

## QUAIL HABITAT REQUIREMENTS FOR EAST TEXAS FORESTS

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All wildlife species need food, cover, water and space. These elements must be furnished by their habitat—the forest. In East Texas forests, food and cover are important elements regulating quail numbers.

Range requirements of bobwhite quail are much more exacting than those of any domestic livestock. While bare ground is readily recognized as unsuited to bobwhites, too much brush or thick grass is also unsuitable. Brushy, grassy areas may be barren of available quail foods and unsuitable for quail cover.

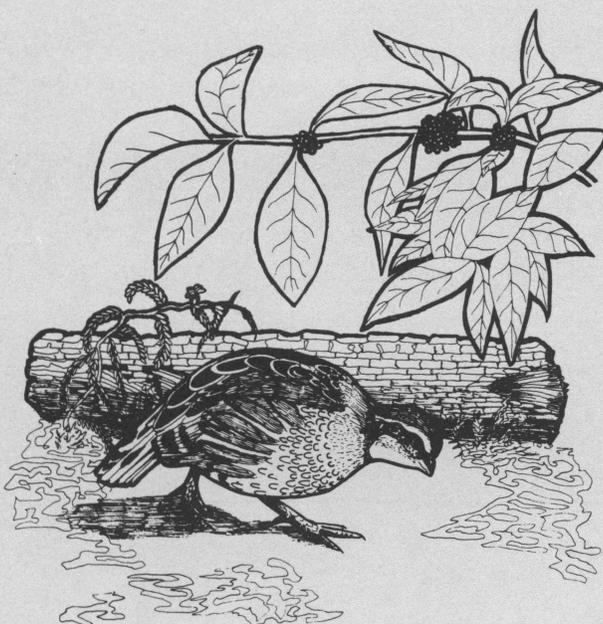
Food and cover also must occur in a compatible relationship for quail habitat. The distance between a source of ample food and adequate cover must not be greater than bobwhites can negotiate with safety. Ideally, escape cover should be linked to food supplies with continuous screening cover. The screening cover, however, must not be dense enough to obstruct the bobwhite's short-legged gait. Without suitable space relationships, a range will not be habitable for bobwhite regardless of the quality or amount of food and cover present.

### Quail Food

Bobwhite usually fare well during spring and summer months. A food supply of ripening seeds is supplemented by insects and green plant material. From the time of the first killing frost, however, the quail food supply begins to diminish. All fall and winter, other birds and rodents compete with the bobwhite for the summer's seed production. Because weathering also depletes the supply, manipulation of vegetation to encourage winter quail food plants will assist the bobwhite.

Major species of winter quail food in eastern Texas include the following.

- French mulberry (*Callicarpa americana*)
- Oak (*Quercus* spp.)
- Pine (*Pinus* spp.)
- Sweetbay (*Persea borbonia*)
- Sweetgum (*Liquidambar styraciflua*)
- Bush clover (*Lespedeza virginica*)
- Common and Kobe lespedeza (*Lespedeza striata*)
- Crotonopsis (*Crotonopsis linearis*)
- Doveweed or goatweed (*Croton* spp.)
- Nutrush (*Scleria ciliata*)
- Panic grass (*Panicum* spp.)
- Partridge pea (*Cassia fasciculata*)
- Paspalum grass (*Paspalum* spp.)
- Tick trefoil (*Desmodium* spp.)
- Trailing wild bean (*Strophostyles* spp.)
- Wild bean (*Rhynchosia* spp.)



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### Woody Cover

Having enough quantity to compensate any lack of quality, forests usually provide adequate woody cover. Birds look at range from a level about 4 inches above ground. Tall trees provide no security; quality cover is thick above and open below. Quail love to loaf and dust and move freely under woody cover which protects them from above.

Livestock sometimes browse woody cover plants so heavily that cover is useless for quail. A plum thicket that can be seen through is inadequate for quail. Fence cattle from key cover spots in areas of limited cover. Where larger blocks of cover are seriously damaged by cattle (as in forests with shrubs stripped as high as a cow can reach), reduce the number of cattle. Cattle often eliminate quail food, woody cover, grassy roosting and nesting cover. Where cover is excessively thick, however, some cattle grazing may help to open it.

Quail need woody cover for daytime protection and open areas of thick grass cover for night roosting. Each quail covey forms a close circle at nightfall with each bird facing out in readiness to fly. Members of the covey huddle together and share the task of listening for possible danger. When anything approaches too closely, each bird in the covey flies a different direction. Such night flying requires that roosting be done in a fairly open spot to reduce hazards of collision with trees or other objects. Extensive forests often lack sufficient openings. Row thinnings of pine plantations and small, cleared hardwood harvest cuttings create openings.

### Nesting Requirements

For nesting, quail need some tall, old grass. When nestbuilding starts in late April and May, new grass alone is not suitable for nesting. Areas burned or grazed closely the previous fall and

winter are unsuitable. Bobwhite nests are built on the ground and enclosed on the top and sides with dead grass except for a side entrance.

Location of nests often is near the edge of a rough grass area, which permits chicks to be led to thinner cover for feeding and movement. Edges of roads, fence rows or firelanes are favorite nesting spots. Although needed for nesting and roosting, excessive amounts of tall, old grass hinder movement and restrict food supply.

### Acreage Requirements

Bobwhites require much more acreage than their small size would indicate. Maximum bobwhite population is about one bobwhite per acre. This occurs only under ideal conditions and seldom lasts more than a year.

Because the average covey consists of 10 to 15 bobwhites, a 15-acre block seldom supports more than one covey. Acreage requirements of a bobwhite covey are at least equal to the acreage requirements of a cow on native grazing lands. All requirements must be met within the covey range.

### REFERENCES

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