

BOBWHITE QUAIL



Michigan is on the northern fringe of the bobwhite quail's range. Creatures of the edge, bobwhites prefer grasslands and early successional habitats containing brush and young trees. They also require a good amount of cropland as a food source. Good habitat provides a mix of quality nesting and brood areas, winter shelter, and a year-round food source. Populations often fluctuate, sometimes dramatically, with the severity of winter.

Southern Michigan landowners with 20 or more acres and who provide the right mix of habitat can expect to enjoy bobwhite quail on their property. They are relatively inconspicuous birds, spending most of their life in concealing cover. However, they can often be heard as their song is a distinct whistle which seems to say "bob-WHITE". Habitat developed for quail will also be of value to rabbits, cardinals, towhees, brown thrashers, eastern bluebirds, field and song sparrows, and many other grassland and shrub-inhabiting songbirds.

Life Cycle

The hen locates her nest along field edges, brushy fencerows, and old fields with weeds and grasses. The average clutch size is 12-14 eggs, with 10-12 of them usually hatching. This large clutch size is the main reason that bobwhites often rebound dramatically after population lows. The males also contribute to incubation chores, often sitting on the eggs while the hen is away feeding. Mated pairs stay together for the entire brood rearing and nesting season, which can begin in April and last until September.

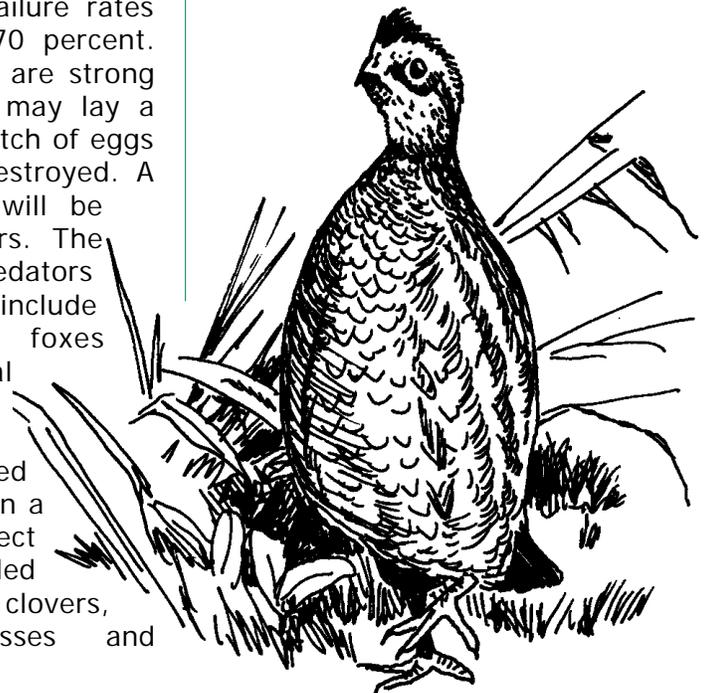
Nest disturbance and predation, along with bad weather and other variables, can contribute to nesting failure rates as high as 60 to 70 percent. However, bobwhites are strong reneesters, as hens may lay a second and third clutch of eggs if the others are destroyed. A good nesting site will be secure from predators. The bobwhite's main predators at this time of year include skunks, raccoons, foxes, snakes, and feral dogs and cats.

The newly hatched chicks rely heavily on a diet of insects. Insect abundance is provided by legumes, such as clovers, mixed with grasses and

broadleaf weeds. This insect diet will last for about two weeks and then, over the next six weeks, slowly change to a diet of grain crops and seeds.

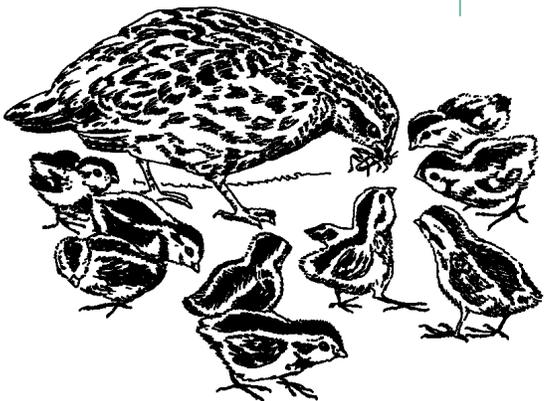
Food and Cover Needs

Bobwhite quail have different food and cover requirements throughout the year. As adults, quail feed mainly on grain crops and weed seeds. Popular weed species include common ragweed, yellow and green foxtail, beggar's tick, hairy vetch, smartweed, yellow nut sedge, wild sweet pea, lespedeza, tick clover, and black medic. Preferred grain crops include soybeans, corn, and grain sorghum. Quail also eat



rose hips, acorns, crabapples, and other shrub fruits. Although ensuring that all needs are met throughout the year is important, winter is the most critical time for food and shelter availability.

Winter severity is a great equalizer in Michigan for the bobwhite quail. A succession of mild winters may improve populations to the point where limited hunting seasons are allowed. Although native to Michigan, quail are limited to those parts of southern Michigan that receive less than 40 inches of snow per year. They cannot endure prolonged conditions of cold, or heavy snow or ice accumulation. Because of their high metabolic rates, bobwhites can starve to death in only three days during severely cold weather, or when ice covers their food. That is why on bitterly cold days, birds may stay in feeding spots all day, stuffing themselves every 90 minutes, which is how long it takes them to empty their crops, and returning to the roost early. By comparison, a ring-necked pheasant can survive up to ten days in winter without eating. Also, pheasants are better equipped than quail



for scratching through snow and ice to reach food.

Unharvested crops and grain food plots provide a good source of food for quail during critical winter months. Using minimum tillage practices in the fall leaves waste grain for winter food. Not harvesting a few rows of grain crops next to travel corridors or heavy cover areas will also help quail and other wildlife. Food plots with mature grain mixed with ragweed, lambsquarter, smartweed, and foxtail are optimum.

Nesting cover consists of grassland areas, such as idle fields that have been out of production for one to three years. Good grasses for nesting include timothy, orchard grass, redtop, Canada wild-rye, or mixtures of native warm season grasses.

Optimum escape cover is provided by woody vegetation. This can be in the form of hedgerows and fencerows, irregular-shaped brushlands, and brushpiles. A dense growth of tall weeds such as ragweed can also supply some winter cover.

Loafing cover is anything that gives quail protection from predators and weather, yet is open enough to allow for basking in the sun, preening, and delousing themselves through dust baths. Good loafing cover has some screening protection, such as high weeds or a canopy of leaves or brush.

Agricultural Foods Quail Enjoy Eating.



Winter roosting cover is usually open, clumpy vegetation that is not located next to thick escape cover. The best winter roosting areas are provided by erect stands of grasses and weeds, with a southern exposure. These include stands of foxtail, switchgrass, and big and little bluestem. Quail will also use roadside ditches containing brome grass, or fields of alfalfa or wheat stubble for roosting, although these are usually poor places to sleep.

Bobwhites roost in the form of a circle. The main reasons for this are to conserve body heat and to provide 360-degree surveillance of predators. At least seven quail are needed in the circle so that their tails will converge to trap the heat from the birds' droppings. Feathers and small piles of green-and-white droppings are clues to roosting sites. To ensure winter survival, hunters should be careful not to reduce coveys too low.

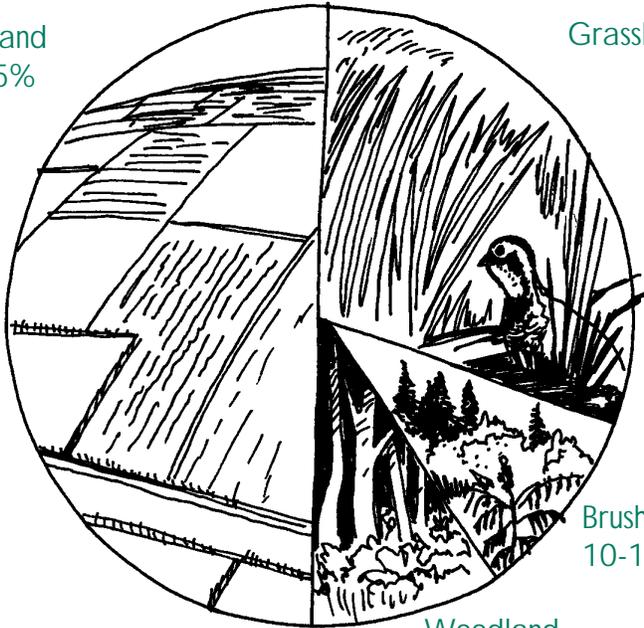
Management Considerations

The most ideal land-use pattern for quail is comprised of 25 to 30 percent idled fields and grasslands, 40 to 55 percent croplands, 10 to 15 per-

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Ideal Land Use for Quail

Cropland
40-55%



Grassland 25-30%

Brush
10-15%

Woodland
10-15%

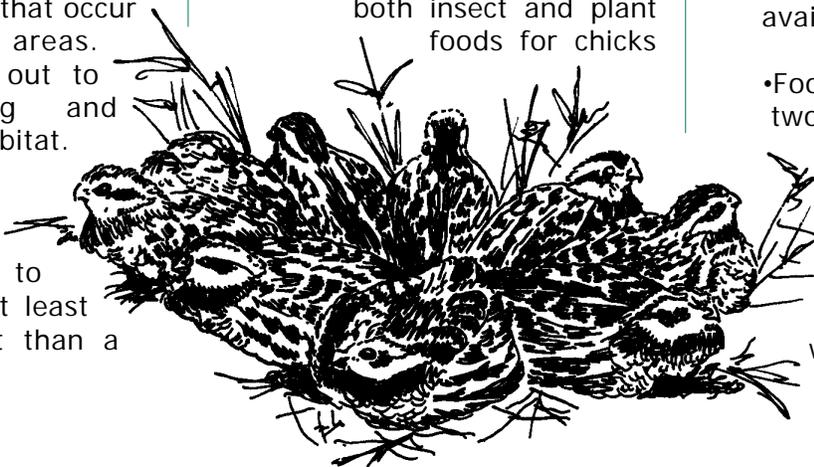
cent brushlands, and 10 to 15 percent woodlands. The more intermixed these components are, the better. These habitats must be available within one-quarter to one-half mile of each other.

The following are options to consider when managing for bobwhite quail:

- Protect any shrubby edges and waste areas that occur around farm areas. Fence livestock out to reduce grazing and improve quail habitat.

- During winter, food and cover should be next to each other, or at least no farther apart than a quarter-mile.

- Provide nesting and foraging areas by planting a warm-season grass mix of little bluestem, big bluestem, Indiangrass, and wildflowers. Orchard grass, timothy, and redtop are also good choices. Legumes and forbs (wildflowers) including sweet peas, coreopsis, hairy vetch, red clover, goldenrod, and black-eyed Susan mixed with the grasses help supply both insect and plant foods for chicks



as well as overhead cover. Do not plant in areas that will be wet in the spring.

- Nesting and roosting areas should be at least 40 yards wide to make nests more difficult to find by ground searching predators.

- Connect nesting areas with a corridor which will serve as an escape route. Quail will use fencerows and ditch banks as travel lanes between nesting and feeding areas. Maintain them in tall grasses and shrubs such as intermediate wheatgrass, switchgrass, sumac, crabapple, sassafras, and silky dogwood. Corridors should be from 30 to 60 feet wide, and are most beneficial when 60 to 70 percent overhead shrub cover is present.

- Avoid the use of pesticides, if possible, because protein-rich insects are critical to the development of chicks. In order to digest their food, each day quail need to eat at least seven percent of their body weight in moisture. Green plants and insects provide moisture needs when water is not available.

- Food plots should be one to two acres in size and at least forty yards wide. Some weed control may be necessary to get the crop started but once plants are one to two feet high weed control will not be necessary.

