressure is applied, the more they tend to disperse. Hiding cover varies greatly, from grassy and herbaceous species to woody species and man-made structures. The structure of general escape cover cannot be described because scaled quail are opportunistic in the cover they choose for hiding, using heavier cover the more they are harassed.

Another important type of scaled quail cover is roosting cover. These birds generally roost in groups commonly of 2–5, tail-to-tail in a tight circle on the ground. They prefer to roost on a substrate of bare ground or duff with grass less than 16 in. high for lateral cover. They roost among small shrubs, forbs, grasses, and other suitable cover. Roosting cover should be free of overhead obstructions to allow them to fly away easily when predators or other dangers approach.

## **WATER**

Water is another consideration for scaled quail. Their water requirement is measured in drops instead of gallons, and they generally obtain enough water from their environment via dew, succulent vegetation, and insects. Scaled quail tend to concentrate around water, and free water may become a critical factor for survival of young birds during dry times.

## **GENERAL MANAGEMENT**

It is important to consider quail and other wildlife when land management practices are evaluated. Quail need a habitat with a wide diversity of plant species. Though grama grass, broom snakeweed, or mesquite may all be a part of good scaled quail habitat (grama grass for broods to forage for insects and light cover, broom snakeweed for emergency winter feed, and mesquite for cover and food), an area with only one of these plant species is not good scaled quail habitat. If mesquite is to be removed, leave shrubs where quail

are most often observed. The same should apply to treating broom snakeweed, shinnery oak, and other woody and shrubby species.

Heavy grazing can be detrimental to scaled quail habitat and extremely harmful during nesting. Fencing can be an important wildlife management tool for scaled quail. It may be used to protect small areas (one acre or less) from grazing to provide resting cover, nesting cover, and brooding areas. Special management practices, such as soil tillage or planting food plots, shrubby species, skunkbush, wildplum, and cactus, can provide food and cover. Brush piles can provide cover where natural cover is lacking.

Providing water or access to water may increase the survival of young scaled quail. Ideally, water should be provided at ground level, but ramps into and out of stock tanks can provide access to existing water and prevent drowning.

Windmills often provide excellent opportunities to enhance quail habitat if the stock tank has an overflow with the waste water piped away from the drinking tub. To provide an effective area for scaled quail, fence ap-

proximately a half acre where the waste water stands. Construct a brush pile in one corner to provide cover for the short run. Plant shrubs near enough to the water so quail can obtain the extra water they need to become established. Strips can be disked inside the enclosure to allow a place for forbs to grow. In a few years, the area should be a quail haven.

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