History
The bobwhite quail is a small native gamebird, familiar to many by its cheery "bob-bob-white" whistle throughout the spring and summer. The bobwhite is an important gamebird in Iowa; popular with hunters and second only to the ring-necked pheasant in terms of numbers of birds harvested annually. Quail are also popular with bird watchers and other users of our outdoor resources. From mid-summer to early spring, the characteristic covey behavior of quail is evident and groups of 8 to 25 birds are common. At night, quail roost in a tight circle with their heads pointing outward; this gives all members of the covey mutual protection from predators and helps conserve body heat. The only other Iowa bird which coveys and roosts in this manner is the gray partridge, common in northern Iowa. The location of a quail roosting site can be determined by the characteristic oblong pattern of droppings left by the covey. Our native bobwhite was probably never very abundant on Iowa's virgin prairie; most populations were likely restricted to the prairie-timber edges of Iowa. However, early settlement changed Iowa's landscape forever and at least initially these changes proved to be a boon to Iowa's quail population. Between 1860-90 settlers began carving up Iowa in 1/4 section at a time, but early settlers lacked timber and wire to make fences, so they planted Osage hedges instead. Three to 6 miles of some of the finest quail cover ever grown in Iowa were planted in Spring and summer. The most critical aspect of bobwhite quail management is creating a good mixture of required habitat types in a small area of 50-100 acres. Required habitats must be in close proximity to each other because most quail spend their entire lives on less than 300 acres. The amount of brushy/weedy habitat available for quail, nesting and winter cover is, however, doubt, one of the major limiting factors for quail populations in Iowa. The amount and distribution of brush and weed habitats often spells the difference between the survival or death of quail cover. Even the bobwhite quail, unlike its counterparts such as the ruffed grouse, red-winged blackbird, white-throated sparrow, and others, relies on intermixed shrubs and brushy areas for cover. The amount and quality of cover can aid or hurt the population viability. Habitat type and abundance will determine the maximum carrying capacity of a habitat area. This means that the habitat area must be large enough to support a specified number of birds. The management of quail requires certain principles and practices. The most critical aspect of bobwhite quail management is the creation of a good mixture of the required habitat types in a small area of 50-100 acres. 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fencerows, and weedy areas are fast disappearing across the major quail range in southern Iowa. A Wisconsin study reported that quail populations on a particular area were eliminated when the amount of hedge declined to less than one mile per section of rural farmland. However, hedgerows alone cannot provide all brushy cover requirements. Woody thickets on creek and ditchbanks, idle corners, weed patches, fencerows grown up to brush, and shrubby borders of woodlots are also essential. Unfortunately, this type of cover has been reduced substantially in recent years with the advent of larger modern farm equipment and the increased use of farm chemicals. This will result in the eventual elimination of idle brushy/weedy areas necessary for good quail numbers, unless landowners make positive efforts to preserve such habitat.

Habitat Needs
Quail are fond of early successional habitats (recently disturbed habitats) especially where several of these habitats come together and create a diversity of edges. An ideal land-use pattern for bobwhite might be an area with 30 percent brushy/weedy habitat and 10 percent woodland interspersed with odd shaped row crop fields. As the degree of interspersion (that is, the mixing or breaking up of these habitats), of these habitat types is increased, a given area will become more attractive to quail. Edge effect can be increased by planting or maintaining hedgerows of Osage orange, hawthorn, and other shrubs on the borders of fields and woodlots. Brushy draws, shrubby and weedy fencerows, and windbreaks also provide both travel lanes and vital escape cover for quail.

The attractiveness of an idle area for quail is also dictated by the type and structure of vegetation. Quail (like pheasants) move primarily by walking, resorting to flight only to escape predators or travel significant distances. Given their diminutive stature it is not surprising that quail avoid areas of dense, thick, matted vegetation like switchgrass or CRP. Areas with excessive litter or lodged matter are not attractive to quail since movement is hampered by dead vegetation. They prefer habitats of medium-density composed of mixed grasses and forbs. Idle areas should be managed to provide nearly bare ground underneath standing vegetation.

Some of the best ways to increase quail habitat on your farm include strip-disking sod bound areas, feathering woodland edges, creating brush piles, and planting food plots. Strip-disking simply breaks up sod bound vegetation creating bare ground with abundant weedy vegetation preferred by quail. Timber edge feathering is simply the process of cutting the larger trees along the edge of a woodland to encourage shrubby/shrubby regrowth. Brush piles from this activity create ideal escape and loafing cover for quail. Corn and milo food plots, especially those with a good weedy component of foxtail or ragweed, provide habitat and food during severe winters. The better interspersed these habitats are in an area the more attractive it is to quail.

Hunting
Quail hunting is second only to pheasant hunting in Iowa in total harvest and hunter participation. Quail hunting is best enjoyed with a lightweight 20-gauge shotgun and a good pointing or retrieving dog. An open-choke, double barrel or other shotgun is preferred by many, as most quail shooting is close-in work. Shot size from seven and one-half to nine is adequate. Field borders, brushy ravines, hedgerows and brushpiles are all likely fields in which to find quail. A hunter's opportunities are greatly improved, both in terms of shooting and bringing birds to hand if he has a well-trained dog. Breed is dictated by an individual hunter's preference, but English Setters, Brittany Spaniels, German Shorthaunts, Boykin Spaniels, and Labrador Retrievers are all popular in Iowa.

Iowa's southern counties along the Missouri border offer quail enthusiasts the best hunting opportunities. Small farms with a diversity of crops and shrubby-shrubby habitats offer the best populations. However, these farms are becoming less and less common in Iowa. Since 1962, Iowa's quail population has declined an estimated 66% statewide. As noted above, the resuraces for this statewide decline in quail populations are intensified agriculture and the resultant loss of quail habitat. With this decline in quail numbers, quail harvest (77%) and quail hunters (41%) has also declined over the last 4 decades. Many sportsmen and other Iowans fear that hunting quail during periods of low populations will contribute to a further decline in quail numbers. This fear often manifests itself in demands for reduction in season length and bag limits. However, radio telemetry studies of hunted and non-hunted quail populations by wildlife professionals in Iowa and Missouri have shown that survival does not differ between hunted and non-hunted populations. In other words, regulations have no measurable impact on quail numbers. This should come as no surprise because hunting seasons and limits are established by the DNR so that hunting has no deleterious effects upon the resource. Even though loss of habitat has been identified as the cause of Iowa's declining quail population, some individuals and groups advocate stocking as another "solution" to low quail numbers. Quail stocking efforts, however, have proven to be both costly and ineffective. Survival of pen-reared quail used in stocking is extremely poor once they are released in the wild. Usually less than 1% of released birds even survive 6 months. Recent studies in the southern U.S. have also shown that releasing pen-raised quail can be detrimental to existing wild birds because released birds attract predators to the area for an easy meal. This concentration of predators leads to higher losses of wild birds that they would not normally experience.

Even though quail populations are well below historic levels, our current population is likely as high if not higher than before white man set foot in Iowa. At the turn of the century man's activity on the land was beneficial to quail. Now at the end of the century his activities are detrimental. Iowa will always have some quail, but how many there are ultimately rests with the landowners and their willingness to include quail and quail habitat in their land management decisions.

Economics
Revenue from the sale of hunting licenses and habitat stamps as well as the federal excise taxes on sporting arms and ammunition purchased by partridge hunters helps support a wide variety of Iowa Department of Natural Resources' programs including wildlife management, wildlife research, and wildlife habitat acquisition.

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THE NORTHERN BOBWHITE QUAIL
(Colinus virginianus)

Biological Facts
Weight: 6-8 ounces; females slightly heavier than males. Length: 8-11 inches. Flight speed: 30-40 mph. Habitat: brushy/weedy early successional habitats interspersed with agriculture. Foods: waste grains and weed seeds. Life expectancy: 90-95% annual mortality rate; most live only about 1 year. Mating: polyandrous; females will reproduce with more than one male in a year. Nesting period: peak May-July, range March-September. Nests: shallow depression in the ground lined with grass or leaves with overhanging vegetation. Clutch size: 12-16 eggs for first nests (range 7-28). Eggs: dull white or cream; ovate (1 1/4 x 1 inches). Incubation: 23 days. Young: precocial; leave nest immediately; can make short flights at 12-14 days. Broods per year: 1-2; persistent nesters. Nest success: avg. 56% (range 20-60%). Fledge: young identical to adults at 15 weeks and remain with parents through fall and winter. Migration: none; year-round resident

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