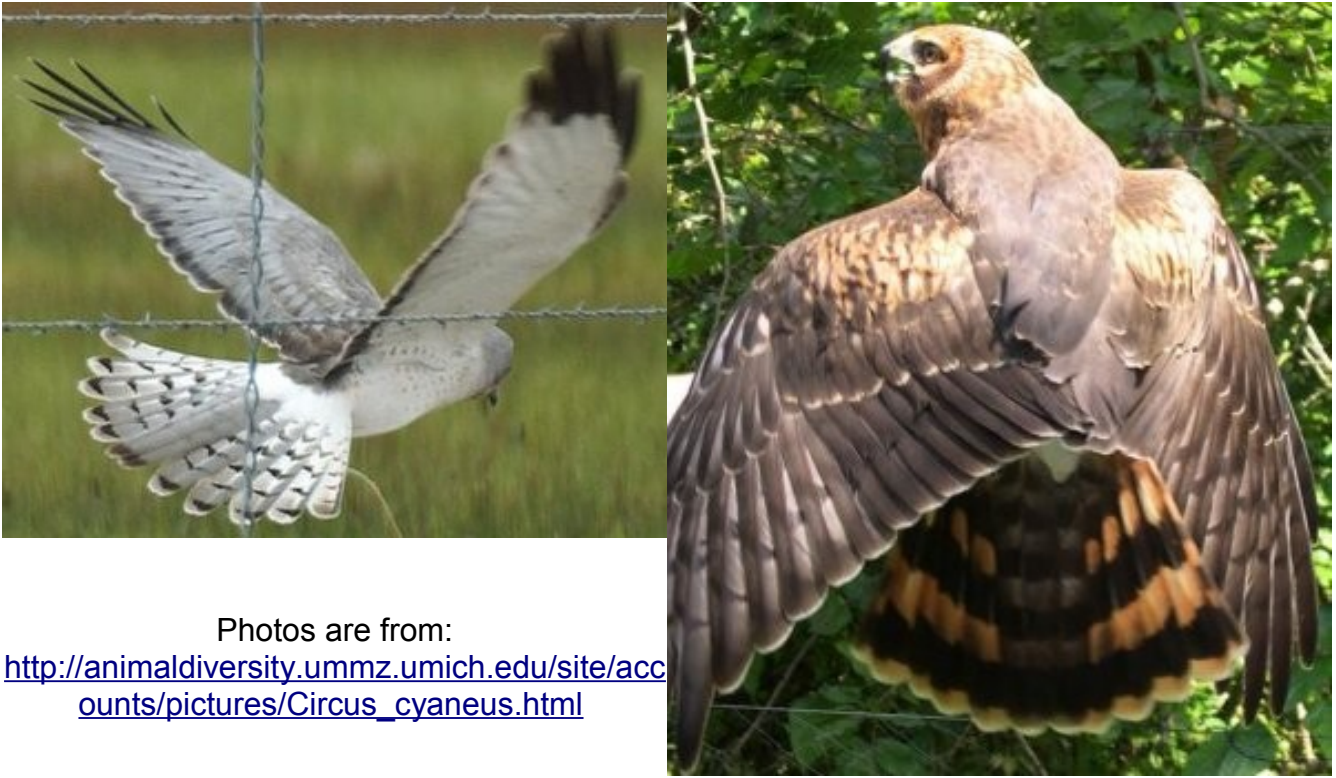


Northern Harrier (Marsh Hawk) (*Circus cyaneus*)



Photos are from:

http://animaldiversity.ummz.umich.edu/site/accounts/pictures/Circus_cyaneus.html

Physical Description:

Northern harriers have several characteristics which distinguish them from other birds. Specialized feathers around their face in the shape of a disk focus sound into their ears. Their wings form a dihedral when in gliding flight, and they have a distinctive white rump patch which is obvious during flight.

Adult harriers have yellow eyes. Adult males are gray on their dorsal side. Ventrally, they are white, except for spots on their chest, and black wingtips. Adult females are a brown color, except for underneath their wings, where there are white stripes. Immature males and females resemble the adult female, but they have a darker shade of brown covering the dorsal side and a brownish rusty color underneath. Immature harriers have brown eyes.

The length of adult males varies between 41 and 45 cm (16 to 18 in). The length of adult females varies between 45 and 50 cm (18 to 20 in). Typically the wingspan of adult males varies between 97 and 109 cm (38 to 43 in). The wingspan of adult females varies between 111 and 122 cm (44 to 48 in). The weight of adult males is approximately 290 to 390 grams (1/2 to 1 lb). The average weight of adult females is approximately 390 to 600 grams (1 to 1.3lbs).

Identification:

Male: upperparts grey, with dark wing-tips; rump white; underparts white, with light streaking and spotting; tail square, with black subterminal band; bill black, hooked, with yellow cere; legs long, yellow-orange, with taloned feet.

Female: upperparts brown, with brown wing-tips; rump white; underparts whitish or pale buff, with heavy brown streaking on breast and flanks, lighter streaking and spotting on belly; tail as in male, but brown, with dark subterminal band; bill and legs as in male.

Juvenile: upperparts brown, with some chestnut, and brown wing-tips; rump white; underparts rufous, with heavy, dark brown streaking and spotting on breast, lighter on belly; tail as in female; bill and legs as in adults.

Hunting Strategies:

The diet is variable, depending on dominant prey types in the area. In areas with large populations of small mammals, they make up 95% of the diet. In northern grasslands, the diet may be almost exclusively *Microtus* voles. Northern harriers also eat other small vertebrates, including snakes, frogs, passerine birds, and small waterfowl. When hunting for food, harriers glide at a slow pace close to the ground until prey is found. Harriers then dive quickly to capture it. They may also hide in vegetation, waiting to pounce on prey. They sometimes store extra prey to eat later.

Habitat and Range:

Northern harriers are found throughout the northern hemisphere. In the Americas they breed throughout North America from Alaska and Canadian provinces south of tundra regions south as far as Baja California, New Mexico, Texas, Kansas, and North Carolina. They are only rarely seen breeding in parts of the Atlantic coastal states, such as Vermont, Rhode Island, and Maine and are similarly rare in the arid and mountainous western interior, including most of California, Oregon, and Washington. Their winter range is from southern Canada to the Caribbean and Central America.

In the Palearctic, northern harriers breed throughout Eurasia, from Portugal in the west, to Lapland and Siberia in the north, and east through China. They winter in northern African and tropical Asia.

Northern harriers are found mainly in open habitats such as fields, savannas, meadows, marshes, upland prairies, and desert steppe. They also occur in agricultural areas and riparian zones. Densest populations are found in large expanses of undisturbed, open habitats with dense, low vegetation. In eastern North America northern harriers are found most frequently in wetland habitats. In western North America they are most abundant in upland habitats such as desert steppe. Northern harriers avoid forested and mountainous areas.

During breeding season both sexes tend to be territorial around the nests, but otherwise, home ranges tend to overlap. Monogamous male territories tend to be approximately 260 ha (2.6 km square) in size, ranging from 170 (1.7 km square) to 15,000 (150 km square) ha.

Reproduction:

Adult males show interesting behaviors during mating season. During mating season the male courts the female by flying high in the air and then dives down twirling and spinning. Males are sometimes polygynous and have 1 to 3 mates. During incubation the male provides food for the female, but he doesn't approach the nest. When he is near the nest he will call out, and as she comes to him he drops the food to her. During the breeding season northern harriers become very territorial and will attack other hawks, birds, or humans that approach their nesting areas.

Most males are monogamous, although some males are polygynous, having been known to pair with up to five mates in a season. Females are monogamous. This is due, not only to the female-biased sex ratio, but also to the abundance of food during the spring.

Harriers often nest in loose colonies of 15 to 20 individuals. The nest, built mostly by the female, is made out of sticks and padded on the inside with grass. The nest is built on the ground, often on raised mounds of dirt or clumps of vegetation.

Eggs are laid from mid-May to early June. They are white with a blue tint, and occasionally have brown spots. The eggs are approximately 47 x 36mm. Three to five eggs are laid, and incubation is only by the female.

The eggs hatch in approximately 31 to 32 days. Male harriers will contribute to the feeding of their offspring during the time they are in the nest and will watch over the nest for a maximum of 5 minutes when the female is away.

Harriers often nest in loose colonies of 15 to 20 individuals. The nest, built mostly by the female,

is made out of sticks and padded on the inside with grass. The nest is built on the ground, often on raised mounds of dirt or clumps of vegetation.

Eggs are laid from mid-May to early June. They are white with a blue tint, and occasionally have brown spots. The eggs are approximately 47 x 36mm. Three to five eggs are laid, and incubation is only by the female.

The eggs hatch in approximately 31 to 32 days. Male harriers will contribute to the feeding of their offspring during the time they are in the nest and will watch over the nest for a maximum of 5 minutes when the female is away.

Breeding interval: Northern harriers breed once per season.

Breeding season: Primary females breed from April through July, while secondary females breed from May through September.

Eggs per season: 3 to 5; avg. 4.40

Time to hatching: 28 to 36 days

Time to fledging: 30 to 35 days

Age at sexual or reproductive maturity (female): 2 years (average)

Age at sexual or reproductive maturity (male): 3 years (average)

Lifespan / Longevity:

There is very little information known concerning the lifespan of northern harriers. The longest lifespan reported is 16 years and 5 months. The average lifespan, however, is 16.6 months. The oldest reported breeding female was 8 years old.

Behavior:

Besides flying, northern harriers walk and hop. They use this method of locomotion while retrieving prey, collecting nesting materials, and retrieving nestlings that have strayed from the nest.

Harriers typically fly slow and low to the ground, gliding often, and sometimes seeming to hover. They occasionally soar. Males fly faster and are more agile in flight than either females or juveniles and have been seen overtaking prairie falcons.

Northern harriers may nest alone or in loose assemblages. Territorial behavior is minimal especially during the breeding season, except at the nest site where both males and females will defend their territory against conspecific intruders. In winter, however, females aggressively exclude males from prime feeding territories. Despite this strong territoriality on the part of females, individuals of both sexes roost on the ground communally during the non-breeding season. During migration, northern harriers, like other raptors, prefer not to fly over open water. Northern harriers are active during the day and spend much of their time hunting.

Communication:

Northern harriers are especially vocal around the nest. Sounds of courtship are reflected by rapid kek, quik, or ek notes in series. Calls of distress are urgent and high pitched, also in rapid succession. This call is more nasal-sounding in males than in females.

There also exists a "food call", which is observed most frequently during breeding season.

Females issue a piercing eeyah, eeyah scream, which may be repeated for several minutes. This is responded to by a barely audible purrduk chuckle by the male, which solicits the female from the nest.

Young harriers emit a "begging call" when they hear their parents or in response to seeing their parents fly overhead. This sound is often referred to as a pain call, and it is a series of chit notes. This sound only becomes more emphatic with increasing age.

Northern harriers, like most raptors, have a keen sense of vision. Northern harriers are unusual in that their owl-like facial ruff enhances their sense of hearing, which they use extensively in finding prey.