

Quail

Arizonans have the privilege of hunting three species of quail—four, if the few California quail found along the Little Colorado River drainage in Apache County are included. These are the Gambel's quail, scaled quail, and Mearns' or Montezuma quail. Another quail, formerly found in Arizona, the masked bobwhite, is listed federally as an endangered species.

Of the above species, the Gambel's or desert quail is by far the best known. Found in most of the state's counties, these birds are often hunted in open desert country where they are more apt to run or flush than hold for a dog. The Gambel's jaunty, plumed topknot, carried by both sexes, makes for ready identification, along with the male's bright russet cap, black face and bib, and cream-colored belly marked with a black horseshoe. As with all species of quail, the young of the year can be distinguished through their first winter by their spotted secondary wing coverts. Adult males average only about 6 ounces; the slightly smaller females between 5.7 and 5.9 ounces.

The handsome—rather than gaudy—scaled quail is the second most commonly encountered quail in Arizona. A bird of the open country of eastern Arizona, this quail too is more likely to run than hold. Both sexes of this species display white, conical crests, hence the common name of "cottontop." The scaled appellation is appropriate, however, as the birds possess a distinctive scalloping on the breast, nape and belly. Otherwise, their overall color is tan above with a mixture of beige, grays, and whites below. A generally bigger bird than the Gambel's quail, adult male "scalies" average about 7.3 ounces, females 6.7 ounces.

Mearns' quail are the largest and most striking, yet also the most secretive of Arizona's quails. Male Mearns' quail have white and black harlequin-marked heads, capped by a russet shock of feathers that form an ill-fitting crest. These cock quail also possess handsome brown and black checkered backs interlaced with white darts, and white-spotted black flanks similar to a guinea fowl's. Their breasts and underparts are a rich mahogany that turns to black at the rump, which terminates in a stubby, almost non-existent tail. The hens are cinnamon colored with brown, black and buff markings. In winter, the males average about 6.9 ounces, the females about 6.2 ounces. Long, scythe-shaped claws that are used for digging show that these birds are ground-dwellers, and they hold so well to a dog that this species has come to be known as Arizona's greatest game bird.

Natural History

The sexes of all Arizona quails show some differences in plumage, and all of the species form seasonal pair bonds that last through incubation and brood-raising. Clutch and brood sizes are often large, ranging up to a dozen or more chicks, and both the cock and the hen care for the young. Individual birds have short life spans, however, and population sizes tend to fluctuate widely from year to year. All Arizona species form fall and winter coveys that are likely to remain in the same general area where they were raised.

Each species has its own habitat preferences. The Gambel's quail is found throughout the Sonoran and Mojave deserts upward in elevation through semi-desert grassland and chaparral to the edges of pinyon-juniper woodland and pine forest—wherever mesquites and other brushy

cover occur. The scaled quail is a bird of semidesert grasslands and the Chihuahuan desert, preferring open plains and foothills; the Mearns' quail prefers oak woodlands and oak savannas in the southeastern portions of the state where grass cover is abundant enough to conceal its presence.

Although all three major species of Arizona quail have formed pair bonds by March, they each have different breeding seasons. Gambel's quail breed only in spring and early summer, and breeding intensity and success are directly related to the amount of rainfall received during the previous October through March. The breeding season of scaled quail is more complex. They breed in spring after wet winters, but also during the summer months after the monsoons have started. Mearns' quail nest only after the summer monsoon season, and often postpone breeding until after the summer solstice when the days are getting shorter. The factors determining the population levels of the various species also differ. The numbers of Gambel's quail are related more to the success of the hatch than to carry-over from the previous year. Scaled quail numbers are determined by both the success of the hatch and the number of birds surviving from the year before. Mearns' quail generally have good hatching success, and their highly fluctuating numbers are determined largely by how many birds survive the winter. All of the birds experience relatively high winter mortality. The scaled and Mearns' quail are more dependent on grass cover for over-winter survival than is the Gambel's quail, and hence are more sensitive to livestock grazing pressures than the Gambel's.

Hunt History

By the turn of the century, quail hunting had become a popular pastime in Arizona, and a generous season and lack of a bag limit gave the state a reputation for harboring "game-hogs." Then, in 1909, the territorial legislature limited quail hunting to an open season of October 16 through January 31, an arrangement that was retained in the state game code of 1912 along with a bag limit of 25 quail. In 1929 quail numbers must have been thought to be in need of improvement, as the season was shortened to November 1 through December 31, and the following year the newly appointed Arizona Game and Fish Commission reduced the bag limit to 15 quail per day. There was no season on Mearns' or "fool quail" as this species was commonly known.

During the years that followed, quail seasons and bag limits varied in response to quail numbers and the success of the hatch, which in some years, such as 1946-48, was so poor that no season was authorized. It was believed that unless the ratio of young to adult quail observed on summer surveys was less than 2.1:1 a hunt could not be justified, and even when there was a season, it might be only two days long with a five-bird bag limit. Then, in the 1950s and early 1960s, research showed that hunting mortality was compensatory to natural mortality, and a standardized season from mid-October through the end of the month, followed by another season from November 1 through the end of January, gradually became the norm, along with a 15-bird bag limit. Later, the month of November was also opened to quail hunting and the closing date delayed until mid-February. This season, which applies to both Gambel's and scaled quail, has continued to the present day.

In 1960 a two-day season on Mearns' quail was authorized for a limited area in the Santa Rita Mountains. Hunting was shown to have a negligible effect on this species also, and this season

too was gradually expanded. Today, the season opens in mid-November in deference to the bird's late nesting habits, and continues to mid-February. This bird and season has become so popular with bird dog hunters that recent Commission meetings have often entertained proposals to lower the 15-bird bag limit to a lesser number in an attempt to "spread out the harvest."

Quail hunting in Arizona has always had its ups and downs. The top year in recent times was in 1979 when nearly 100,000 hunters reported harvesting more than 2.5 million quail. Since then, quail numbers and hunter interest have fallen off, with hunter numbers ranging from 44,000 to 75,000 each year between 1990 and 1999. The reported harvest of Gambel's quail during this same period has fluctuated from slightly more than 300,000 to just over 1.3 million, causing some hunters and wildlife managers to wonder if a long-term decline in quail numbers may have occurred.

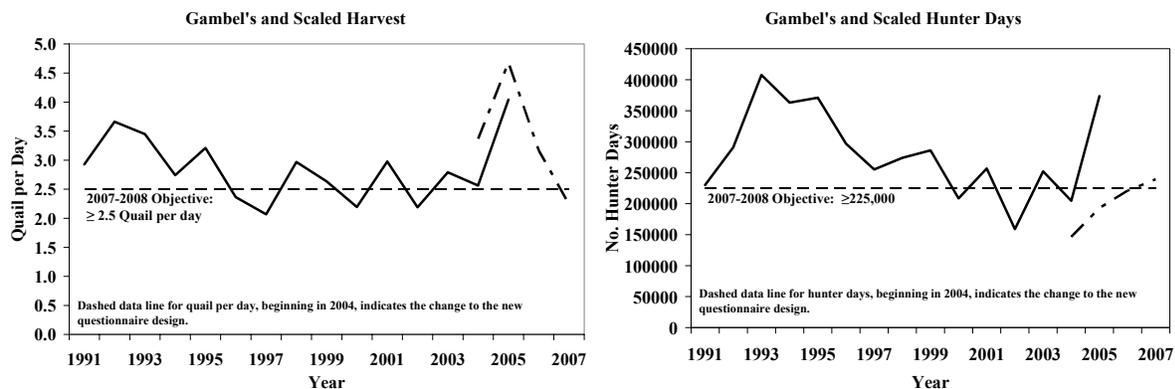
Management Needs

Research Needs

Quail Operational Approaches

Below are approaches for guiding the management of Arizona Game Species. In all the approaches listed below, annual harvest objectives were derived from past harvest estimates and recent habitat conditions. In all cases, these harvest objectives are well within the range of sustainable harvest.

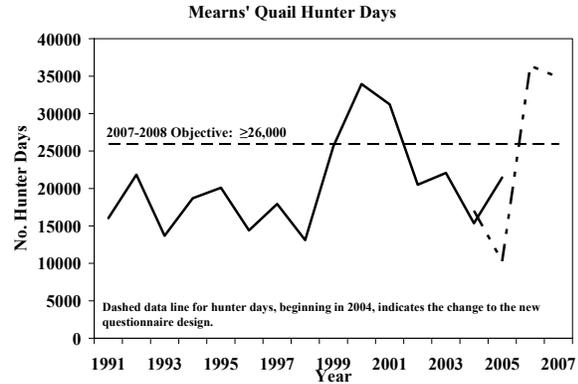
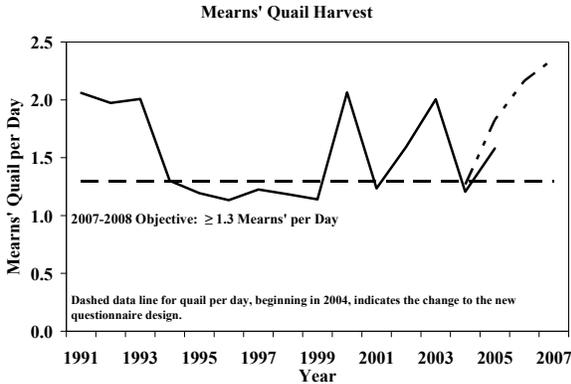
Gambel's Quail and Scaled Quail



1. Maintain hunter success rate at 2.5 birds per day or more (1.B.1-1.B.3).
2. Provide 225,000 hunter days or greater per year (1.B.1-1.B.3).
3. Coordinate with land management agencies to ensure that livestock grazing of quail habitat is within allowable use guidelines that provide quail with adequate food and cover; manage from a landscape perspective (1.A.1-1.A.6, 2.D.1-2.D.3).
4. Provide annual information to the public regarding quail population status and trend by Game Management Unit and encourage hunting opportunities where appropriate (2.A.1-2.A.6).

5. Collect data to estimate demand and harvest (1.A.1-1.A.6).
6. Pursue opportunities to restore scaled quail habitat. Assess habitat restoration efforts through research; manage from a landscape perspective (1.A.1-1.A.6, 2.D.1-2.D.3).

Mearns' Quail



1. Maintain hunter success rate at 1.3 Mearns' quail per day or more (1.B.1-1.B.3).
2. Provide 26,000 hunter days or greater per year (1.B.1-1.B.3).
3. Maintain existing occupied habitat, with emphasis on retention of medium and high quality habitat (1.A.1-1.A.6).
4. Coordinate with the Coronado National Forest to ensure that Mearns' quail population potential is achieved through use of the current Department Mearns' Quail Habitat Guidelines; manage from a landscape perspective (1.A.1-1.A.6, 2.D.1-2.D.3).
5. Support research of population dynamics of Mearns' quail using radio-telemetry (1.A.1-1.A.6).
6. Provide annual information to the public regarding Mearns' quail population status and trend by Game Management Unit and encourage hunting opportunities where appropriate (2.A.1-2.A.6).