
QUAIL HABITAT MANAGEMENT
In East Texas

Biology Job Sheet TX-14

WHAT IS QUAIL HABITAT? In general, bobwhite quail habitat consists of space to live, food, cover, and to some extent, water. All these must be present and closely adjacent to each other and be available all 12 months of the year.

LIVING SPACE - A covey of quail will usually spend their lives within a relatively small area. Their range is governed by the quality of habitat present. Optimum habitat can support about one quail per acre. With a decrease in the habitat quality, more living space is needed.

FOOD - The bobwhite's diet consists of insects and plant matter. Insects are particularly important to chicks and young birds which need high protein food for growth. Plant matter is composed primarily of large, smooth, hard seeds. Forbs commonly called "weeds" and legumes provide the bulk of these seed and a lesser amount is provided by various grasses. Seeds from native plants such as the following are readily eaten by quail:

Sunflower	Dewberry
Croton	Blackberry
Ragweed	Yaupon
Snow-on-the-mountain	Mulberry
Partridge pea	Post oak
Illinois bundleflower	Hackberry
Trialing wild bean	Bumelia
Tick clovers	Low panicums
Erect dayflower	Paspalums
Carelessweed	Johnsongrass
Switchgrass	Bristlegrass

Many times some sort of soil disturbance will encourage the growth of some of the native food plants listed above . The most practical method of stimulating the growth of these plants is disking with a tractor-drawn tandem disk harrow. The disking should be shallow, 3 to 4 inches in depth, and should be done in the month of March. In mixed farm-pasture land, always locate areas for disking in close association with existing woody cover. Note: It takes a strip approximately 8 feet in width and 1 mile long to equal 1 acre.

Quail also utilize seed from various agricultural crops and introduced grasses. Some of the more common ones are:

Corn	Soybeans
Cowpeas	Oats
Grain sorghum	Millets
Vetch	Sorghum alnum
Wheat	Kleingrass

If a habitat evaluation shows that additional food is needed to maintain a food supply throughout the year, this need can be satisfied by including in pasture plantings and range seeding mixtures those adapted plants that have smooth, hard seed. Some of these are switchgrass, kleingrass, bristlegrass and sorghum alum. These species can also be planted in pure stands.

If wildlife food plots are established, they should be designed to create as much "edge" as feasible. For example, a rectangular shape is better than a square. A minimum of one-acre food plot should be made for each 25 acres of quail range.

The following is a list of plants that are commonly used in quail food plots

<u>Reseeding Annuals</u>	<u>Annuals</u>	<u>Perennials</u>
Browntop millet	Grain sorghum	Kleingrass
Pearl millet	Oats	Bicolor lespedeza
Sesame	Cowpeas	Johnsongrass
Sorghum aluum	Corn	Blue panicum
Vetch		Bahiagrass
Dove proso		
Annual lespedezas		
Reseeding soybeans		
Partridge pea		
Texas panicum		
Sunflower 'Aztex' maximilian		

The above plants can be planted in pure stands; however, it is generally better to plant them in a mixture that contains several species. Seed to be used in plantings should be of genetic and climatic origin known to be locally adapted.

COVER - Bobwhites require different cover types which must be located in proximity to each other and near food plants if quail are to be maximized.

1. Nesting Cover - Bobwhites prefer clumps of perennial bunch-type grasses such as bluestems, switchgrass, lovegrass, and kleingrass. A nesting site should contain grasses at least 8-inches high. Several nesting sites should be present.
2. Loafing and Escape Cover - Quail spend a large part of the day, between the morning and evening feeding periods, near and under loafing and escape cover. This cover type is usually low-growing brush that is open underneath. This allows the bird to escape from danger. Motts of wild plum, yaupon, sumac, deciduous holly, or Russian olive are examples of good loafing and escape cover.
3. Travel and Feeding Cover - Bobwhites move from one place to another primarily by walking. Vegetation should be thin enough to permit movement, yet provide concealment from ground predators and tall enough to provide overhead protection from avian predators. This cover type is deficient on heavily grazed pastures, but with proper grazing, a variety of plants provide travel and feeding cover.

4. Roosting Cover - Bobwhites usually roost on south or southwest exposures where vegetation is low and sparse. Bare ground is sometimes used. This enables the birds, which roost in a circle with heads to the outside, to flush straight up when disturbed. Roosting cover is rarely deficient.

To maximize, for quail in a given area the above cover types must be well distributed throughout the area. Quail will only travel as far as needed to obtain food and cover.

WATER - The bobwhite drinks when water is available, but drinking water is usually not essential. Apparently dew, succulent vegetation, insects, and other moist foods provide necessary moisture.

SUMMARY - The quail population on an area is determined by the area's carrying capacity or the quality, quantity, and distribution of cover and food. Populations vary somewhat from year to year, depending primarily upon reproductive success which is largely determined by spring and summer weather. Normal rainfall and cool temperatures during May through August favor high productivity. Unusually hot, dry spring and summer weather is detrimental. Areas with ideal habitat may support one bird per acre during the least favorable season (winter).