MALLARD - ANAS PLATYRHYNCHOS

Taxonomy: Kingdom: Animalia Phylum: Chordata Class: Aves Order: Anseriformes Family: Anatidae Genus: Anas Species: A. platyrhynchos

Habitat:

Biomes: Mallards can be found in almost any wetland habitats, including permanent wetlands such as marshes, bogs, riverine floodplains, beaver ponds, lakes, reservoirs, ponds, city parks, farms, and estuaries. They also occur in prairie potholes and ephemeral wetlands; they may be found feeding along roadside ditches, pastures, croplands and rice fields.

Flight Ceiling: 400 to 2,000 feet

Temperature: Can survive temperatures as low as -15 degrees F with out any hassle/problem.

Distribution:

In US: The mallard is widely distributed across the Northern and Southern Hemispheres; in North America its range extends from southern and central Alaska to Mexico, the Hawaiian Islands, across Eurasia, from Iceland and southern Greenland and parts of Morocco (North Africa) in the west, Scandinavia and Britain to the north, and to Siberia, Japan, and South Korea, in the east, south-eastern and south-western Australia and New Zealand in the Southern hemisphere. It is strongly migratory in the northern parts of its breeding range, and winters farther south. For example, in North America, it winters south to the southern United States and northern Mexico, but also regularly strays into Central America and the Caribbean between September and May.

In Other Countries: INCLUDES INFORMATION, LOOK UP

Holistic Description: Mallards occur throughout North America and Eurasia in ponds and parks as well as wilder wetlands and estuaries. The male's gleaming green head, gray flanks, and black tail-curl arguably make it the most easily identified duck. Mallards have long been hunted for the table, and almost all domestic ducks come from this species.

Species Richness: 3 SUBSPECIES

Population Dynamic: The U.S. Fish and Wildlife Service and the Canadian Wildlife Service annually survey waterfowl in a traditional survey area that comprises parts of Alaska, Canada, and the north-central United States, an area covering approximately 3.4 million km2. In 2018, the Mallard breeding population estimate for the traditional survey area was 9.25 million, 17% above the long-term (1955–2017) average (386). In 2018, there was an estimated 1.1 million additional Mallards in the Eastern Survey region, about 15% below the long-term (1990–2017) average (386).

Evolution and Systematics:

Evolution: Fossils are commonly found in collections from Late Pleistocene through Early Holocene periods (30,000–9,000 yr bp) throughout Holarctic (143, 13, 144). In North America, fossils found in at least 13 different U.S. states, mainly in West, Midwest, and Southeast, and in Cuba. In Eurasia, fossils known from at least 17 different countries, including British Isles, Malta, Azerbaijan, and Mongolia (143). Fossils are usually found in former wetland sediments, caves used by pack rats, carnivores, and humans, or occasionally in tar pits (e.g., La Brea, California)

Systematics: With the Anas diazi, the Mexican Duck, of the southwestern United States and northern Mexico treated as a separate species (see Related Species), A. platyrhynchos has 2 subspecies diagnosed chiefly on the basis of body size, although plumage color differs, too.

Number of Species: NONE LOOK AT SUBSPECIES

Number of Genera: NONE LOOK AT SUBSPECIES

Physical Characteristics:

Size and Length: Length: 19.7-25.6 in (50-65 cm) Weight: 35.3-45.9 oz (1000-1300 g)

Wingspan: 32.3-37.4 in (82-95 cm)

Coloration: Male Mallards have a dark, iridescent-green head and bright yellow bill. The gray body is sandwiched between a brown breast and black rear. Females and juveniles are mottled brown with orange-and-brown bills. Both sexes have a white-bordered, blue "speculum" patch in the wing.

General Body Features: These birds have developed feathers that enable them to blend in to their habitat quite well. The females have brownish feathers that mimic that of the marshes, potholes, and smaller reed-covered waterways that make them almost undetectable. The young have similar colored down before they mature and grow their more distinctive feathers.

Special Features of the Body: The Mallard, unlike many other large birds, has the ability to take off or 'explode' out of the water almost vertically. Many other diving birds, such as the loon, need a large area to take off. The Mallard almost jumps right out of the water and can ascend rapidly before leveling off. This is due to the enormous force generated by the wings, in conjunction with the rapid paddling of its webbed feet. This ability enables them to escape danger very quickly.

Special Features of the Head and Sensory Organs: The bill has been flattened out and uses well defined lamellae for use in filter-feeding on items underwater in debris-filled water. Since the bill is optimized for filter-feeding and not biting and tearing food, and does not have talons to tear apart food, the Mallard needs an efficient way to digest the food it consumes. Many birds have a gizzard to do this, in addition to a true stomach. The gizzard is used to grind and squish the food that is ingested. The Mallard will often swallow small rocks or similar objects which travel down to the gizzard and aid in breaking down the food. This food is then passed on to the true stomach where most of the digestion will take place.
Dentition: The food it takes in goes through the lamellae then the gizzard, look up for more information.
Special Features of the Limbs and Digits: Webbed feet allow the Mallard to paddle quickly and efficiently on the water and underwater if necessary. Most birds that have webbed feet can move efficiently through the water, but usually walk awkwardly on land. The caudal arrangement (further towards the tail end compared to other related birds) of the feet help the feet aid the Mallard in walking less awkwardly.
Any Special Internal Anatomy: NONE
Sexual Dimorphisms: CHECK COLOR
Differences Between Juvenile Stage and Adult: Size, Mass, Color, CHECK COLOR. In both sexes, upperparts and underparts like Definitive Basic female, except neck and sides of face with narrow dark streaking, upperpart feathers rounded and broadly fringed buff to cinnamon, and crown usually with faint buff streaks. Rectrices weakly constructed and with deeply notched tips. The yellow bill color indicates the top bird to be a Juvenile male.
IMPORTANT INFORMATION: Owing to their highly 'malleable' genetic code, mallards can display a large amount of variation
Behavior:
Diurnal, Nocturnal, or Crepuscular: DIURNAL
Activity:
Generally feeds day and night. In North Dakota, major daylight activities of prenesting pairs include resting (~65%), feeding (~15%), preening and bathing (~5%), locomotion (~8%); hens fed 18% of time during prelaying period, 55% of time during laying, and 38% of time when off nest during incubation; during same periods, paired males fed only 15%, 20%, and 9% of time, respectively, spending more time alert (5–9%) than their mates (1–4%; 107). Incubating females usually leave nest twice a day and fly to nearby wetlands to feed, bathe, and preen. Feeding occupies 65% and 80% of female's time off nest during incubation recesses in initial and renest phases, respectively
AND
Mallards are an abundant city and suburban park duck and because of constant feedings by park visitors, they can become very tame and approachable. In more natural settings and where Mallards are heavily hunted, they can be very wary of approaching people. They commonly associate with and may hybridize with other dabbling ducks. Mallards have a huge variety of displays that can be fascinating to watch and decipher. Most displays are ritualized versions of common motions: males may face off with a head-bob, threaten an aggressor with an open bill, or push against each other, breast to breast. Paired males defend their territories with vigorous acrobatic chases. Males court females by shaking or flicking the head side to side, looking over their shoulder, or raising up in the water and flapping their wings. Several males often gather around a female to display. A female encourages a male by nodding her head back and forth or paddling with her head held low.
Locomotion: Walks and runs with agility, with only minor waddle. Does not regularly alight in trees, but can perch on elevated sites under special circumstances; e.g., when female tries to evade harassing males in spring and when female nests in elevated site (e.g., tree stumps, nesting structures, buildings). Postures in flight described and illustrated by photographs in Queeny. Flight strong and usually direct; at takeoff, 10–12 wing beats/s. Can spring vertically from water surface when alarmed by flapping wings downward onto surface. Descends steeply when necessary, braking by beating wings horizontally and almost hovering just before alighting. Can maneuver with rapid turns during pursuit flights, but not so adept at twisting through trees as Wood Duck (Aix sponsa). Feet normally extend backward during flight, except in subzero temperatures, when can be tucked forward into flank-feathers.
Communication and Perception: Most call types in female repertoire are maternal calls, while most call types in male repertoire given during social courtship and agonistic displays. Vocalizations are calls, not songs.
Home Range: Paired male defends territory early in breeding cycle; territory boundaries often overlap but areas occupied are temporally exclusive (type 4 territory of Anderson and Titman. Defense against intruding pairs by three-bird flights most intense during laying period. Typical breeding home range includes nest site, various feeding areas, and ≥ 1 sites where male waits for female to join him during incubation recesses . After incubation starts, male attachment to waiting sites gradually wanes. Primary benefit of territoriality appears to be allowing female to feed with minimal disturbance while she has special nutrient requirements.

Degree of Sociality: Gregarious throughout year, except during territorial phase at beginning of breeding season, when pairs disperse. Unpaired males and males that have deserted their incubating mates associate in small flocks on breeding grounds. Usually lives in large flocks of hundreds or thousands on molting, migration, and wintering areas.
Level of Aggression: Overt aggression by males frequently associated with pair formation and mate defense in wintering flocks and territory defense early in breeding season. On water and land, male gives open-bill threat, rushes at opponent with head held low, chases by running, and pecks or bites opponent. Fighting involves breast-to-breast pushing, opponents' bills pointing down in front; frequently results in denuded patches on males' breasts during pairing disputes in winter. At high intensities, blows also struck with wings, and circular fighting may occur. On territory boundaries, evenly matched males rush along flapping over water, side by side.
Migration: Short to medium-distance partial migrant; many populations in North America and temperate western Europe are sedentary. Migrates along distinct corridors, 80–250 km wide, between breeding and wintering grounds. Generally uses same corridor for both spring and autumn migration and is faithful to migration corridor after first year (89). Mallards from one breeding area use several different corridors to different wintering areas. Unlike many other dabbling ducks, no pattern between breeding and wintering latitude; i.e., Mallards breeding farthest north do not necessarily winter farthest south (90). Many urban populations and populations at the border between breeding and wintering ranges sedentary or undergo very short movements if water freezes over or if snow covers food.

Predators:

Predators: In breeding season, mammalian predators take more females than males because of vulnerability of females on nest, apparently major factor producing male-biased adult sex ratios in winter. During early breeding season, females on nests killed primarily by Red Fox; less often, and mainly later in breeding season, by American Mink. Coyote, Raccoon, and Long-tailed Weasel also take some adults. Great Horned Owlis a major avian predator; other avian species recorded include Gyrfalcon (Falco rusticolus), Peregrine Falcon (F. peregrinus), Prairie Falcon (F. mexicanus), Bald Eagle (Haliaeetus leucocephalus), Golden Eagle (Aquila chrysaetos), Northern Goshawk (Accipiter gentilis), Northern Harrier (Circus hudsonius), Swainson's Hawk (Buteo swainsoni), Red-tailed Hawk (B. jamaicensis), and Ferruginous Hawk (B. regalis). **Nests**. Red Fox and Striped Skunk (Mephitis mephitis) are the most important mammalian predators of eggs. In wooded habitats, American Crow (Corvus brachyrhynchos) and Black-billed Magpie (Pica hudsonia) can be major avian predators. Regionally important egg predators include Common Raven (Corvus corax), Franklin's Ground Squirrel (Spermophilus franklinii), Badger (Taxidea taxus), Raccoon, Coyote, and California Gull. **Ducklings**. Mink a major predator; also recorded: Northern Harrier, Black-crowned Night-Heron (Nycticorax nycticorax), California Gull, Herring Gull (Larus argentatus), several species of large fish, Snapping Turtle (Chelydra serpentina), and in urban areas, cats (Felis catus), dogs (Canis familiaris), and people..
Anti-Predator Defenses: During nest-site selection, loud Persistent Quacking by females believed to function as antipredator signal luring predators to reveal themselves (182). Nesting female relies on cryptic coloration and immobility to avoid detection. Egg-laying female readily flushes from nest when approached, and many such nests abandoned (263). During late incubation and hatching, female usually leaves nest only when approached closely and then flaps over ground in distraction display (264). Mallard freezes in death-feigning reaction when captured by fox, which sometimes allows escape when fox loosens its grip (265). Flocked Mallards on water become alert when they detect mammalian predators and males give Slow Raheb Calls; then may "toll" (approach and follow watchfully). May flush from water when harried by raptors, but also may seek water or cluster and remain motionless on water; recorded mobbing Bald Eagles by flying close behind (266). Wintering ducks may use shrub/scrub habitats for roosting and courtship; less vulnerable there to attack by avian predators (53). When sleeping, monitors environment by peeking (briefly open eyes) or sleeping with one eye open

Diet and Nutrition:

Adult Diet: Mallards are generalist foragers and will eat a wide variety of food. They don’t dive, but dabble to feed, tipping forward in the water to eat seeds and aquatic vegetation. They also roam around on the shore and pick at vegetation and prey on the ground. During the breeding season, they eat mainly animal matter including aquatic insect larvae, earthworms, snails and freshwater shrimp. During migration, many Mallards consume largely agricultural seed and grain. In city parks, they readily accept handouts from parkgoers.
Juvenile Diet: Omnivorous and opportunistic, generalist feeder. During breeding season, eats mostly animal foods, including insects such as midge larvae (Chironomidae) and other Diptera, dragonflies (Odonata), and caddisfly (Trichoptera) larvae, aquatic invertebrates such as snails and freshwater shrimp, and terrestrial earthworms. Outside of breeding season, diet predominately seeds from moist-soil plants, acorns (Quercus spp.), aquatic vegetation, and cereal crops (especially corn, rice, barley [Hordeum sp.], and wheat [Triticum sp.]). Agricultural foods usually dominate diet during autumn migration and often

during winter, depending on the relative availability of natural versus agricultural foods. In winter, urban Mallards often rely entirely on human-provided food, such as bread or seeds.
Special Adaptations for Getting Prey: Bill efficiently filters small food particles from water with closely spaced, bladelike lamellae along each side of jaw; water enters near or at bill tip and exits out sides. Uses nail at bill-tip to grasp small items or pull at food such as corn kernels from cob. Inefficient at tearing vegetation: grasps vegetation with nail and jerks head downward and backward

Reproduction:

Mode of Reproduction: Monogamous, but paired males actively pursue forced extra pair copulations, resulting in mixed paternity of broods. Sex ratio is generally male-biased, although many factors influence local sex ratios. During winter pairing season, sex ratios in North America average 1.33 males/female.
Mating System: Three types of copulation: pair copulation (PC), forced extra-pair copulation (FEPC), and forced-pair copulation (FPC; 225). PC occurs while pair is swimming, preceded by mutual Head-Pumping and followed by postcopulatory Bridle + Steam + TBH displays by male. FEPC and FPC involve pursuit of female by male and are not preceded by Head-Pumping (see below). During prelaying and laying period, PC occurs several times each day; may be initiated by either sex.
Mating Season: early March and extends into late May.
Courtship: Courtship described and illustrated by many authors (see especially Lorenz [213] in Martin 1971, 14). Social courtship occurs on open water. Several males gather around one female and perform displays directed at her. Initially males assume introductory posture (see Lorenz [213] in Martin 1971), head sunk in shoulders, which may be held for several minutes. Males specify their interest in female by directing ritualized shaking movements (Head-Shake, Head-Flick, Swimming-Shake) to her from a position broadside to female (214). Single males try to attract female's attention by Jump Flights (215). Female stimulates males to give displays by Nod-Swimming (nodding head back and forward with neck erect, or Steaming with head low over water; 216).
Territoriality: Paired male defends territory early in breeding cycle; territory boundaries often overlap but areas occupied are temporally exclusive (type 4 territory of Anderson and Titman [200]). Defense against intruding pairs by three-bird flights most intense during laying period (201). Typical breeding home range includes nest site, various feeding areas, and ≥ 1 sites where male waits for female to join him during incubation recesses (202). After incubation starts, male attachment to waiting sites gradually wanes. Primary benefit of territoriality appears to be allowing female to feed with minimal disturbance while she has special nutrient requirements (197).
Mating: Always with a pair that is formed in December-January and continued through breeding season, while cases of male “rape” are extremely common and can lead to deaths in females.
Pheromones Involved: N/A
Nesting: Mallards nest on the ground on dry land that is close to water; nests are generally concealed under overhanging grass or other vegetation. Occasionally, Mallards nest in agricultural fields, especially alfalfa but also winter wheat, barley, flax, and oats. Both urban and wild populations readily nest in artificial nesting structures. Pairs search for nest sites together, typically on evening flights circling low over the habitat. Occasionally nests are placed on floating mats of vegetation or woven into plant stems that rise out of the water. The female forms a shallow depression or bowl on the ground in moist earth. She does not carry material to the nest but rather pulls vegetation she can reach toward her while sitting on nest. During egg-laying phase, she lines the nest with grasses, leaves, and twigs from nearby. She also pulls tall vegetation over to conceal herself and her nest. After incubation begins, she plucks down feathers from her breast to line the nest and cover her eggs. The finished nest is about a foot across, with a bowl for the eggs that is 1–6 inches deep and 6–9 inches across.
Egg-Laying: Clutch Size: 1-13 eggs Number of Broods: 1-2 broods Egg Length: 2.1-2.5 in (5.3-6.4 cm) Egg Width: 1.5-1.8 in (3.9-4.5 cm) Incubation Period: 23-30 days Egg Description: Unmarked creamy to grayish or greenish buff.
Hatching and Incubation/Gestation: Newly hatched birds are covered in down and alert; they are ready to leave the nest within 13–16 hours.
Development: In South Dakota, downy stage approximately ages 1–25 d, mixed down and feather stage 25–46 d, and preflight feathered stage 46–60 d (37). Young birds can fly at age 52–70 d, although schedule appears advanced by up to 10 d in Alaska (13, 15).
Parental Care: Only hen cares for ducklings. Ducklings feed themselves without assistance. Hen leads brood from nest to water and to abundant food. Broods ducklings until about 2 wk old (296, 224). Protects brood by calling to regroup strays, gives alarm calls to warn of danger, or uses broken-wing displays to distract predators away. Hen leaves brood for recesses; average absence > 27 min (range 2 min to over 80 min) in Minnesota (195). Hen may leave older broods for recess during day and return to accompany them at night (307).

Lifespan: The adulthood age for mallards is fourteen months, and the average life expectancy is three years, but they can live to twenty.

Conservation:

Official Federal Status: Least Concern

Special Statuses in Individual States:

Threats: Mallards are the most widespread and abundant duck in North America and their populations have been slightly increasing from 1966 to 2014, according to the North American Breeding Bird Survey. Their numbers increase during wet periods and decline when there are droughts in the middle of the continent—over the last 50 years their estimated numbers have cycled between about 5 million and 11 million. The U.S. Fish and Wildlife Service estimates the 2014 North American population at around 11.6 million breeding birds. The species is not on the 2014 State of the Birds Watch List. Mallards are also the most heavily hunted North American ducks, accounting for about 1 of every 3 ducks shot. State and federal wildlife agencies keep close track of the numbers shot—visit www.flyways.us to see summaries of duck numbers and hunting statistics. Like other waterfowl, Mallards can be poisoned when they ingest lead shot while feeding. In 1977, a mandatory switch to steel shot along the Mississippi Flyway helped greatly alleviate lead poisoning in Mallards. This species can also be affected by poor water quality, including mercury, pesticide, and selenium pollution, wetland clearing or drainage, and oil spills.

Conservation Efforts: LOOK UP

Extra Facts:The Mallard is the ancestor of nearly all domestic duck breeds (everything except the Muscovy Duck). Domestic ducks can be common in city ponds and can be confusing to identify—they may lack the white neck ring, show white on the chest, be all dark, or show oddly shaped crests on the head.

The widespread Mallard has given rise to a number of populations around the world that have changed enough that they could be considered separate species. The "Mexican Duck" of central Mexico and the extreme southwestern United States and the Hawaiian Duck both are closely related to the Mallard, and in both forms the male is dull like the female. The Mexican Duck currently is considered a subspecies of the Mallard, while the Hawaiian Duck is still given full species status.

Mallard pairs are generally monogamous, but paired males pursue females other than their mates. So-called “extra-pair copulations” are common among birds and in many species are consensual, but male Mallards often force these copulations, with several males chasing a single female and then mating with her.

Mallard pairs form long before the spring breeding season. Pairing takes place in the fall, but courtship can be seen all winter. Only the female incubates the eggs and takes care of the ducklings.

Ducks are strong fliers; migrating flocks of Mallards have been estimated traveling at 55 miles per hour.

The standard duck’s quack is the sound of a female Mallard. Males don’t quack; they make a quieter, rasping sound.

Mallards, like other ducks, shed all their flight feathers at the end of the breeding season and are flightless for 3–4 weeks. They are secretive during this vulnerable time, and their body feathers molt into a concealing “eclipse” plumage that can make them hard to identify.

Many species of waterfowl form hybrids, and Mallards are particularly known for this, hybridizing with American Black Duck, Mottled Duck, Gadwall, Northern Pintail, Cinnamon Teal, Green-winged Teal, and Canvasback, as well as Hawaiian Ducks, the Grey Duck of New Zealand, and the Pacific Black Duck of Australia.

The oldest known Mallard was a male, and at least 27 years, 7 months old when he was shot in Arkansas in 2008. He had been banded in Louisiana in 1981.

Pet Information: Kept usually as relatively common exotic pets.

Notable Species:

A. p. platyrhynchos Linnaeus, 1758

A. p. domesticus Linnaeus, 1758

A. p. conboschas C. L. Brehm, 1831 (disputed)