History

Originally a Eurasian species, the gray partridge was successfully introduced into Palo Alto county Iowa in 1905. This release constitutes Iowa's first wild stock. Successful releases were made in Humboldt county in 1906, O'Brien in 1909, and in Kossuth in 1910. By 1914 most northern Iowa counties had received standardized releases of 20 pairs each. By 1932 it is estimated the state conservation commission had stocked 20,000+ partridge in Iowa. Most plantings were in northern Iowa, although a few were attempted in south central Iowa; all southern attempts failed. The birds gained their strongest hold in northwest Iowa in Osceola, O'Brien, Dickinson, and Clay counties and were generally present in most northern Iowa counties by 1940. Iowa's first partridge season was held in 11 northwestern counties in 1937-39. While this species is native to a vast region of Europe and Asia, the birds used in initial North American stocking attempts came from Hungary; hence, the name Hungarian partridge or Hun came into common use. Today, however, gray partridge is the scientifically correct name. The gray partridge, like the bobwhite quail, forms coveys from early fall through winter. At night, covey members (usually 8-15 individuals) roost in a tight circle with their heads pointing outwards; this gives all members of the covey mutual protection from predators and helps conserve body heat.

Identification

Gray partridge are wary, compact, heavily feathered, quail-like gamebirds. Their bodies are generally gray-brown in color with russet barring on the flanks and cinnamon markings on the face and head. Russet tail feathers provide an excellent field mark for birds observed in flight. Sexes are very similar in appearance. Birds in hand can be sexed by the scapular and median wing coverts, with the male having a single median buff stripe and the female having a wider buff stripe with two to four cross bars. Also the crown feathers on males have a narrow median stripe, whereas in females the stripe expands to form a teardrop. In the past, many sportsmen have mistakenly identified the large horseshoe-shaped, chestnut-colored patch on the lower breast as an exclusive male characteristic in gray partridge. While this patch is most common on males, it is often found on females and is occasionally absent on males. Neither sex has spurs. Adult gray partridge are intermediate in size, between bobwhite quail and ring-necked pheasants. They weigh slightly less than a pound and are approximately 12 to 14 inches in length. Young are creamish-yellow on the throat and belly, rufous-orange on top of the head and back, with black spots or broken lines around the eye and crown.

Reproduction

Gray partridge select mates and establish weak pair bonds while still in their winter coveys. Timing of pair formation is related to weather and snow conditions, but in Iowa this usually occurs in late February and March. As soon as thawing exposes large areas of bare ground, pairs begin to segregate themselves from other covey members during daylight hours, but covey up at night or during severe weather. There is considerable shifting of partners at this time of year until firm bonds are established. Mated pairs establish a breeding territory which the male advertises to other partridge with his "rusty hinge" call and defends his territory by fighting if necessary.

In Iowa, usually 70% of nests are located in undisturbed bluegrass or smooth bromegrass cover near road ditches and abandoned farmsteads. Nests are occasionally located in alfalfa hayfields or oat fields. The nest consists of a scrape in the ground lined with grass or leaves. While some nests are initiated as early as mid-April, most nesting in Iowa begins about May 20. The female lays from 10 to 20 olive-green eggs over a two- to three-week period, carefully covering the eggs with nest material after each egg is laid. First nests tend to be larger with an average of 19 eggs, while second or third nests are smaller, averaging only 12 eggs.

Like pheasants, partridge only raise one brood each year, but if their first nest is destroyed they will renest. Once the clutch is complete, the female incubates the eggs for about 23 days while the male stands guard nearby. The young chicks hatch covered in down (precoccial) and can leave the nest and follow the hen within a few hours of hatching. Loss of young the first few weeks is high and losses as high as 50-60% are not uncommon. Young can make short flights at 12-14 days of age and resemble adults by 16 weeks of age. Both parents help care for the young. These family groups, along with other adults that were unsuccessful in raising young, form the coveys observed later in the year.

Food Habits

Insects and other invertebrates supply badly needed protein for rapidly growing chicks. Weed seeds, waste grain and green; leafy material becomes important in the diet of older birds. During the summer months, partridge broods often feed in the cover provided by soybean fields switching to cornfields in early fall. In winter, partridge will scratch and burrow under snow in search of waste grain and green vegetation. Some studies indicate partridge eat much more green matter than pheasants.

Limiting Factors

As with pheasants, lack of suitable, undisturbed nesting habitat is thought to be an important limiting factor for gray partridge. Mowing and burning of road ditches during the nesting season and removal of old farmsteads and fencerows greatly reduces the amount of available nesting habitat in some parts of Iowa. Other research shows gray partridge reproduce best during droughty-warm springs in Iowa with lower reproduction in most other years. Gray partridge are native to the arid steppe regions of Eurasia and most Iowa springs are wetter than their indigenous range, which leads to lower reproductive success in Iowa.

Unlike pheasants, lack of winter habitat does not seem to be a serious limiting factor for gray partridge. Even during bitter cold weather partridge can be observed feeding in open, wind-swept soybean fields or fall-plowed cornfields. Rugged winter weather conditions in the northern regions of its native Eurasia seems to have better prepared the gray partridge for winter survival when compared to the ring-necked pheasant, native to the milder regions of central Asia. The partridge's ability to snow roost also gives it a distinct advantage over pheasant and bobwhite quail, which do not exhibit this behavior. Deep-crusted snow during some winters can prevent partridge from finding enough food. Under these conditions, partridge may adapt by feeding around corncribs or feed lots.

Broods raised along heavily traveled roads can suffer substantial road kill losses. Hawks and owls take some partridge during the winter, and skunks and other mammals catch incubating hens and destroy nests. But predation as a whole does not appear to be too serious for partridge in Iowa. Hunting mortality is usually very low due to the wary nature of the birds.

Habitat Needs

Gray partridge seem to survive and even increase in numbers in intensively farmed regions unsuitable for

other upland gamebirds. Gray partridge thrive in areas with abundant small grains, especially wheat, interspersed with light or moderately grazed pastures, idle areas, and row crops. Partridge attain their highest densities in regions where these habitat types are evenly interspersed (uniformly distributed). Given their origin in the arid agrarian grasslands of Eurasia, it is not surprising the gray partridge found Iowa's open agricultural landscape to its liking.

Iowa research shows gray partridge prefer to nest in road ditches and fencelines, while avoiding hay and alfalfa fields. Delay of roadside mowing until after the nesting season and protection of other idle grassland areas is very important for successful partridge reproduction. Other research has shown that chick survival is strongly related to the abundance of insects the first 3 weeks of live. Research suggests fallow areas, idle grass\hay, and undersown small grains provide the best chick foraging areas, while soybeans and heavily grazed pasture are the worst.

Gray partridge seem adapted to survival Iowa's open winter landscapes. The ability to snow roost no doubt helps them in this regard. However, during severe winters with prolonged snow, woody habitats are essential for partridge survival. Multi-row farmstead shelterbelts, plum, and willow thickets are favored under these conditions. Additional research is needed to further evaluate limiting factors among partridge populations in Iowa.

Hunting

Ever since the invention of firearms, gray partridge have been an important gamebird in Europe. Beaters were often used to drive the birds toward shooters stationed at the ends of fields. It is interesting to note that during the 1700s, Germany had a "cocks only" season on partridge. As the birds flushed towards them, the shooters selected only those birds with the dark horseshoe mark on the lower breast. Since the horseshoe mark is not a reliable method of determining sex, the German hunters were obviously killing some hens, but this "cocks only" hunting season was used for many years.

From the beginning of the first partridge hunting season in Iowa in 1937 until the mid-1960s, gray partridge were usually thought of as a "bonus bird" for pheasant hunters. However, as pheasant populations decreased, some hunters began to take partridge hunting more seriously. Prior to snowfall, partridge can be hunted in picked cornfields or open grassy areas in much the same manner you would hunt pheasants. As mentioned earlier, gray partridge are wary and will usually flush as a covey, squawking their warning calls while the hunter is still 30 or more yards away. If the hunter is a good shot and is armed with a 12-gauge, full- choke shotgun he may be able to bag one or more birds before they get out of range. After flying for several hundred yards, the covey will usually alight as a group on open ground. If the birds are followed up, the covey will probably flush just before the hunter gets in range. If this tactic fails to discourage the hunter, the birds may eventually set down as singles in a grassy area or hayfield. Singles hold better than the coveys and may provide some excellent close-range shooting.

When there is snow on the ground, partridge are easier to locate but often more difficult to approach. Under these conditions, some hunters have found they can get closer to these wary birds if they are wearing white coveralls. Bird dogs are not essential for partridge hunting. A wide ranging dog would probably flush the birds far beyond gun range. But a well-disciplined, close working dog might be a real asset in partridge hunting, especially if it points at range. Iowa's annual gray partridge harvest has risen from about 12,000 birds during the mid-1960s to more than 50,000 in recent years. Some years, the partridge harvest has even exceeded 100,000 birds. Iowa's gray partridge season usually runs from early November through late January. Hunters should check current regulations for seasons and limits.

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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GRAY (HUNGARIAN) PARTRIDGE

(Perdix perdix)

Biological Facts

Weight: males 14.0 oz; females 13.5 oz.
Length: 12"-14".
Flight speed: 30-40 mph.
Habitat: open landscapes of intense small grain and row crop agriculture.
Foods: waste grains and weed seeds.
Life expectancy: 70-90% annual mortality rate; few birds live to age 3.
Mating: monogamous; remain paired throughout the breeding season.
Nesting period: peak April-June; range April-August.
Nests: usually shallow, scratched-out depression in the ground lined with grass or leaves.
Clutch size: Ave. 16 eggs (range 10-20); first nests larger.
Eggs: olive-buff; ovate (1 1/2" x 1 1/8").
Incubation: 23 days.
Young: precoccial; leave nest immediately and can make short flights at 12-14 days.
Broods per year: 1; persistent renester.
Nest success: Ave. 32%; range 10-67%.
Fledge: young resemble adults at 16 weeks and remain with adults in coveys through fall and winter.
Migration: none, year-round resident.