

American Kestrel (*Falco sparverius*)



LUKE AND LEIA



LUKE AND LEIA

Physical Description:

Male: 103g to 120g

Female: 126g to 166g

Generally, the American kestrel is 19 - 21 cm in length with an average wingspan of 50 - 60 cm. The American Kestrel is the smallest falcon in North America—about the size of an American Robin. Like all raptors, the American Kestrel is sexually dimorphic, although there is some overlap within the species. The female ranges in length from 23 to 28 centimeters (9-11 inches) with a wingspan of 53-61 centimeters (21-24 inches) and weighs an average of 120 grams (4.2 ounces). The length of the male varies between 20-25 centimeters (8-10 inches) with a wingspan ranging from 51-56 centimeters (20-22 inches) and weighing an average of 111 grams (3.9 ounces). These subtle differences are often difficult to discern in the field.

Identification:

The coloration of the feathers, however, greatly varies between the sexes. Males have blue-grey secondary feathers on their wings, while the undersides are white with black barring. The back is rufous in coloration, with barring on the lower half. The belly and flanks are white with black spotting. The tail is also rufous, except for the outer rectrix set, which is white with a black subterminal band.

The back of the female American Kestrel is rufous with dark brown barring. The wings exhibit similar coloration and patterning to the back. The undersides of the females are white with rufous streaking. The tail of the female is noticeably different from the male, being rufous in color with numerous narrow dark brown or black bars. Juveniles exhibit coloration patterns similar to the adults.

In both sexes, the head is white with a bluish-grey top. There are also two narrow, vertical black facial markings on each side of the head; one below the eyes and one on the rear portion of the auriculars. Two black spots (ocelli) can be found on each side of the white or orangish nape. The wings are moderately long, fairly narrow, and taper to a point. While perched, the wingtips are noticeably shorter than the tail tip.

Hunting Strategies:

In the summer, American kestrels hunt in the early morning and evening, eating large insects (mainly grasshoppers). During winter, they hunt throughout daylight hours and eat small mammals (mice and sparrow-sized birds), sandpiper chicks, lizards, scorpions and amphibians. In summer, kestrels feed largely on grasshoppers, dragonflies, lizards, mice, and voles. They will also eat other small birds. Wintering birds feed primarily on rodents and birds. The birds characteristically hunt along roadsides from telephone wires, fence posts, trees or other convenient perches when not flying in search of food. When they are flying and looking for food they frequently hover with rapid wingbeats.

Because it feeds on both insects and vertebrates, the American Kestrel maintains fairly high population densities. It has a small breeding home range, from 1.75 to 2 square miles. Territory size has been estimated at 269 to 321 acres with much larger wintering home ranges.

Habitat and Range:

The American kestrel permanently inhabits (without seasonal migration) North and South America from near the tree-line in Alaska and Canada and south to Tierra del Fuego. The bird can also be found in the West Indies, the Juan Fernandez Islands and Chile. It is largely absent from heavily forested areas, including Amazonia.

The American kestrel nests in tree cavities, woodpecker holes, crevices of buildings, holes in banks, nest boxes or, rarely, old nests of other birds. The American kestrel is highly adaptable behaviorally and lives just about everywhere, as long as there is some open ground for hunting and conspicuous places on which to perch (e.g., telephone wires).

Reproduction:

Kestrels form pairs in which the bond is strong, tending toward permanence. Returning migrants commonly re-establish territories held the previous year. In one study, a pair nested in the same tree for six consecutive years.

Courtship begins shortly after the male establishes a territory. In early courtship, he may give the "dive display", a series of climbs and dives 33 to 66 feet (10 to 20 m) with 3-5 "klee" notes given near the peak of each climb. He may present the female with food during courtship feeding. He may entice her to the nest site by calling. He may "flutter-glide" toward her with quick and shallow wing beats while carrying food and she may also beg for food by flutter-gliding. The female initiates copulation by bowing with her tail in line with her body or slightly raised.

A cavity nester, American Kestrels will use holes in trees, rock cavities and crevices in cliffs, artificial nest boxes, or small spaces in buildings. The number of suitable breeding cavities limits this species' breeding density. The American Kestrel has adapted well to nest boxes. In one program, nest boxes were fixed to the backs of signs along a freeway thus allowing kestrels to breed in areas formerly devoid of nest sites. Pairs nesting in boxes on poles have much higher nesting success than pairs using boxes on trees. No nest is built inside. In nest boxes sawdust and wood shavings may be a suitable substrate for the eggs

Both sexes take turns incubating their eggs, a very rare situation among North American birds of prey where the female usually incubates exclusively. Both sexes develop bare oval patches on each side of their breasts where the warm bare skin can contact the eggs for warming. Eggs hatch about 30 days after being laid. There are from three to seven eggs laid, but four to six are average. The eggs are typically short elliptical in shape, and are white or pinkish-white with an even covering of fine spots and flecks of brown shades, occasionally concentrating as a ring or a cap. They will re-nest if the first nest fails and have been reported to raise 2 broods per year in some of the southern states.

The young grow very quickly, becoming noisy between day 11 and 14 and assuming adult weight in about 2.5 weeks. The young take their first flight between days 26 and 31. Early fledgling behavior varies. Broods typically stay together for a week or two. Some broods remain close to the nest area for a week or two while others travel throughout the parents' home range.

Generally, young do not disperse more than 0.6 miles (one km) away from the nest area until two to four weeks old. Young disperse as hunting skills develop. Occasionally groups of older juveniles from various broods join together into flocks.

The American Kestrel is double-brooded, particularly in the southern United States, in areas of abundant small mammals. Replacement clutches can be laid.

Lifespan / Longevity:

The American Kestrel is not long-lived. The oldest banded wild bird was 11 years and seven months old while a captive lived 17 years. A mortality rate average of 57 percent was found. First year mortality rates have declined since 1945 with a decrease in shooting. Major causes of death include collision with traffic, illegal shooting, and predation by other raptors, including the Red-tailed Hawk, Northern Goshawk, Cooper's Hawk, Peregrine Falcon, Barn Owl, and Great Horned Owl.

Behavior:

The American kestrel is, for the most part, not a social bird. During the mating season, males and females pair up and have joint territories. Presumably, the pair or the male defends the territory. The function of the territory may not be so much to ensure mating as to maintain a pair bond during the nesting season when the male is needed to help rear offspring.

The American Kestrel is the only North American falcon to habitually hover with rapid wing beats, keeping its head motionless while scanning the ground for prey. The kestrel commonly perches along fences and powerlines. It glides with flat wings and wingtips curved upward. It occasionally soars in circles with its tail spread and its wings flat.

Several hunting techniques are used by the American Kestrel. It will hover over one spot—when prey is sighted the kestrel will partly fold its wings and drop lower once or several times before striking. When the prey disappears the falcon will glide in a semicircle before turning back into the wind to hover again. It will also soar in circles, or figure eights, using the same stooping tactics as when hovering.

The kestrel commonly hunts from elevated perch sites, waiting for prey to move on the ground. The kestrel bobs its head and pumps its tail just before attacking.

Other prey capture techniques include direct pursuit, landing and flushing prey from the ground (especially for grasshoppers) and then taking them in flight, capturing flying insects from an elevated perch, and nest robbing including the burrows of Bank Swallows and the nests of Cliff Swallows. It is also an occasional bat catcher, taking bats from their tree roosts, or striking bats in flight from above or as the bats leave or enter caves. The kestrel will kill and cache food items. The American Kestrel occasionally robs others of the same species. It has also been known to rob a shrike of its prey. Kestrels sometimes harass other hawks, and even Golden Eagles, in flight.

Communication:

The American Kestrel has three basic vocalizations - the "klee" or "killy", the "whine", and the "chitter." The "klee" or "killy" is usually delivered as a rapid series - "killy, killy, killy, killy" when the kestrel is upset or excited. It is used at the apex of the dive display, during fights with other kestrels, and after unsuccessful hunting attempts.

The "whine" may last as long as one to two minutes and may be single or treble. The more intense the situation, the more likely the "whine" will move toward the treble extreme. "Whines" are given during courtship feeding and copulation. The treble whine is heard from breeding females and fledged hungry young.

The "chitter" is the most frequent vocalization in male - female interactions. Its volume and duration depends upon the stress or excitement of the situation. It is associated with friendly approaches and bodily contact between the sexes during breeding season. Occasionally a "chitter" follows a "whine."

Calling occurs throughout the day. Nestlings at two weeks can produce all three vocalizations. Female kestrels tend to have slightly lower pitched and harsher voices than males.

Use In Falconry:

American Kestrels (along with the Red-tailed Hawk) are one of two raptors almost universally

used by new (apprentice) falconers in the United States. The American Kestrel is generally considered to be a harder bird to care for due to its small size, quick metabolism, and fragile nature (in comparison with the much larger Red-tail and other raptors used in falconry) and requires extensive weight management, often within a couple tenths of a gram.

Falconers typically use American Kestrels to hunt non-game species: insects, sparrows (typically the invasive European variety), starlings, and grackles. Male kestrels, due to their smaller size, are best suited for sparrows and starlings--though particularly skilled and competent males may occasionally tackle grackles. Female American Kestrels, due to their size, are slightly less agile than the males but slightly better at scuffling with larger prey. Females generally are very slightly less successful in taking sparrows in comparison to males, but are more capable with taking starlings, grackles, and a variety of other small birds. A few females have even been known to take doves, though this is a very rare occurrence. Falconers must be wary of potential predators while out hunting with a kestrel: cats, dogs, and other raptors are common dangers. If a kestrel is taken by another raptor (Cooper's Hawks in particular), the falconer should vigorously pursue the raptor while shouting as this often causes the raptor to release the kestrel with little or no damage.

Behaviorally, kestrels generally tame down relatively quickly (1-3 weeks) and to a great degree--especially in comparison to other raptors. This tameness helps considerably in day-to-day care, as kestrels used in falconry should be kept indoors in order to better control weight and protect the bird from predation. The downside of this tameness is the American Kestrel's penchant to begin "screaming" (food begging)--incessant, piercing, loud calls--whenever the falconer appears. The mortality rate for American kestrels kept by falconers is estimated to be 7.4% per year, whereas mortality rates for wild kestrels is estimated to be well over 65%. Most falconers eventually release their kestrels back into the wild once they are of breeding age. There are so few falconers in the United States (estimated at less than 4,000) that any contribution to the estimated millions of wild American kestrels in the United States would be statistically insignificant.