

BLACK-BILLED MAGPIE - PICA HUDSONIA

Taxonomy: Kingdom: Animalia Phylum: Chordata Class: Aves Order: Passeriformes Family: Corvidae Genus: Pica Species: P. hudsonia

Habitat:

Biomes: Black-billed Magpies live among the meadows, grasslands, and sagebrush plains of the West. Their nesting territories often follow stream courses. Though they like open areas and are not found in dense woods, they stay close to cover for protection from raptors. Magpies don't avoid human development, often spending time near barnyards, livestock areas, and grain elevators where they have ready access to food.

Distribution:

In US: Inhabits the western half of North America, from Colorado, to southern coastal Alaska, to Central Oregon, to northern California, northern Nevada, northern Arizona, northern New Mexico, central Kansas, and Nebraska.

In Other Countries: Resident from British Isles, Scandinavia, n. Russia, and central Siberia south to Mediterranean region, nw. Africa, Near East, Iran, Himalayas, se. Asia, e. China, Formosa, Korea, and Japan.

Holistic Description: Black-billed Magpies are familiar and entertaining birds of western North America. They sit on fenceposts and road signs or flap across rangelands, their white wing patches flashing and their very long tails trailing behind them. This large, flashy relative of jays and crows is a social creature, gathering in numbers to feed at carrion. They're also vocal birds and keep up a regular stream of raucous or querulous calls.

Species Richness: 11-13 SUBSPECIES RECOGNIZED.

Population Dynamic: In the United States, black-billed magpies are protected under the Migratory Bird Treaty Act, but "[a] Federal permit shall not be required to control ... [magpies] when found committing or about to commit depredations upon ornamental or shade trees, agricultural crops, livestock, or wildlife, or when concentrated in such numbers and manner as to constitute a health hazard or other nuisance". State or local regulations may limit or prohibit killing these birds as well. The species is not threatened and in some areas it has benefited from forest fragmentation and agricultural developments. Like many corvids, however, it is susceptible to West Nile virus.

Evolution and Systematics:

Evolution: Genus Pica probably arrived in New World via Bering Land Bridge, but long before humans came across. Last land bridge was flooded between 10,000 and 12,000 years ago, and magpies were almost certainly in New World well before that. Some Pleistocene records of magpies are well outside their present range, including records from nw. Alabama, Virginia, Texas panhandle, and Shelter Caves, NM.

Systematics: Clinal variation extends across some of these groups in (1) body size; (2) wing, tail, and bill lengths, and their relative proportions; (3) relative amount of black and white exposed in plumage; and (4) pattern and color of iridescence. Compared with Old World races, hudsonia has: (1) lighter build, with mass of adult male averaging 186 g versus averages 201-241 g; (2) tail and wing average longer than most Eurasian populations; (3) innermost primary has smaller white spot on inner web and this spot rarely occupies edge of web; (4) throat-feathers have concealed white spotting at base and setaceous shafts are less well developed; (5) iris has whitish outer ring in the summer and fall; (6) bill is thinner and slightly longer.

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Physical Characteristics:

Size and Length: Length: 17.7-23.6 in (45-60 cm) Weight: 5.1-7.4 oz (145-210 g)

Wingspan: 22.1-24.0 in (56-61 cm)

Coloration: These birds are black and white overall with blue-green iridescent flashes in the wing and tail. The upperparts are mostly black with a white patch in the outer wing and two white stripes ("backpack straps") on the back.

General Body Features: Black-billed Magpies are slightly larger than jays with much longer, diamond-shaped tails and heavier bills. In flight, their wings seem to be too short to support their graceful flight.

Special Features of the Body: The elongated tails of magpies also function as beneficial adaptations. They help steer magpies into their desired directions while in the midst of flying, a la rudders. This enables them to be more nimble when they fly, even though flying isn't their strongest suit. When magpies fly through rather cramped environments, their tails often come in handy.

Special Features of the Head and Sensory Organs: NONE

Dentition: BEAK/LAMELLAE/GIZZARD

Special Features of the Limbs and Digits: Magpies luckily possess sizable, sturdy feet that are full of scales. They often employ these feet in times of eating, as they're capable of tightly seizing food. They have tough limbs in general, and as a result are efficient at jumping.

Any Special Internal Anatomy: NONE

Sexual Dimorphisms: Sexes distinguished by differences in size (males are larger and have 16–20% greater mass than females).

Differences Between Juvenile Stage and Adult: Juveniles similar to adults, but duller overall, with less iridescent upperparts, buffier underparts, and rounder (less square) tips on rectrices. Immatures (after first Prebasic molt) similar to adults, but with smaller white patches on primaries and white on secondaries more often than in adults.

Behavior:

Diurnal, Nocturnal, or Crepuscular: Diurnal

Activity: On the wing, Black-billed Magpies make long, sweeping flights with white flashes of their wing patches and long, trailing tails. They perch at the tops of trees, which is a means of visually establishing their territory, the equivalent of other bird species' songs. Magpies walk with a swaggering strut. They sometimes gather in flocks, even seemingly living communally, and will band together to mob a raptor. In groups, males establish dominance through a stretch display: raising the bill in the air and flashing their white eyelids. They also show aggression with their wings, flickering or quivering them to display the white wing patches; and tails spreading, quivering, or flicking their elongated tail feathers. During courtship they also use a tail-spreading display. Black-billed Magpies mate for life. The female initiates the pair bond by begging for food from the male, which begins courtship feeding. During breeding, the male stands guard near the female to reduce the chance she'll mate with another male (which does occur). One of the most notable Black-billed Magpie behaviors is the so-called "funeral"—when one magpie discovers a dead magpie, it begins calling loudly to attract other magpies. The gathering of raucously calling magpies (up to 40 birds have been observed) may last for 10 to 15 minutes before the birds disperse and fly off silently.

Locomotion: On the ground, usually walks, often with apparent swaggering gait. When in a hurry or about to take off, hops, sometimes intermixing short flights with hops. This fly-hopping behavior appears to be used as visual signal to stimulate flock to follow; as the first magpie to leave a flock does this, then others frequently follow. Long tail allows quick changes in direction, almost instantaneously. When descending from heights, often repeats series of J-shaped swoops, with wings nearly closed in 20- to 30-m dives. Level flight is labored and slow. Able to maintain steady flight in wind tunnel with flight speed of only 4–14 m/s.

Communication and Perception: Black-billed Magpies are very vocal birds. Their two primary vocalizations are a harsh, ascending call and a raspy chatter. Call a harsh, chattering "wock, wock wock-a-wock, wock, pjur, weer, weer."

Home Range: Treetop-Sitting is a behavior that denotes ownership of space. It might not look like a territorial display, but it is equivalent to song in other songbirds. An individual simply sits in top of tree for extended periods of time, with white flanks fluffed so that dark wings are hidden. Black ends and white middle make this bird highly visible; this behavior allows it to advertise its presence inexpensively and overlook its own and its neighbor's territories. Marked variability of nest spacing and defense in this species. Nests can be well spaced or approach coloniality when food is available and disturbance is low.

Degree of Sociality: Adults cooperate to mob raptors; up to 6 pairs join in. Resident pair, especially male, mob most vigorously. Juvenile magpies are the most social age class, but adults join juvenile flocks during fall and winter. Communal roosts form in nonbreeding season, often holding >200 individuals in midwinter. Roosts are at traditional sites, but magpies will use alternate site if danger threatens.

Level of Aggression: Rarely fights. After failure to establish dominance relationships with vocal and visual signals, individuals sometimes jump into air in attempt to kick each other. May lock feet; then the more dominant bird stands over the more submissive one, which lies on its back. Amid much excited calling, dominant bird repeatedly and violently jabs with its bill at chest of submissive bird. Commotion attracts any nearby magpies, which stand around calling loudly. Often a bystander pulls tail of dominant bird, which causes it to turn around, often freeing the downed bird before it is harmed.

Migration: Resident, with some regional winter movements.

Predators:

Predators: American Crows, Fox Squirrels, Long-tailed Weasel, Northern Harrier, Mink, Domestic Cat, Feral Cat, Raccoon, Northern Harrier, Red-tailed Hawk, Swainson's Hawk, Common Raven, Great Horned Owl

Anti-Predator Defenses: Regularly mobs domestic cats, coyotes, foxes, owls, and raptors; raucous calls attract other magpies. This noisy group effect makes it difficult for predator to hunt effectively, and thus forces it to move on. Mobbing also teaches naive birds which predators are dangerous. Graded alarm calls give precise information about predator and amount of danger

involved. Response of magpies to predator is fine-tuned, depending on type of predator and stage of nesting. For example, crows and squirrels are vigorously mobbed when eggs are in nest; flying raptors pose the greatest threat to newly fledged young, and thus are mobbed intensively at that stage.

Diet and Nutrition:

Adult Diet: Like other corvids (members of the jay and crow family), Black-billed Magpies have a wide-ranging diet. They eat wild fruit and grain, as well as grasshoppers and beetles that they find while foraging on the ground (they sometimes find beetles by flipping cow dung). They also kill small mammals such as squirrels and voles, and raid birds' nests. Carrion is also a main food source, as are the fly maggots found in carrion. Sometimes they steal meat from the kills of coyotes and foxes. Magpies also land atop large animals, such as cows or moose, and pick ticks off them. When they find an abundant food source, magpies will cache food for short periods.

Juvenile Diet: ^^^^^^^

Special Adaptations for Getting Prey: Forages on ground in open areas, rarely in trees. Opportunistic and omnivorous feeder; like Yellow-billed Magpie, individuals watch each other, as well as predators with food, and gain information about potential food sources. Also steals food from predators, or takes leftovers when predator is finished. Eats grain or flips dried cow manure, looking for insects, as do other corvids. Turns over ground litter with either bill or feet; such scratching behavior with feet has not been observed in other corvids. To make a cache, the bird pushes or hammers its bill into the ground (or snow), forming a small hole into which it deposits the food items it was holding in a small pouch under its tongue. It may, however, then move the food to another location, particularly if other magpies are in the vicinity, watching.

Reproduction:

Mode of Reproduction: Monogamous

Mating System: Monogamous; some pairs remain together for life. Bigamy observed, but rare. Incidence of divorce varies, presumably depending on local conditions and perhaps human disturbance; as low as 8%.

Mating Season: Late March to Early July

Courtship: Courtship consists of male circling female with his wings flashing and his flared tail held high, tilted toward her. Females prefer adult males, even when adult is submissive to young male. The beautifully iridescent tail of adult males has longer central tail feathers, and each feather is more square at the tip than that of juveniles.

Territoriality: HOME RANGE

Mating: Copulation is brief (1–2 s) and may happen as few as 3 times/clutch.

Nest Placement: Both sexes seem to choose a nesting site together (though sometimes they disagree and each begin building separate nests in different locations). They build their dome nests in conifer trees, deciduous trees, shrubs, utility poles, and even in deserted buildings. They will nest in open woodlands, riparian thickets, farm fields, and suburban areas.

Nest Description: Black-billed Magpie pairs share the work of building their domed nests, which vary widely in size but are typically about 30 inches high and 20 inches wide. The male gathers sticks for the exterior. The female tends to the interior, forming a mud cup and lining it with grass.

Egg-Laying: Clutch Size: 1-9 eggs Number of Broods: 1 brood Egg Length: 1.2-1.5 in (3-3.7 cm) Egg Width: 0.8-1.0 in (2-2.5 cm) Incubation Period: 16-19 days Nestling Period: 24-30 days Egg Description: Tan or olive-brown with variable amount of dark brown speckles

Hatching and Incubation/Gestation: Helpless and naked with pink skin. Eyes are closed for the first 7 days.

Development: Altricial and nidicolous; skin pink, naked; eyes remain closed for 7 d.

Parental Care: Only female broods; intensity decreases linearly from about 90% of her time on hatching day to <30% 10 d later. Both sexes feed nestlings; female's contribution increases after first week to slightly less than that of male.

Lifespan: 4 to 6 years.

Conservation:

Official Federal Status: Least Concern

Special Statuses in Individual States: NONE

Threats: Black-billed Magpies populations have been decreasing every year from 1966 to 2014, particularly on prairies, resulting in a cumulative decline by about 26%, according to the North American Breeding Bird Survey. Partners in Flight estimates the global breeding population at 5.4 million, with 63% spending part of the year in the U.S., and 50% in Canada. They rate a 7 out of 20 on the Continental Concern Score and they are not on the 2014 State of the Birds Watch List. They have been vulnerable to toxic chemicals, particularly topical pesticides applied to the backs of cattle which magpies ingest when gleaning ticks off livestock. In the past Black-billed Magpies were persecuted by farmers, ranchers, and game managers who considered them to be vermin, but today they are fully protected under the Migratory Bird Treaty Act.

Conservation Efforts: ^^^^^^^

Extra Facts:

1. The Black-billed Magpie makes a very large nest that can take up to 40 days to construct. It's a lot of work, but a study found that it only used about 1% of the daily energy expenditure of the pair. Laying eggs, on the other hand, takes 23% of the female's daily energy budget.
2. Historical records of the American West indicate that Black-billed Magpies have been associates of people for a long time. Magpies frequently followed hunting parties of Plains Indians and fed on leftovers from bison kills. On their expedition, Lewis and Clark reported magpies boldly entering their tents to steal food.
3. Like most members of the jay family, the Black-billed Magpie is a nest predator, although eggs and nestlings make up only a tiny portion of the bird's overall diet.
4. The Black-billed Magpie frequently picks ticks from the backs of large mammals, such as deer and moose. The magpie eats the ticks or hides some for later use, as members of the crow and jay family often do with excess food. Most of the ticks, however, are cached alive and unharmed, and may live to reproduce later.
5. The longest-living Black-billed Magpie on record was at least 9 years, 4 months old and lived in Idaho.

Notable Species: NONE, NORTH AMERICAN SPECIES IS *P. p. Hudsonia*.