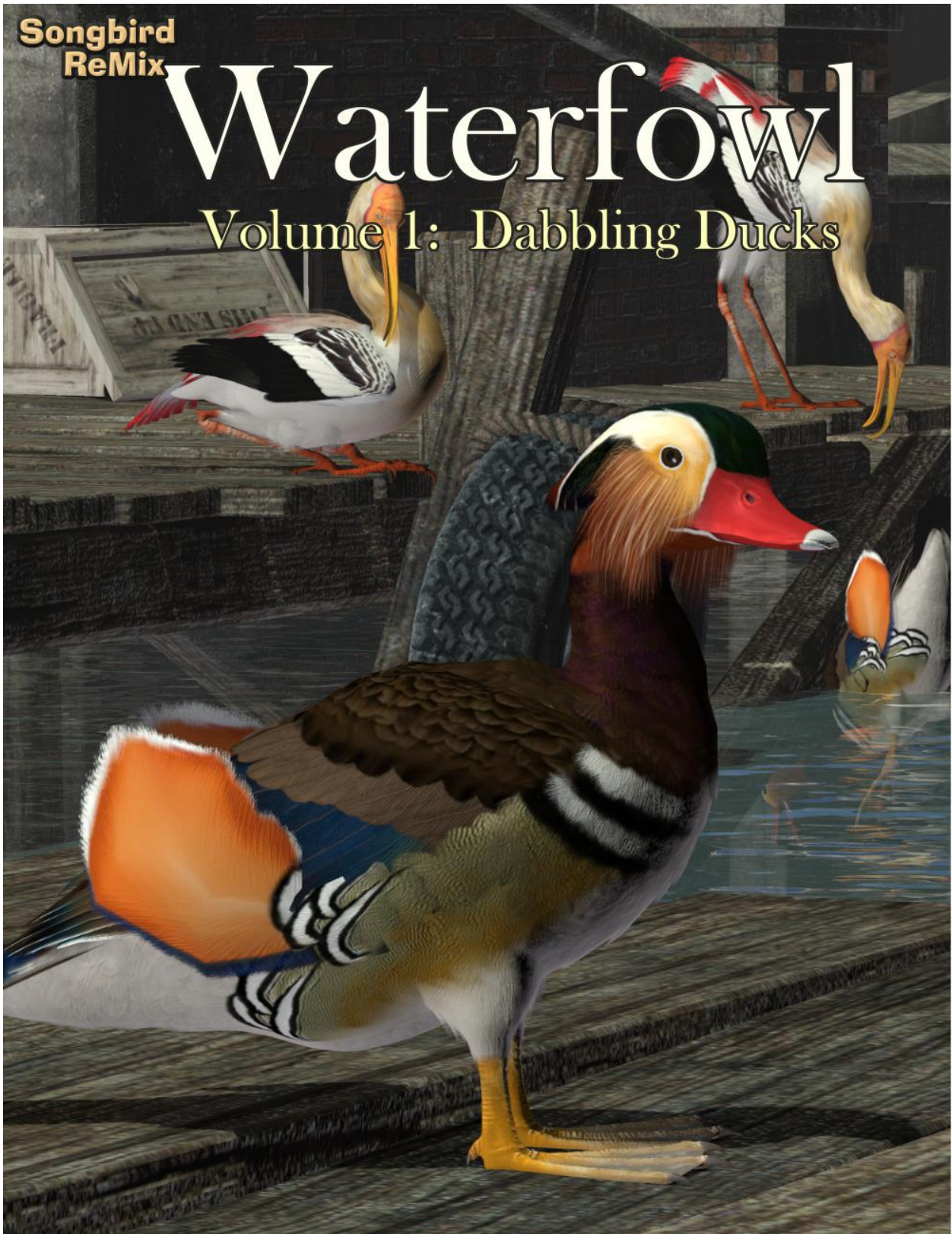


Songbird
ReMix

Waterfowl

Volume 1: Dabbling Ducks



Avian Models for 3D Applications
Characters and Texture Mapping by Ken Gilliland

Songbird ReMix

Waterfowl: Dabbling Ducks

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Songbird ReMix

Waterfowl: Dabbling Ducks

Introduction

There are two distinct groups of Ducks; Dabbling Ducks and Sea/Diving Ducks. They are divided into the two groups mostly by behavior.

Dabbling Ducks feed primarily along the surface of the water or by tipping headfirst into the water to graze on aquatic plants and vegetation. These ducks are infrequent divers and are usually found in small ponds, rivers and other shallow waterways. Dabbling ducks will also forage on land for seeds and insects. Physically, they have flat, broad bills and float high on the water while swimming. They tend to be very vocal birds.

Songbird ReMix Waterfowl: Dabbling Ducks include many of the most popular species found throughout the world from mallards and gadwall to teals and pintails.

Overview

The set is located within the **Animals : Songbird ReMix** folder. Here is where you will find a number of folders, such as **Bird Library**, **Manuals** and **Resources**. Let's look at what is contained in these folders:

- **Bird Library:** This folder holds the actual species and poses for the "premade" birds. Birds are placed into a "type" folder (such as "Birds of Prey (Order Falconiformes)" which for example would hold falcons, hawks and eagles). The birds for this set can be found in the following folder(s):
 - **Waterfowl (Order Anseriformes)**
- **Manuals:** Contains a link to the online manual for the set.
- **Props:** Contains any props that might be included in the set
- **Resources:** Items in this folder are for creating and customizing your birds
 - **Bird Base Models:** This folder has the blank, untextured model(s) used in this set. These models are primarily for users who wish to experiment with poses or customize their own species of bird. With using physical renderers such as Iray and Superfly, SubD should be turned to at least "3".

Poser Use

Select **Figures** in the **Runtime** Folder and go to the **Animals : Songbird ReMix** folder. Select the bird from the renderer *Firefly* or *Superfly* folder you want and simply click it to load. Some birds in the Songbird ReMix series may load with attached parts (*Conformers*) such as tail or crest extensions. Some of these parts have specific morphs. You will need to click on the attached part to access those controls. Associated poses can be found in the same folder- **Bird Library : (Type) : Poses**.

DAZ Studio Use

Go to the **Animals : Songbird ReMix** folder. Select the bird from the renderer (*3Delight* or *Iray*) folder you want and simply click it to load. Some birds in the Songbird ReMix series may load with attached parts (*Conformers*) such as tail or crest extensions. Some of these parts have specific morphs. You will need to click on the attached part to access those controls. Associated poses can be found in the same folder- **Bird Library : (Type) : Poses**. **Note:** Using the "Apply this Character to the currently selected Figure(s)" option **will not** properly apply the correct scaling to the bird selected. It is better to delete the existing character first and load the one you want to use.

Physical-based Rendering

Iray and **Superfly** requires more CPU and memory horsepower than the legacy renderers because of ray-trace bounces and higher resolution meshes needed for displacement. Poser's **Superfly** renderer will require that the "Min Transparent Bounces" be set to at least 16 and that the "Max Transparent Bounces" be set to at least 32 in render settings. Superfly renders may show artifacts in the head area. This is a known Poser issue and may be addressed in the future. Increasing the SubD may minimize this issue.

Where to find your birds

Type Folder	Bird Species
Waterfowl (Order Anseriformes)	Black-bellied Whistling Duck Muscovy Duck Wood Duck m/f Mandarin Duck m/f African Black Duck Mallard m/f Gadwall Northern Pintail American Wigeon Eurasian Wigeon Northern Shoveler Cinnamon Teal Blue-winged Teal Eurasian or Common Teal

Where to find your poses

Type Folder	For what species?
Waterfowl (Order Anseriformes)	All Ducks

Morphs and their Use

All Songbird ReMix models have morphs that change the look of the loaded model to achieve additional movements and expressions that joint movements can't achieve. These are referred to in the Songbird ReMix model as "Action Morphs". Other morphs that are included can subtly or sometimes dramatically, alter the model to resemble specific waterfowl species. These morphs are referred to as "Creation Morphs".

Here is a brief explanation of where the morphs are found and what they do:

BODY section:

- **Action Morphs**
 - **Common Controls**
 - BillOpenClose- Controls the opening and closing of the bill
 - EyesFwdBack - Controls the forward and backward movement of the eyes
 - EyesUpDwn - Controls the up and down movement of the eyes
 - EyeLidsCloseOpen - Controls the opening and closing of both eyelids
 - Neck Length- Allows retracting and extending of the neck. ERC controls also link the ThinnerNeck morph (Found in the BODY/Creation Morphs menu) to thicken the neck in retraction and thin the neck on extension.
 - BreastIn- Pulls the breast of the bird inwards and outwards. Besides species shapes, this morph could be used to simulate breathing and is used as a hidden ERC control to bring the breast in during flight.
 - Unspread Feet- Brings the webbed feet to a folded position (as they'd be, for instance in flight).
 - WingsFold- Puts both Wings into a folded position. The control allows the WingsDroop control to work and also activates the CoverWingFold fluff morph.
 - **Wing and Tail Controls**
 - These controls allow both wings or each individual wing to perform numerous wing actions and also the Tail feather actions like fanning, cupping and bending.
 - PintailBendUp- This morph is specifically used for Pintail Duck species (bending only the two middle tail feathers when extended in the pintail morph) and shouldn't be used with other species.
 - **Neck Bending**
 - These controls allow global bending, twisting and moving side-to-side of the seven neck sections. Partial bending controls can also be found in each individual neck section.
 - **Head Controls**
 - Exp-Smile- Creates a smile expression
 - Exp-Frown- Creates a frown expression

- **Bill Movement Section**- has individual controls for upper and lower mandibles. The BillOpenClose uses both of the morphs in this section and these morphs will NOT work unless BillOpenClose is set to 0.
- **Eyelid Movement Section**- has individual controls for upper and lower eyelid on both eyes, as well as EyeWink controls for both eyes. The EyeWink controls use the upper and lower eyelid morphs and the EyeLidsCloseOpen control uses BOTH EyeWink controls.
- **Tongue Movement Section**- various morphs control the movement of the tongue.
- **Fluff Morphs**
 - CrestLength- Controls the Length of the crest (top of duck's head)
 - CrestFrontUp- Pulls the forehead part of the crest forward/up
 - CrestTopUp- Pulls the middle part of the crest forward/up
 - CrestBackUp- Pulls the back part of the crest forward/up
 - JowlFluffOut- Pulls the feathers under the eye area (jowls) out.
 - ThroatFluff- Pulls the feathers on the throat area out.
 - Back Ruffle- Ruffles the transparency feathers on the back of the bird
 - BreastFluff- Controls the transparency feathers on the breast of the bird
 - ThighFluff- Controls the transparency feathers on both thighs of the bird
 - RumpTopFluff- Controls the transparency feathers on the topside rump/tail of the bird
 - RumpBtmFluff- Controls the transparency feathers on the underside rump/tail of the bird
 - RumpSidesFluff-Reduces the Fluff on the sides of the rump
 - **Fluff Over Folded Wings**
 - CoverWingFold- Moves Breast and Flank Fluffs to partially cover the lower edge of the folded wings. It is automatically turned on with the WingsFold control and turned off when the WingsDroop is used. You can also turn off this control by dialing it to -1.
 - FlankFluffOut- Pulls the feathers on the flanks (below each wing) out.
 - FlankFluffExpand- Enlarges the Flank Feathers to better hide the folded wing edges ([see Tutorial](#))
 - FlankFluffDroop- Droops Flank Feathers
 - PullTopFlankFeathers & 2- Pulls tops of Flank Feathers in and out
 - **Fluff Under Folded Wings** (The Flank control will not work properly with the Mandarin Male Duck)
 - TuckAllFluff- Tucks all Fluff Controls found in this section under the wings
 - TuckBreastFluff- Tucks Breast Fluff sides in under the wings
 - TuckBackFluff- Tucks Back Fluff sides in under the wings
 - TuckFlankFluff- Tucks Flank Fluff sides in under the wings
 - TuckRumpFluff- Tucks Rump Fluff sides in under the wings

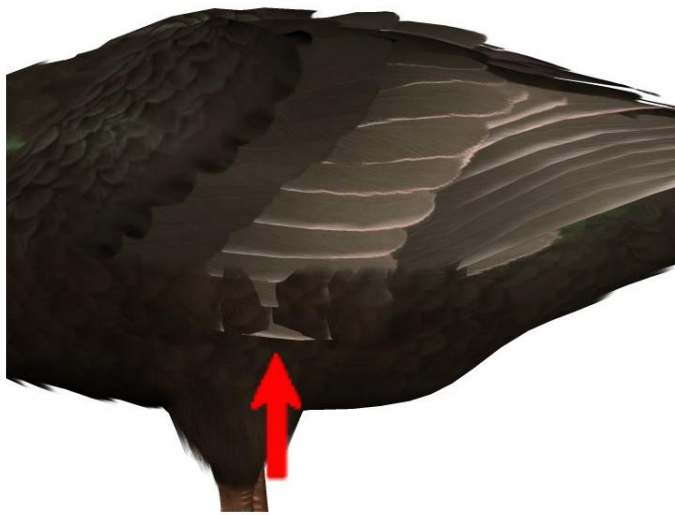
- **Specific Species Morphs**
 - King Eider Specific- These morphs control the King Eider Special Morphs.
 - Mandarin Duck Specific- These morphs control the Mandarin Duck Special Morphs.
 - Merganser Specific- These morphs control the Merganser Special Morphs.
 - Pintail Specific- These morphs control the Northern Pintail's extended Pin feathers.
 - Wood & Mandarin Duck Specific- These morphs control the Wood Duck Crest. The Mandarin Ducks also use these.
- **Correction Morphs**
 - Adj-BackHeadIn- removes lump from the back of head that might occur in some poses.
 - Adj-ThroatIn- removes lump from the throat that might occur in some poses.
 - Adj-BHLRemove- fills a dip in the back of the head that might occur in some poses.
 - Adj-RumpThinner- thins the Rump, hip and tail sections to prevent folded wing intersections that might occur in some poses.
- **Creation Morphs**
 - LegLength- Allows control of Leg Length (This control is not working properly in DAZ Studio and the dial has been hidden in Studio versions)
 - StubbyTalons- Decreases or increases the length of the talons on the webbed feet.
 - ThinnerNeck- Decreases or increases the thickness of the neck. This morph is also used as a hidden ERC control to add thickness to the neck when the NeckLength control (found in BODY/Action Morphs) is used.
 - BreastCrease- Creates a center crease on the breast.
 - RumpSleeker- Controls the size of the rump.
 - RumpTopWidth- Controls the transparency feathers on the topside rump/tail of the bird width.
 - RumpBtmExtend- Controls the transparency feathers on the underside rump/tail of the bird length.
 - **Species Shapes**- These morphs create very specific looks to resemble certain species of Waterfowl and include Bufflehead, King Eider Male, Mandarin Female and Male, Mergansers, Muscovy, Shoveler, Smew, Wigeon and Wood Duck.
 - **Head Shaping**
 - **Head Shapes**- These morphs control the shape of the head.
 - Hd-BrowsOut- Pulls the area above each eye outwards.
 - Hd-BackSq- Adds mass to the back of the Head.
 - Hd-BackDwn- Reduces mass to the back of the Head.
 - Hd-CrownUp- Raises the Crown of the Head.
 - Hd-ForeheadLow- Reduces the forehead extending to the bill.
 - Hd-ForeheadFwd- Adds to the forehead extending to the bill.

- Hd-ForehdCtrOut- Adds to the forehead center between the bill.
- Hd-JowlsExpand- Expands the cheeks of the duck.
- Hd-HideEar- Removes the ear holes.
- **Eye Shapes-** These morphs can change the appearance of the eyes.
 - EyesDilate- Controls the pupil size of the eyes
 - Ey-SocketOut- Pushes the eyelids and Sockets out further. This is useful if the eye size is larger than the default setting by moving the eyelids to fit the scaled eyeballs.
 - Ey-BigEyes- This control creates larger eyes on the model. Through ERC controls, it scales the eyes to 120% and expands the eye sockets using a combination of its own morph plus the Ey-SocketOut morph.
- **Bill Shapes-** These morphs can change the appearance of the bill.
 - Bill-Length- Controls the length of the entire bill.
 - Bill-UprLength- Controls the length of the upper bill.
 - Bill-LwrLength- Controls the length of the lower bill.
 - Bill-Point- Brings the end of the bill to a point.
 - Bill-Merganser- Creates the narrow bill of a Merganser.
 - Bill-Scaup- Creates the bill of a Scaup.
 - Bill-Scoter- Creates the bill of a Scoter.
 - Bill-Shoveler- Creates the bill of a Shoveler.
 - Bill-Slope- Adds or reduces the slope of the upper bill.
 - Bill-TipFoward- Extends the center portion of the tip of the upper bill.
 - Bill-TipBulb- Creates a bulbous tip on the upper bill.
 - Bill-TipBulbTop- Makes the bulbous tip on the upper bill more pronounced.
 - Bill-TipHook- Creates a stronger hook on the upper bill.
 - Bill-NoseBridge- Lessens the slope of the bill to the forehead.
- **Nostril Shapes**
 - Nostril-Fwd- Moves the nostrils on the bill forward.
 - Nostril-Size- Controls the size of the nostrils on the bill.
 - Nostril-Ridge- Adds a ridge to the nostrils on the bill.
 - Nostril-Slit- Creates slit-shaped nostrils on the bill.
 - Nostril-Tear- Creates tear-shaped nostrils on the bill.
- **Tongue Shapes**
 - Tng-Length- Controls the length of the tongue.
 - Tng-Width- Controls the width of the tongue.
- **Wing Shapes-** These morphs control the shape of the wings.
 - WingSpan- Allows control of Wing Length
 - WingPoint, lWingPoint and rWingPoint - Makes a pointed wing shape.
- **Tail Shapes-** These morphs control the shape of the tail feathers.
 - Pintail- Lengthens the middle two Tail feathers.

- Round- Rounds the Tail feathers.
- Length- Controls the length of the Tail feathers.
- Width- Controls the width of the Tail feathers.
- PointEnds- Makes Tail feathers have pointed ends.
- SquareEnds- Makes Tail feathers have square ends.
- **Scale**- Controls the size of the model

Working with Fluff Controls

In this example we see that the Flank Fluffs haven't adequately covered the folded wings. To correct this, go under the **"Feather Fluff Controls"** and select the **"FlankFluffExpand"** morph.



Songbird ReMix

Waterfowl: Dabbling Ducks

Field Guide

Worldwide

Mallard
Gadwall
Eurasian Wigeon
Northern Pintail
Northern Shoveler
Eurasian or Common Teal

Europe, Asia and Africa

Mandarin Duck
African Black Duck

The Americas

American Wigeon
Cinnamon Teal
Blue-winged Teal
Black-bellied Whistling Duck
Muscovy Duck
Wood Duck

Common Name: Mallard

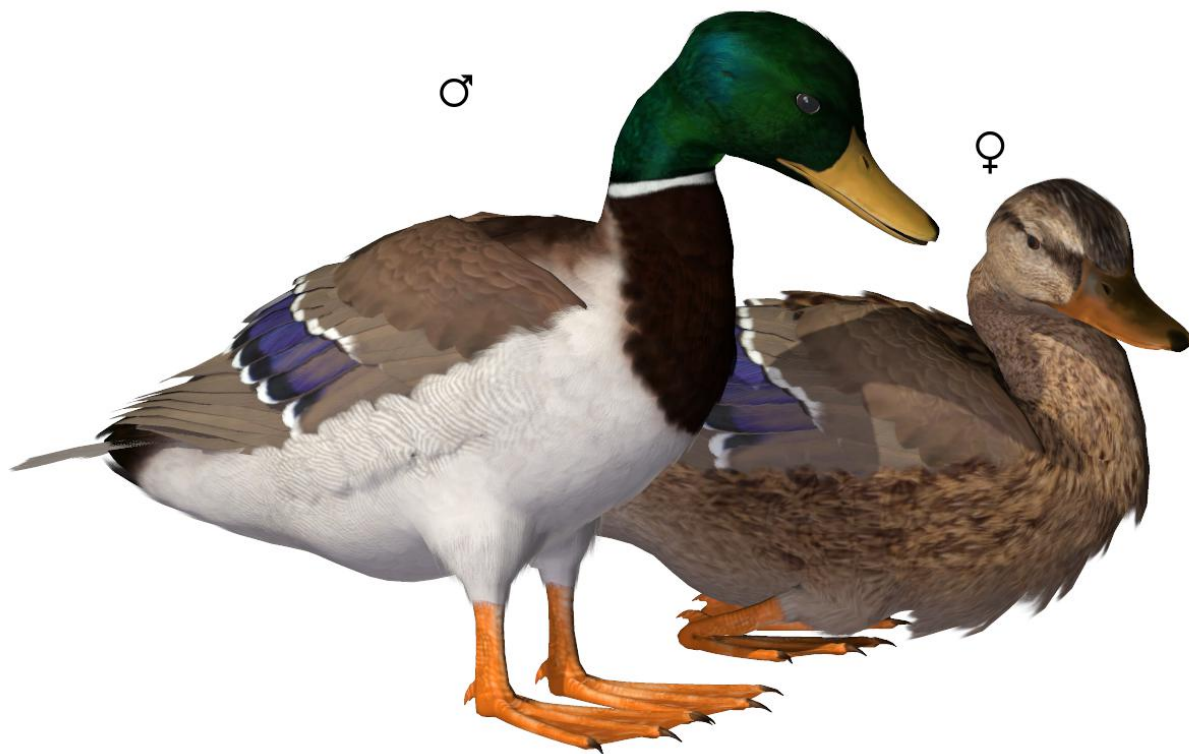
Scientific Name: *Anas platyrhynchos*

Size: 20-26 inches (50-65 cm); Wingspan: 32-39 inches (81-98 cm)

Habitat: Worldwide; breeds throughout the temperate and subtropical Americas, Europe, Asia, and North Africa, and has been introduced to New Zealand and Australia.

Mallards can live in almost any wetland habitat, natural or artificial. Look for them on lakes, ponds, marshes, rivers, and coastal habitats, as well as city and suburban parks and residential backyards.

Status: Least Concern. **Global population:** 5,000,000 to 11,000,000 individuals. Mallards are the most widespread and abundant duck in North America. 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. 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. 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.

Diet: Seeds, rootlets and tubers of aquatic plants off swamp and river bottoms.. They feed in the water by tipping forward and grazing on underwater plants. They almost never dive. They can be very tame ducks especially in city ponds, and often group together with other Mallards and other species of dabbling ducks.

Nesting: Mallards are large ducks with heavy-looking bodies, rounded heads, and wide, flat bills. Males are significantly larger than females. The male mallard's white neck-ring separates the green head from the chestnut-brown chest. It also contrasts with the gray sides, brownish back, black rump and black upper- and under-tail coverts. The speculum is violet-blue bordered by black and white, and the outer tail feathers are white. The bill is yellow to yellowish-green and the legs and feet are coral-red. The male utters a soft, rasping "*kreep*."

The female mallard is a mottled brownish color and has a violet speculum bordered by black and white. The crown of the head is dark brown with a dark brown stripe running through the eye. The remainder of the head is lighter brown than the upper body. The bill is orange splotched with brown, and the legs and feet are orange. The female is especially vocal with the characteristic series of quacks.

Mallards have one of the most extensive breeding ranges of any duck in North America, extending across the northern third of the United States and up to the Bering Sea. The highest mallard densities occur in the Prairie Pothole Region of Saskatchewan, Alberta, Manitoba and North Dakota.

Mallard pairs form long before the spring breeding season. Pairing takes place in the fall, but courtship can be seen all winter. Mallards are generally monogamous, but paired males may have extramarital affairs. While these affairs do happen among many species of birds, they are for the most part, consensual. Male Mallards break this pattern, often forcing copulation, with several males chasing a single female and then mating with her.

Mallards are known for hybridizing with American Black Ducks, Mottled Ducks, the Gadwall, Northern Pintails, Cinnamon Teals, Green-winged Teals, and Canvasbacks, as well as Hawaiian Ducks, the Grey Duck of New Zealand, and the Pacific Black Duck of Australia.

Pairs search for nest sites together, typically on evening flights circling low over the habitat. The female forms a shallow depression or bowl on the ground in moist earth. She does not carry material to the nest. Instead, during the egg-laying phase, she lines the nest with grasses, leaves, and twigs from nearby. She also pulls tall vegetation overhead 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 has a bowl for the eggs that is 1–6 inches deep and 6–9 inches across. Female mallards lay an average of 9 eggs. Only the female incubates the eggs and takes care of the ducklings. Both urban and wild populations readily nest in artificial nesting structures, and occasionally in agricultural fields (especially alfalfa, winter wheat, barley, flax, and

oat fields), on floating mats of vegetation, or nests may be woven into plant stems that rise out of the water.

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.

Cool Facts: The name “Mallard” is derived from the Old French malart or mallart “wild drake”, although its ultimate derivation is unclear. It may be related to an Old High German masculine proper name Madelhart, clues lying in the alternate English forms “maudelard” or “mawdelard”.

The Mallard is the ancestor of nearly all domestic duck breeds (everything except the Muscovy duck). Mallards are strong fliers; migrating birds have been estimated traveling at 55 miles per hour.

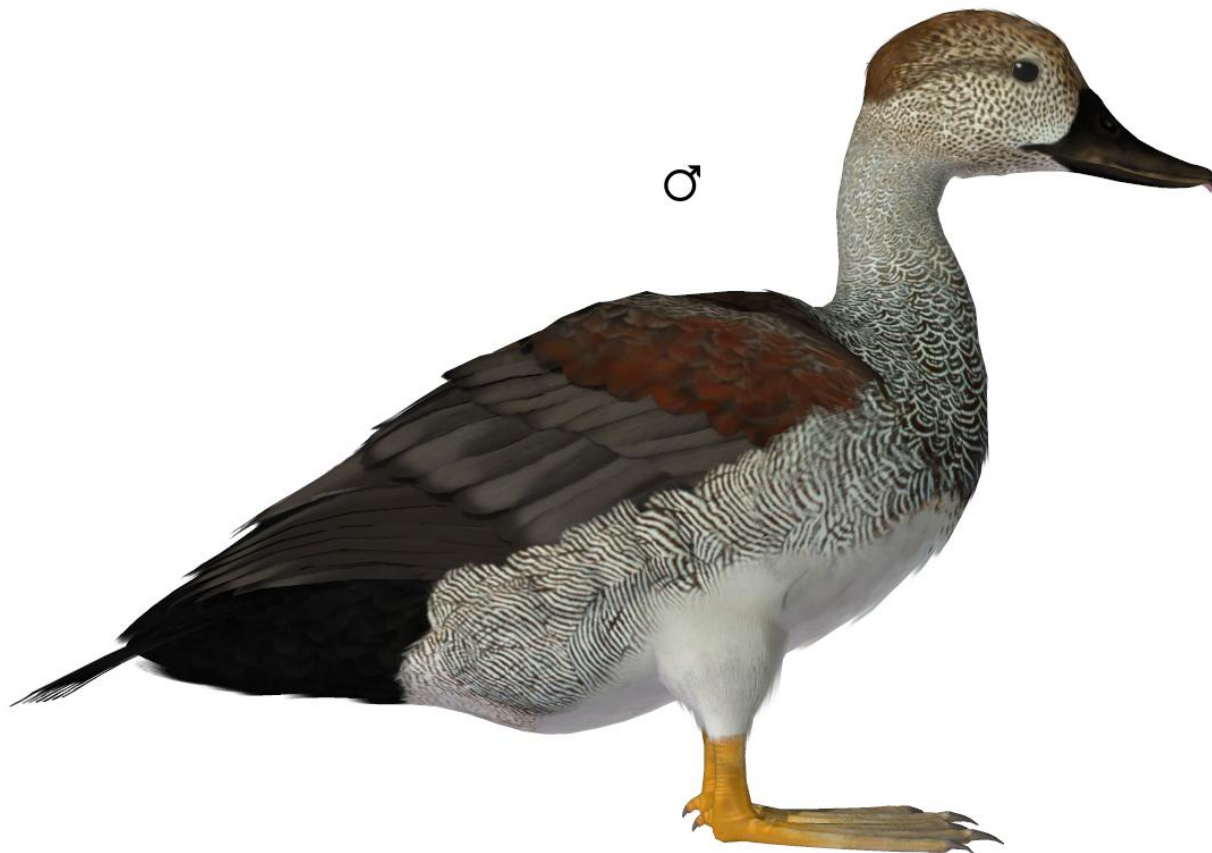
The widespread Mallard has given rise to a number of populations around the world that have changed enough that they could be considered separate species. The “Mexican Duck” of central Mexico and the extreme southwestern United States and the Hawaiian Duck both are closely related to the Mallard, and 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.

The oldest known Mallard lived to be at least 27 years 7 months old.

Common Name: Gadwall
Scientific Name: *Anas strepera*

Size: 18-22 inches (46-56 cm); Wingspan: 31-35 inches (78-90 cm)

Habitat: Worldwide; breeds in the northern areas of Europe and Asia, and central North America. In North America, its breeding range lies along the Saint Lawrence River, through the Great Lakes, Alberta, Saskatchewan, the Dakotas, south to Kansas, west to California, and along coastal Pacific Canada and southern coastal Alaska. The range of this bird appears to be expanding into eastern North America. This dabbling duck is strongly migratory, and winters farther south than its breeding range, from coastal Alaska, south into Central America, and east into Idaho, Kansas, Ohio, Virginia, and then south all the way into Central America.



Gadwall breed mainly in prairie potholes—small ponds scattered throughout the Great Plains and Canadian prairies. Some also breed on tundra, deltas, and wetlands in boreal forests of the far north. In developed areas with few natural ponds, Gadwall may use stock ponds. They choose well-vegetated wetlands with plenty of emergent plants to feed among and take cover in. Equally important for breeding are adjacent uplands with vegetation to conceal nests and for ducklings to hide in. On migration and in winter,

look for Gadwall in fresh and salt water marshes and well-vegetated reservoirs, beaver ponds, farm ponds, and streams.

Status: Least Concern. **Global population:** 3,000,000 adult individuals. The Gadwall is one of the species to which the Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA) applies.

Diet: Submerged aquatic vegetation such as algae, grasses, rushes, sedges, pondweed, Wigeon grass, and water milfoil, including leaves, stems, roots, and seeds. They also eat snails, midges, water beetles, and other invertebrates. During the breeding season, animal matter can account for nearly 50 percent of an adult Gadwall's diet, but this proportion drops to only about 5 percent animal matter during winter.

Gadwall rest fairly high in the water and they tip forward to graze on submerged plants that they can reach with their outstretched necks. They rarely dive.

Nesting: The male is slightly larger than the female. The breeding male is patterned grey, with a black rear end, light chestnut wings, and a brilliant white speculum. In non-breeding (eclipse) plumage, the drake looks more like the female, but retains the male wing pattern, and is usually greyer above and has less orange on the bill.

The female is light brown, with plumage much like a female Mallard. It can be distinguished from that species by the dark orange-edged bill, smaller size, the white speculum, and white belly. Both sexes go through two molts annually, following a juvenile molt. Juveniles look similar to the female.

Gadwall are seasonally monogamous and will pair up during fall migration. Once they return to their breeding grounds, they select their nest site while flying low over dry, grassy areas. The female makes a closer inspection on foot while the male stands guard near her. They typically choose dense brush or grasses at least a foot tall, usually within 200 yards of open water. They prefer nesting on islands, when possible, for greater safety from predators. In heavily cultivated areas, untilled land for nest sites can be a scarce resource.

The female scrapes out a hollow, then settles into the nest and reaches out to grab twigs and leaves with her bill. She sets these against herself to form the base of a nest cup, then plucks her own down feathers to make an insulating lining. The finished nest is about a foot across with a cup 3 inches deep. It takes 5–7 days to go from looking for a nest site to having a finished nest ready for egg laying. The female Gadwall produces an egg a day, laying 7–12-egg clutches.

Cool Facts: Gadwall will sometimes steal food from American Coots and from other ducks.

Gadwalls have a set of movements that communicate pair bonds, levels of aggression, and degrees of interest among potential mates. For example, Gadwall may warn

another bird to stay away by lifting its chin or opening its bill. A male may seek a female's attention by ruffling his head feathers, drawing the head close to the body, and then rearing up out of the water and pushing his head forward. Further courtship displays include the male arching his head over his back and then jerking forward while raising his tail and wing coverts; pushing his bill underwater and then quickly tossing water into the air while whistling; and rearing up while raking his bill through the water and whistling. A female may show her interest by arching her head and neck and repeatedly moving it forward and then to the side away from the male. As the pair bond strengthens, the two birds face each other and raise and lower their heads, chins up; or turn their head and place the bill behind the wing, as if preening.

The oldest known Gadwall was 19 ½ years old. It was banded in Saskatchewan in 1962 and shot during hunting season in Louisiana in 1981.

Common Name: Eurasian Wigeon
Scientific Name: *Anas penelope*

Size: 17-20 inches (42-52 cm); Wingspan: 28-31 inches (71-80 cm)

Habitat: Worldwide; it breeds in the northernmost areas of Europe and Asia. Although it is scarce as a breeding bird in Scotland, the Lake District, the Pennines and occasionally further south, with only a handful of breeding pairs in Ireland. It migrates much further than its breeding range, as far as southern Asia and Africa. In Great Britain and Ireland the Eurasian Wigeon is common as a winter visitor. It can also be found as an uncommon winter visitor in the United States on the mid-Atlantic and Pacific coasts.



This species breeds in lowland freshwater marshes, slow-flowing large rivers and shallow lakes and lagoons with ample submerged, floating and emerging vegetation. Ideal wetland habitats for this species are those surrounded by sparse open forest, woodland and especially agricultural land, in the boreal and subarctic zone. It avoids tundra, densely forested and mountainous country, as well as fast flowing rivers and streams, but tolerates saline or alkaline steppe lakes and wetlands. In the non-breeding

season this species shows a preference for coastal salt-marshes, freshwater, brackish and saline lagoons, flooded grasslands, estuaries, intertidal mudflats, and other sheltered marine habitats.

Status: Least Concern. **Global population:** 2,800,000 to 3,300,000 individuals. The overall trend is decreasing, although some populations may be stable or increasing. This species is susceptible to disturbance from freshwater recreational activities (e.g. tourists walking), pollution (including thallium contamination, petroleum pollution, wetland drainage, peat-extraction, changing wetland management practices (decreased grazing and mowing in meadows leading to scrub over-growth) and the burning and mowing of reeds. Avian influenza virus (strain H5N1) is also a potential threat, as is poisoning from the ingestion of lead shot. This species is hunted for sport, and although population numbers in an area decrease significantly after a period of shooting, there is no current evidence that it poses an immediate threat to the species. The Eurasian Wigeon is one of the species to which the Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA) applies.

Diet: Vegetarian; consumes the leaves, seeds, stems and root bulbs of pond weeds, fine grasses, horsetails and eelgrass, as well as algae.

Nesting: The breeding male (Drake) has grey flanks and back, with a black rear end, a dark green speculum and a brilliant white patch on upper wings, which is obvious in flight or at rest. It also has a pink breast, white belly, and a chestnut head with a creamy crown. In non-breeding (eclipse) plumage, the drake looks more like the female.

The female is light brown, with plumage much like a female American Wigeon. However, that species has a paler head and white axillaries on its underwing. The female Eurasian Wigeons have two color phases, they have a rufous phase with a redder head, and a gray phase with a grayer head. It can be distinguished from most other ducks, apart from American Wigeon, by its shape.

The nests of this species are shallow depressions in the ground lined with vegetation, usually positioned not far from water and well concealed under overhanging vegetation, in grass tussocks, scrub, and especially in heather.

Cool Facts: Widgeon or wigeon? Widgeon is an older spelling with Wigeon becoming the more accepted term by birders now.

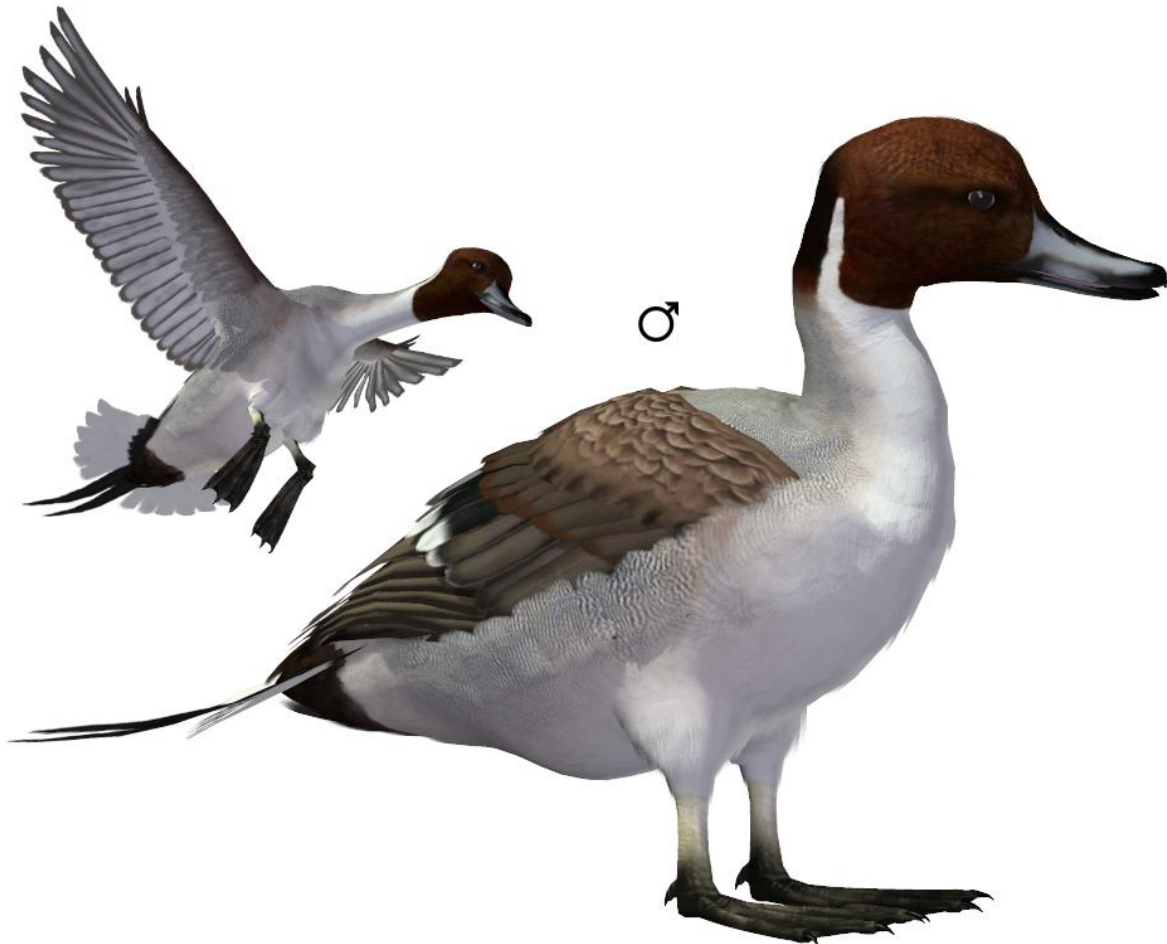
The Eurasian Wigeons seen each year in North America likely come from eastern Siberia and Iceland.

It is a noisy species. The male has a clear whistle that sounds like: "*pjiew pjiew*", whereas the female has a low growl: "*rawr*".

Common Name: Northern Pintail
Scientific Name: *Anas acuta*

Size: 21-25 inches (54.3-63.5 cm); Wingspan: 31-37 inches (80-95 cm)

Habitat: Worldwide; breeds across northern areas of Eurasia south to about Poland and Mongolia, and in Canada, Alaska and the Midwestern United States. It winters mainly south of its breeding range, reaching almost to the equator in Panama, northern sub-Saharan Africa and tropical South Asia. Small numbers migrate to Pacific islands, particularly Hawaii, where a few hundred birds winter on the main islands in shallow wetlands and flooded agricultural habitats. Transoceanic journeys may also occur. In parts of the range, such as Great Britain and the northwestern United States, the Pintail may be present all year.



The Northern Pintail's breeding habitat is open non-wooded wetlands, such as wet grassland, lakesides or tundra. In winter, it will utilize a wider range of open habitats, such as sheltered estuaries, brackish marshes and coastal lagoons. It is highly gregarious outside the breeding season and forms very large mixed flocks with other ducks.

Status: Least Concern. **Global population:** Unknown amount of adult individuals. The overall population trend is decreasing, although some populations may be stable while others are unknown. This species has undergone a large and statistically significant decrease over the last 40 years in North America (-77.3% decline over 40 years, equating to a -31% decline per decade). The species is threatened by wetland habitat loss on its breeding and wintering grounds. Reclamation of coastal areas for industrial development poses a threat in Europe, and major river diversion and irrigation schemes threaten wintering areas in Niger and Nigeria. The species is also threatened by petroleum pollution, wetland drainage, peat-extraction, changing wetland management practices (decreased grazing and mowing in meadows leading to scrub over-growth) and the burning and mowing of reeds in Russia. The species suffers from over-exploitation in Europe, and is hunted for sport in North America. It also suffers poisoning from lead shot ingestion in North America, poisoning from white phosphorous (from firearms) ingestion in Alaska, and reproductive impairment as a result of selenium (Se) accumulation in liver tissues (selenium contained in sub-surface agricultural drain-water used for wetland management in California led to bioaccumulation of the element in the food chain).

Diet: Grain, seeds, weeds, aquatic insects, crustaceans, and snails. They pick food from the surface of the ground and in shallow water they dabble, filter-feeding at the surface with rumps up.

Nesting: The breeding plumaged male (Drake) is unmistakable. It has a chocolate-brown head and white breast with a white stripe extending up the side of the neck. Its upper parts and sides are grey, but elongated grey feathers with black central stripes are draped across the back from the shoulder area. The vent area is yellow, contrasting with the black underside of the tail, which has the central feathers elongated to as much as 10 cm (3.9 in). The bill is bluish and the legs are blue-grey. Males are considerably larger than females.

The adult female is mainly scalloped and mottled in light brown with a more uniformly grey-brown head, and its pointed tail is shorter than the male's; it is still easily identified by its shape, long neck, and long grey bill. In non-breeding (eclipse) plumage, the drake Pintail looks similar to the female, but retains the male upper wing pattern and long grey shoulder feathers. Juvenile birds resemble the female, but are less neatly scalloped and have a duller brown speculum with a narrower trailing edge.

Both sexes reach sexual maturity at one year of age. The male mates with the female by swimming close to her with his head lowered and tail raised, continually whistling. If there is a group of males, they will chase the female in flight until only one drake is left. The female prepares for copulation, which takes place in the water, by lowering her body; the male then bobs his head up and down and mounts the female, taking the feathers on the back of her head in his mouth. After mating, he raises his head and back and whistles.

Breeding takes place between April and June, with the nest being constructed on the ground and hidden amongst vegetation in a dry location, often some distance from water. It is a shallow scrape on the ground lined with plant material and down. The female lays seven to nine cream-colored eggs at the rate of one per day.

The hen alone incubates the eggs for 22 to 24 days before they hatch. The downy chicks are then led by the female to the nearest body of water, where they feed on dead insects on the water surface. The chicks fledge in 46 to 47 days after hatching, but stay with the female until she has completed molting.

While three-quarters of chicks live long enough to fledge, not more than half of those survive long enough to reproduce.

Cool Facts: Like the Mallard, the Northern Pintail breeds in a variety of habitats all across northern North America and Eurasia. Also like the Mallard, island populations have splintered off and evolved into separate species. Two closely related forms can be found on Crozet and Kerguelen islands in the very southern Indian Ocean, known as Eaton's Pintail (*Anas eatoni*).

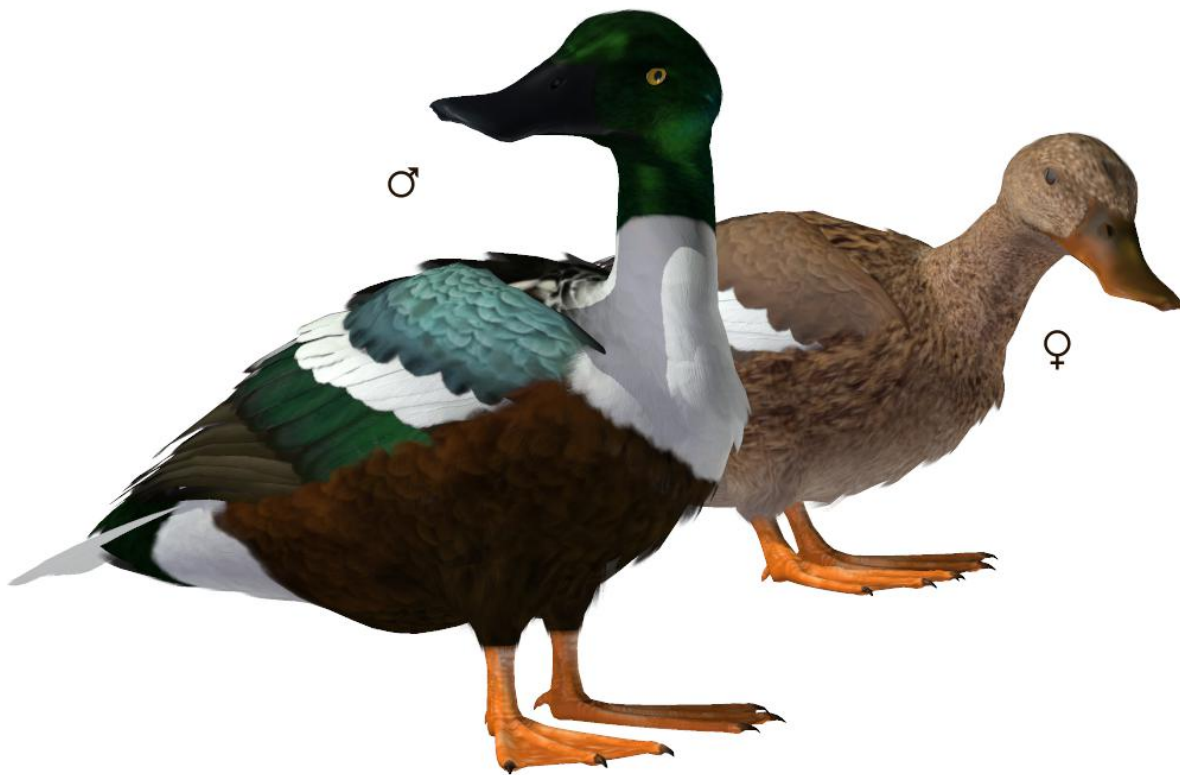
The Northern Pintail is among the earliest nesting ducks in North America, beginning shortly after ice-out in many northern areas.

The oldest known Pintail was 27 ½ years old.

Common Name: Northern Shoveler
Scientific Name: *Anas clypeata*

Size: 17.3-20.1 inches (44-51 cm); Wingspan: 30 inches (76 cm)

Habitat: Worldwide; It breeds in northern areas of Europe and Asia and across most of North America, wintering in southern Europe, Africa, the Indian subcontinent, Southeast Asia, and Central, and northern South America. It is a rare vagrant to Australia. In North America, it breeds along the southern edge of Hudson Bay and west of this body of water, and as far south as the Great Lakes west to Colorado, Nevada, and Oregon.



This is a bird of open wetlands, such as wet grassland or marshes with some emergent vegetation.

Status: Least Concern. **Global population:** 5,500,000 to 6,000,000 individuals. The overall population trend is decreasing, although some populations may be stable and others have unknown trends. The species is threatened by habitat loss in Britain and Ireland. This species has undergone a small or statistically insignificant increase over the last 40 years in North America. The Northern Shoveler is one of the species to which the Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA) applies.

Diet: Small swimming invertebrates and some seeds. They forage by swimming along with bill lowered into the water, straining out small crustaceans and other invertebrates. They do not commonly tip their head and upper body forward into the water.

Nesting: The drake (male) shoveler has flamboyant breeding plumage and is easily distinguishable from the female. *Breeding Plumage:* The head is dark glossy green and the bill is black. The back is dark brown to black and the chest is white. The flanks and belly are chestnut-brown. The male's eyes are yellow. *Eclipse Plumage:* After molting, the appearance is duller. The head and breast are brownish black speckled with whitish or tan. The back is black with tan feather edges. The flanks are light brown and it may show indistinct white crescent on the face behind bill. The eyes remain yellow.

Females are grayish-brown overall; some of the feathers have light edging with darker centers. The bill is olive-green with yellowish base and edges. The eyes are brown.

Immature birds are similar in appearance to birds in this eclipse phase but look somewhat darker.

Northern Shoveler pairs are monogamous, and remain together longer than pairs of other dabbling duck species. The males exhibit elaborate courtship behavior, including various calls, turns, dips, and wing flaps.

The nest is a simple scrape lined with down and usually surrounded on at least three sides by vegetation. It is placed in short vegetation near water. 8-12 eggs are laid and are pale greenish-gray or buff olive. Upon hatching, the chicks are covered in down and able to walk and swim immediately.

Cool Facts: The shoveler is named for its extraordinary, oversized bill, which has a broad, elongated, spoon-shape with comb-like projections along its edges. These filter the food from the water. The bill is about 6.5 cm (2.5 inches) long.

Shovelers rarely 'up-end' like mallard and other surface-feeding ducks. However, they will dive if disturbed. They are not as gregarious as some dabbling ducks outside the breeding season and tend to form only small flocks.

When flushed off the nest, a female Northern Shoveler often defecates on its eggs, apparently to deter predators.

Common Name: Eurasian or Common Teal

Scientific Name: *Anas crecca*

Size: 12.2-15.4 inches (31-39 cm); Wingspan: 20.5-23.2 inches (52-59 cm)

Habitat: Worldwide; breeds across northern Eurasia and mostly winters well south of its breeding range. In the milder climate of temperate Europe, the summer and winter ranges overlap.

In winter, there are high densities around the Mediterranean – including the entire Iberian Peninsula and extending west to Mauretania, on Japan and Taiwan, as well as in South Asia. Other important wintering locations include almost the entire length of the Nile Valley, the Near East and Persian Gulf region, the mountain ranges of northern Iran, and South Korea and continental East and Southeast Asia. More isolated wintering grounds are Lake Victoria, the Senegal River estuary, the swamps of the upper Congo River, the inland and sea deltas of the Niger River, and the central Indus River valley.



In the breeding season, it is a common inhabitant of sheltered freshwater wetlands with some tall vegetation, such as taiga bogs or small lakes and ponds with extensive reed

beds. In winter, it is often seen in brackish waters and even in sheltered inlets and lagoons along the seashore.

Status: Least Concern. **Global population:** 1,000,000+/- adult individuals. Altogether, the Eurasian Teal is much less common than its American counterpart, though still very plentiful. Its numbers are mainly assessed by counts of wintering birds; some 750,000 are recorded annually around the Mediterranean and Black Seas, 250,000 in temperate Western Europe, and more than 110,000 in Japan. In 1990 and 1991, a more detailed census was undertaken, yielding over 210,000 birds wintering in Iran, some 109,000 in Pakistan, about 77,000 in Azerbaijan, some 37,000 in India, 28,000 in Israel, over 14,000 in Turkmenistan and almost 12,000 in Taiwan. It appears to be holding its own currently, with its slow decline of maybe 1–2% annually in the 1990s – presumably mainly due to drainage and pollution of wetlands – not warranting action other than continuing to monitor the population and possibly providing better protection for habitat on the wintering grounds.

The Eurasian Teal is one of the species to which the Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA) applies.

Diet: In the breeding season, it eats mainly aquatic invertebrates, such as crustaceans, insects and their larvae, mollusks and worms. In winter, it shifts to a largely granivorous diet, feeding on seeds of aquatic plants and grasses, including sedges and grains. Diurnal throughout the breeding season, in winter they are often crepuscular or even nocturnal feeders.

It usually feeds by dabbling, upending or grazing and may submerge its head and on occasion, even dive to reach food. It is a highly gregarious duck outside the breeding season and can form large flocks.

Nesting: From a distance, the drakes in breeding plumage appear grey, with a dark head, a yellowish behind, and a white stripe running along the flanks. Their head and upper neck is chestnut, with a wide and iridescent dark green patch of half-moon- or teardrop-shape that starts immediately before the eye and arcs to the upper hind neck. The patch is bordered with thin yellowish-white lines, and a single line of that color extends from the patch's forward end, curving along the base of the bill. The breast is buff with small round brown spots. The center of the belly is white, and the rest of the body plumage is mostly white with thin and dense blackish vermiculations, appearing medium grey even at a short distance. The outer scapular feathers are white, with a black border to the outer vanes, and form the white side-stripe when the bird is in resting position. The primary remiges are dark greyish brown; the speculum feathers are iridescent blackish-green with white tips, and form the speculum together with the yellowish-white tips of the larger upper-wing coverts (which are otherwise grey). The underwing is whitish, with grey remiges, dense dark spotting on the inner coverts and a dark leading edge. The tail and tail coverts are black, with a bright yellowish-buff triangular patch in the center of the coverts at each side.

Drake in Eclipse plumage: The drake looks more like the hen but is more uniform in color, with a dark head and vestigial facial markings.

The hen itself is yellowish-brown, somewhat darker on wings and back. It has a dark greyish-brown upper head, hind neck, eyestripe and feather pattern. The pattern is dense short streaks on the head and neck, and scaly spots on the rest of the body. The wings are colored similar to the drake's, but with brown instead of grey upper wing coverts that have less wide tips, and wider tips of the speculum feathers. The hen's rectrices have yellowish-white tips; the mid-belly is whitish with some dark streaking.

Immatures are colored much like hens, but have a stronger pattern. The downy young are colored like in other dabbling ducks: brown above and yellow below, with a yellow supercilium.

This is a noisy species. The male whistles *cryc* or *creelycc*, not loud but very clear and far-carrying. The female has a feeble *keh* or *neeh* quack.

Teal nest on the ground, near water and under cover. The pairs form in the winter and arrive on the breeding grounds together, starting around March. The breeding starts some weeks thereafter, not until May in the most northerly locations. The nest is a deep hollow lined with dry leaves and down feathers, built in dense vegetation near water. After the females have started laying eggs, the males leave them and move away for shorter or longer distances, assembling in flocks on particular lakes where they molt into eclipse plumage. They will usually encounter their offspring only in winter. The clutch may consist of 5–16 eggs. They are incubated for 21–23 days. The young leave the nest soon after hatching and are attended by the mother for about 25–30 days, after which they fledge.

Cool Facts: Since the Eurasian Teal is the only one of these small dabbling ducks in much of its range, it is often called simply the “Teal”. The blue-green color takes its name from this bird.

The North American Green-winged Teal (*A. crecca carolinensis*) was formerly (and sometimes is still) considered a subspecies of *A. crecca*. The Eurasian teal differ from the American by lacking the vertical white shoulder stripe and having a horizontal white stripe along the back instead. Eurasian teal show up casually each year along both the Pacific and Atlantic coasts.

The maximum recorded lifespan for a Common Teal is over 27 years.

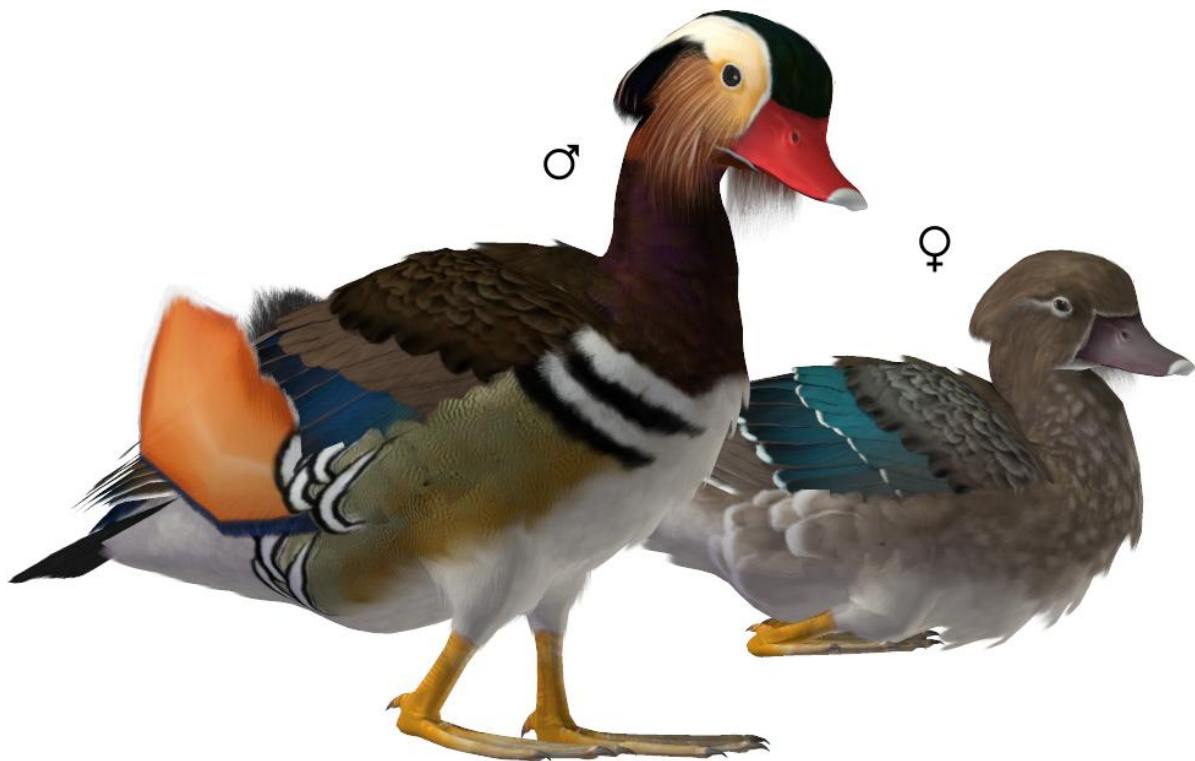
Common Name: Mandarin Duck
Scientific Name: *Aix galericulata*

Size: 16.1- 19.3 inches (41-49 cm); Wingspan: 25.6-29.5 inches (65-75 cm)

Habitat: Asia; eastern Asia, eastern Russia and in China and Japan. Some specimens frequently escape from collections, and in the 20th century a large feral population was established in Great Britain and smaller populations on the European continent. Isolated populations exist in the United States. The town of Black Mountain, North Carolina has a limited population and there is a free-flying feral population of several hundred mandarins in Sonoma County, California.

They breed in densely wooded areas near shallow lakes, marshes or ponds.

Status: Least Concern. **Global population:** 65,000-66,000 individuals. The overall trend is decreasing, although some populations may be stable. They were once widespread in eastern Asia, but large-scale exports and the destruction of its forest



habitat have reduced populations in eastern Russia and in China to below 1,000 pairs in each country; Japan, however, is thought to still hold some 5,000 pairs. There are now about 7,000 in Britain (mostly Dublin, Ireland), and other populations on the European continent, the largest in the region of Berlin.

The greatest threat to the Mandarin Duck is habitat loss due to loggers. Hunters are also a threat to the Mandarin Duck, because often they are unable to recognize the Mandarin in flight and as a result, many are shot by accident. Mandarin ducks are not hunted for food, however they are still poached because their extreme beauty is prized.

Diet: Plants and seeds, especially beechmast. They will also add snails, insects and small fish to their diet. The diet of Mandarin Ducks changes seasonally, in the fall and winter, they mostly eat acorns and grains. In the spring they mostly eat insects, snails, fish and aquatic plants. In the summer, they eat dew worms, small fish, frogs, mollusks, and small snakes. They feed mainly near dawn or dusk, perching in trees or on the ground during the day.

Nesting: Males have a red bill, large white crescent above the eye and reddish brown face and jowl "whiskers". The breast is purple with two vertical white bars, and the flanks ruddy, with two orange "sails" at the back.

The female is similar to the female Wood Duck, with a white eye-ring and stripe running back from the eye, but it is paler below, has a small white flank stripe, and a pale tip to its bill.

The Mandarin ducklings are almost identical in look to Wood ducklings, and appear very similar to Mallard ducklings. The ducklings can be distinguished from Mallard ducklings because the eye-stripe of Mandarin ducklings (and Wood ducklings) stops at the eye, while in Mallard ducklings it reaches all the way to the bill.

Cool Facts: Mandarin Ducks are referred to by the Chinese as Yuan-yang (鴛鴦), where yuan (鴛) and yang (鴦) respectively stand for male and female Mandarin Ducks.

In traditional Chinese culture, Mandarin Ducks are believed to be lifelong couples, unlike other species of ducks. Hence they are regarded as a symbol of conjugal affection and fidelity, and are frequently featured in Chinese art.

A Chinese proverb for loving couples uses the Mandarin Duck as a metaphor: "Two mandarin ducks playing in water" (鴛鴦戲水). The Mandarin Duck symbol is also used in Chinese weddings because in traditional Chinese lore, they symbolize wedded bliss and fidelity.

Pairs of Mandarin ducks called wedding ducks are often given as wedding gifts and play a significant role in Korean marriage.

Because the male and female plumages of the Mandarin Duck are so unlike, yuan-yang is frequently used colloquially in Cantonese to mean an "odd couple" or "unlikely pair" – a mixture of two different types of the same category. For example, the yuan-yang beverage and yuan-yang fried rice.

Common Name: African Black Duck

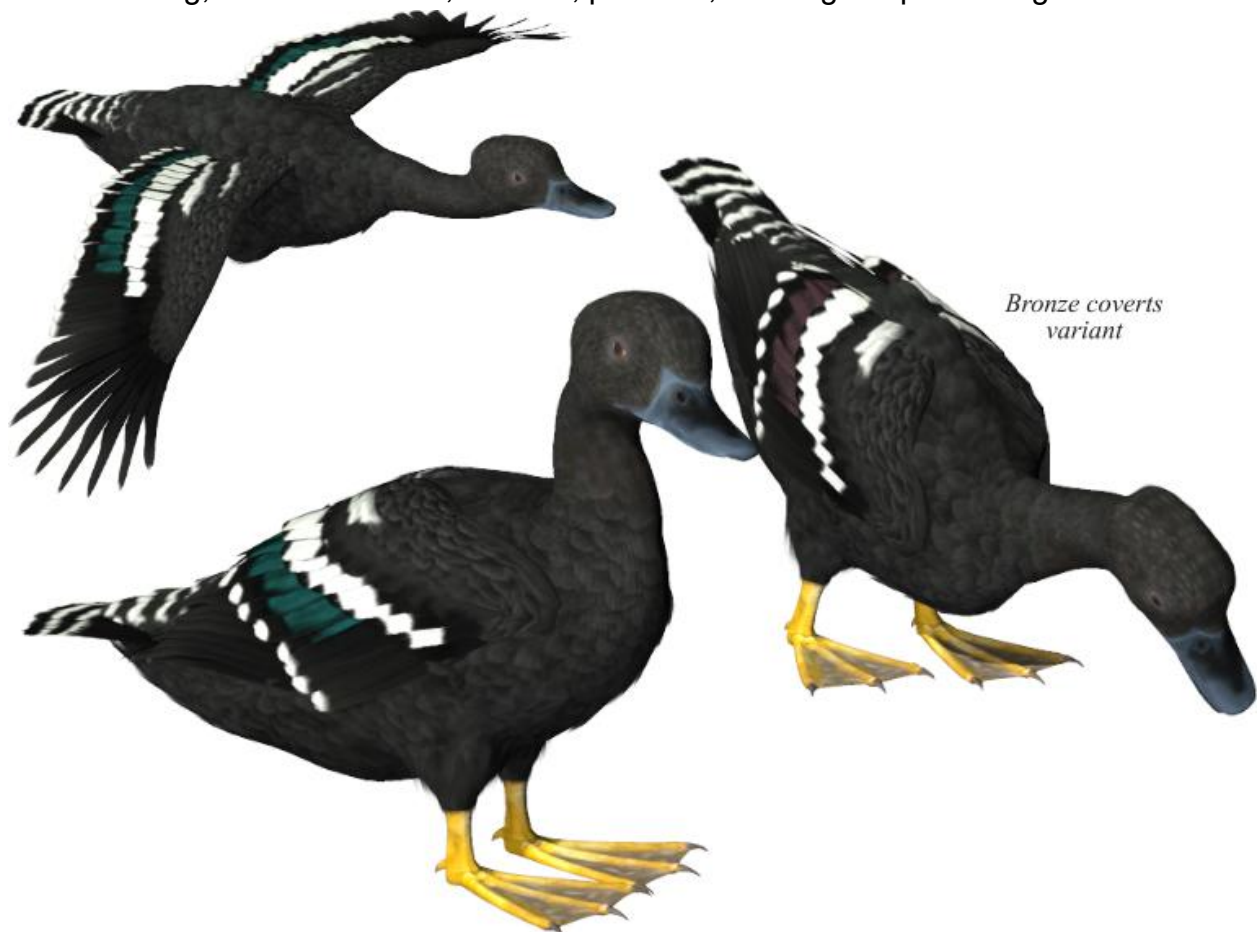
Scientific Name: *Anas sparsa*

Size: 22 inches (56 cm); Wingspan: 23-27 inches (58-69 cm)

Habitat: Africa; found in west equatorial Africa; East Africa south to Zimbabwe and South Africa. It is not a migrant, being territorial and sedentary within a permanent range, although in South Africa some birds move from rivers to large local open waters to roost, returning to the rivers in the early morning.

This species prefers fast-flowing shallow rivers and streams with rocky substrates, particularly in wooded and mountainous country up to 4,250 m. It can also be found in open, arid habitats and on lakes, reservoirs, lagoons, sandy-bottomed estuaries, stagnant or slow-flowing water. During this species' flightless molt period it requires cover near its foraging areas such as lodged branches or undercut banks.

Status: Least Concern. **Global population:** Unknown amount of adult individuals. The overall population trend is decreasing, although some populations may be stable and others have unknown trends. The species is threatened by deforestation in Kenya, and as it is a river specialist it is vulnerable to habitat loss through river degradation such as dam building, water extraction, siltation, pollution, clearing of riparian vegetation and



alien biota. Hybridization of the species with Mallard (*Anas platyrhynchos*) is also a potential threat.

Diet: Omnivorous diet consisting of waterweeds and other aquatic vegetation, agricultural grain, fruits from terrestrial plants overhanging the water, mulberries, firethorn (*Pyracantha*) berries, fallen acorns, aquatic insects and their larvae, crustaceans, larval amphibians and fish spawn.

Nesting: Sexes are alike. It is an entirely black duck with white marks on its back, a pale pink and blackish bill and yellow feet with blackish webbing. Males are noticeably larger than females.

This species breeds irregularly, the timing of breeding varying with locality and throughout both breeding and non-breeding seasons the species remains dispersed as individuals or single pairs. Only when roosting will flocks be large.

Ground cavity nests and elevated tree-nesting sites have been reported for this species, but usually nests are sited close to running water on islands, grassy river banks, in reed beds or amongst driftwood. The important criteria for suitable nest sites are close proximity to water and near invisibility from above. The nests are built in a cup shape out of driftwood and matted grass. Their egg quantity ranges from 4 to 8 eggs. Incubation is about 30 days by the mother and the fledgling period is 86 days and only the mother takes care of the young.

Cool Facts: Adults undergo a flightless molting period lasting around 25-30 days; males molting between October and February (numbers peaking in November), females between November and February (numbers peaking in December). Though it likes to stay in rivers and streams during the day it prefers large open waters during the night.

The African Black Duck is also known as the Black River Duck, West African Black Duck (*A. s. leucostigma*) or Ethiopian Black Duck and its average lifespan is 20-30 years.

Common Name: American Wigeon
Scientific Name: *Anas americana*

Size: 16.5–23.2 inches (42–59 cm); Wingspan: 33.1 inches (84 cm)

Habitat: The Americas; breeding in all but the extreme north of Canada and Alaska and also in the Interior West through Idaho, Colorado, the Dakotas, and Minnesota, as well as eastern Washington and Oregon. The majority of the population breeds on wetlands in the Boreal Forest and subarctic river deltas of Canada and Alaska. Although wigeon are found in each flyway, they are most numerous in the Pacific Flyway. Key wintering areas here include the Central Valley of California and Washington's Puget Sound. Farther east, the Texas Panhandle and the Gulf Coast of Louisiana and Texas also support large numbers of wintering wigeon.



This dabbling duck is migratory and winters farther south than its breeding range, in the southern half of the United States, Idaho, Washington, Oregon, and the Mid-Atlantic coastal region, and further south into Central America and northwestern South America. It is a rare but regular vagrant to Western Europe.

The American Wigeon is a bird of open wetlands, such as wet grassland or marshes with some taller vegetation.

Status: Least Concern. **Global population:** 2,500,000 individuals. Populations declined by approximately 50 percent in the 1980s as a result of extended drought in prairie regions, but have since largely recovered. In recent decades, wigeon numbers have declined in the prairie-parkland region of Canada and increased in the interior and west coast of Alaska. The American Wigeon is often the fifth most commonly hunted duck in the United States, behind the Mallard, Green-winged Teal, Gadwall, and Wood Duck.

Diet: Aquatic plants; some insects and mollusks during the breeding season. Wigeon also commonly feed on dry land, eating waste grain in harvested fields and grazing on pasture grasses, winter wheat, clover, and lettuce. They feed on vegetation at and just below the water's surface, submerging their heads and tipping their tails up to reach plants.

They are highly gregarious outside of the breeding season and will form large flocks. They are often seen with Coots.

Nesting: Males in breeding plumage have a white or cream-colored forehead and forecrown and a broad dark-green patch extending from behind eye to nape. The bill is bluish-gray with a black tip. The cheeks and the chin grayish and the breast, sides, and back are pinkish-brown. The rear flanks show a white patch with the under tail coverts black. The male's eclipse plumage has variable amounts of white and green on the head. The under tail coverts are variably black, with some white. In all plumages, the male shows a white patch on the upper wing, and a dark-green speculum. The female's head appears grayish overall, with finely-blended white and dusky streaks. The breast and flanks are pale reddish-brown; the mantle is grayish-brown with some buff barring. The bill is small and grayish, with a black tip. Immatures are similar to adult female.

American Wigeon courtship displays include tail-wagging, head-turning, wing-flapping, and sudden jumps out of the water. It nests on the ground, near water and under cover. It lays 6–12 creamy white eggs

Cool Facts: Widgeon or wigeon? Widgeon is an older spelling with Wigeon becoming the more accepted term by birders now. The American Wigeon was formerly known as "Baldpate" because the white stripe resembled a bald man's head.

The American Wigeon's short bill enables it to exert more force at the bill tip than other dabbling ducks, thus permitting efficient dislodging and plucking of vegetation. They are the most likely dabbling duck to leave the water and graze on vegetation in fields and their diet has a higher proportion of plant matter than the diet of any other dabbling duck.

Common Name: Cinnamon Teal
Scientific Name: *Anas cyanoptera*

Size: 14.2-16.9 inches (36-43 cm); Wingspan: 22 inches (56 cm)

Habitat: The Americas; their breeding habitat is marshes and ponds in the western United States and extreme southwestern Canada. They are rare visitors to the east coast of the United States. These ducks are migratory and most winter in northern South America and the Caribbean (generally not migrating as far as the Blue-winged Teal), with some wintering in California and southwestern Arizona.

Its preferred habitat is freshwater (including highly alkaline) seasonal and semi-permanent wetlands of various sizes, including large marshes, reservoirs, sluggish streams, ditches, and stock ponds.

Status: Least Concern. **Global population:** Unknown amount of adult individuals. This species has undergone a small or statistically insignificant decrease over the last 40 years in North America. But overall the population trend is decreasing, although some populations may be stable and others are unknown.



Diet: Seeds and aquatic vegetation, aquatic and semi-terrestrial insects, snails, and zooplankton. Teal feed mainly on the water surface, dabbling with just the bill in water or tips up with the entire head underwater.

Nesting: Male breeding plumage has a bright cinnamon head and body plumage with a dark rump, tail, and under tail. The upper wing has a light-blue patch with a white rear border. The back of wing is iridescent green. Male eyes are red. The Eclipse plumage is gray-brown overall, with a rusty wash. There is a small white area at base of bill.

Females are gray-brown overall, with small white area at base of a dark bill. There's a light-blue upper wing patch with a narrow white border. The back of wing is mostly brown, with little green. Females have brown eyes. Immatures are similar to adult female.

Cinnamon Teal are seasonally monogamous and usually select new mates each year. The female Cinnamon Teal often places her nest below matted, dead stems of vegetation so it is completely concealed on all sides and from above. She approaches the nest through tunnels in the vegetation. The nest is a depression on the ground, near water, and lined with grasses and down. 4-16 creamy white eggs are laid.

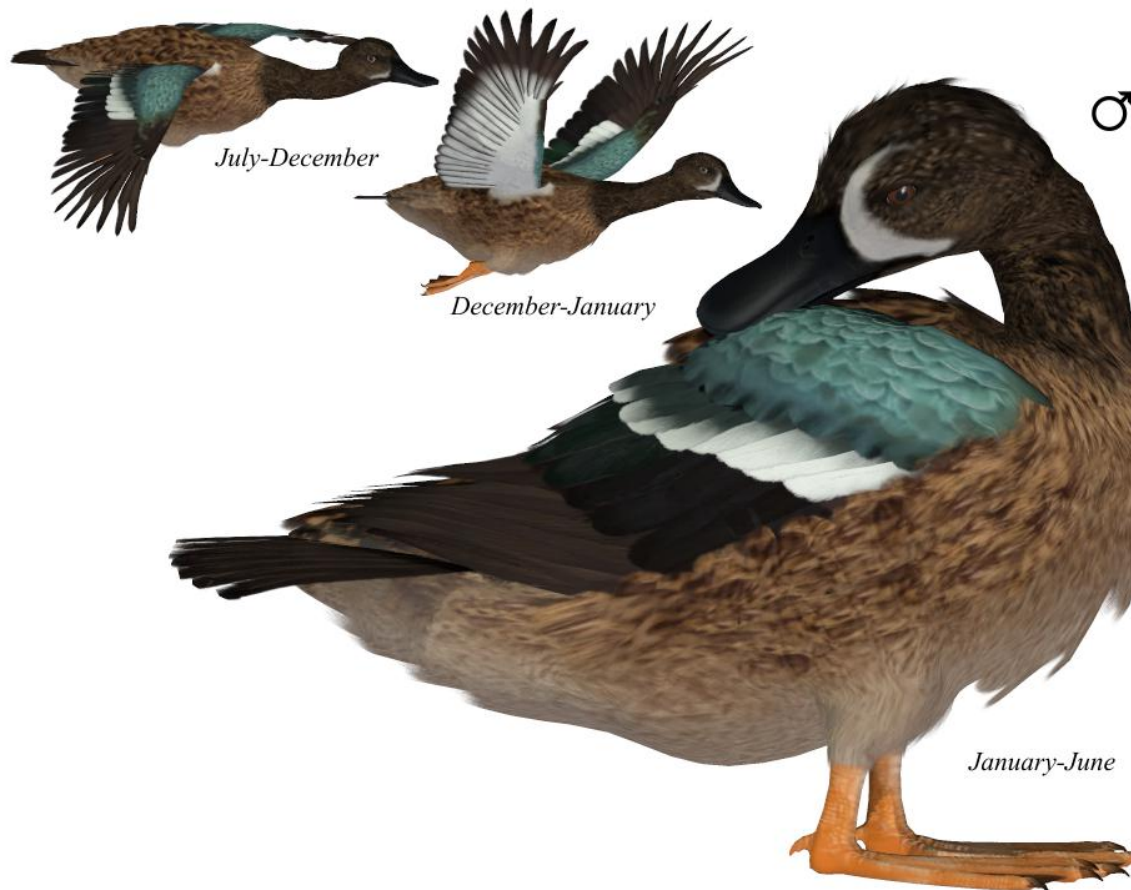
Cool Facts: The Cinnamon Teal is the only duck with separate breeding populations in North America and South America and unlike most North American dabbling ducks; the Cinnamon Teal rarely breeds in the midcontinent prairie-parkland region.

Common Name: Blue-winged Teal
Scientific Name: *Anas discors*

Size: 16 inches (40 cm); Wingspan: 23 inches (58 cm)

Habitat: The Americas; all of North America except western and northern Alaska, northern Yukon Territory, northern Northwest Territory, northeastern Canada. They are rare in the desert southwest, and the west coast.

The breeding range extends from east-central Alaska and southern Mackenzie District east to southern Quebec and southwestern Newfoundland. In the contiguous United States it breeds from northeast California east to central Louisiana, central Tennessee, and the Atlantic Coast. The western subspecies inhabits that part of the breeding range west of the Appalachian Mountains. The Atlantic subspecies nests along the Atlantic Coast from New Brunswick to Pea Island, North Carolina.



They migrate in flocks to winter in the south of its breeding range. During migration, some birds may fly long distances over the open ocean. They are occasional vagrants

to Europe, and in recent years have been annual vagrants in Britain and Ireland. The Blue-winged Teal winters from southern California to western and southern Texas, the Gulf Coast to the Atlantic Coast and south to Central and South America. It is often seen wintering as far south as Brazil and central Chile.

They inhabit shorelines more often than open water and prefer calm water or sluggish currents to fast water. In coastal areas, breeding occurs in salt-marsh meadows with adjoining ponds or creeks. Teal winter on shallow inland freshwater marshes and brackish and saltwater marshes. They are flightless during their late summer molt, and they spend this time in prairie potholes or large marshes.

Status: Least Concern. **Global population:** 2,800,000 to 7,400,000 individuals. Blue-winged Teal are the second most abundant duck in North America, behind the Mallard.

Their numbers fluctuate mainly as a response to water conditions, with drought causing populations to fall. By funding farmers to leave some of their fields fallow, the USDA Conservation Reserve Program has helped increase grassland nesting habitat by about 1.8 million acres in this species' prairie pothole breeding range. Blue-winged Teal are early migrants, so they're gone from much of the U.S. before duck-hunting season begins in many states. Still, hunters shoot 200,000 to upwards of 500,000 Blue-winged Teal per year (this hunting pressure is carefully managed to maintain population goals). Blue-winged Teal, like other ducks, are vulnerable to wetland loss or degradation, pesticide contamination (particularly on their wintering grounds, in countries where DDT is still legal), and consumption of lead shot where it is still used.

About half of the nest failures of Blue-winged Teal were caused by mammals. Striped and Spotted Skunks were responsible for two-thirds of these losses. All nest losses caused by birds were attributed to either crows or magpies

Diet: Aquatic insects such as midge larvae, crustaceans, clams, and snails as well as vegetation and grains. Breeding females eat mostly protein-rich animal matter. In winter, seeds such as rice, millet, water lilies are the predominant foods. They feed by dabbling in shallow water at the edge of marshes or open water.

Nesting: Both sexes have sky-blue wing coverts, a green speculum, and yellow legs. They have two molts per year and a third molt in their first year. The adult male has a greyish blue head with a white facial crescent, a light brown body with a white patch near the rear and a black tail. The adult female is mottled brown, and has a whitish area at base of bill. The call of the male is a short whistle and the female's call is a soft quack.

The onset of courtship among immature Blue-winged Teal often starts in late January or early February. In areas south of the breeding grounds, Blue-winged Teal are more active in courtship during the spring migration than are most other ducks. They have a range of exaggerated motions that they use as displays. Often male will make these displays while oriented to the side of the female he is courting. They include pumping

the head up and down, dipping the head under water rapidly, and tipping up or dabbling in the water with body feathers raised. Females may respond by "inciting": lowering her head, pointing her bill at the male, and then raising her head. Pair bonds typically dissolve during incubation, and adults form new pair bonds with different mates in the winter or spring.

They build their nests on dry ground in grassy sites such as bluegrass meadows, hayfields, and sedge meadows within several hundred yards of open water. They will also nest in areas with very short, sparse vegetation. If the habitat is good, they nest communally.

Blue-winged Teal generally lay 10 to 12 eggs. Delayed nesting and re-nesting efforts will have substantially smaller clutches, averaging five to six eggs. Incubation takes 21 to 27 days and ducklings are able to walk within 12 hours of hatching.

Cool Facts: Blue-winged Teal are generally the first ducks south in the fall and the last ones north in the spring. Adult drakes depart the breeding grounds well before adult hens and immatures. Most Blue-winged Teal flocks seen after mid-September are composed largely of adult hens and immatures.

Common Name: Black-bellied Whistling Duck
Scientific Name: *Dendrocygna autumnalis*

Size: 18.5 – 20.1 inches (47-51 cm); Wingspan: 30-37 inches (76-94 cm)

Habitat: North and South America; found in the Southern United States and Arizona to Mexico, the Yucatan and to Brazil. The Whistling Duck is a resident to short-distance migrant. Populations within the United States are at the extreme north of this species' range, and many of these birds migrate south a few hundred miles into Mexico for the winter. Across their extensive range in Central and South America, Black-bellied Whistling Ducks do not migrate.

They nest in thickets or stands of mesquite, hackberry, willow, live oak, and other trees. They forage in fields, lawns, and shallow, freshwater ponds that often contain water hyacinth, water lilies, and cattails. In the tropics, they also use mangroves, rivers, and lagoons.

Status: Least Concern. **Global population:** 1,550,000 adult individuals. Black-bellied Whistling-Ducks have been expanding their range in the southern United States, and the North American Breeding Bird Survey shows strong population growth, estimated at



6.9 percent per year from 1966–2010. Although it's legal to hunt whistling-ducks in season, they are only rarely targeted by hunters. Like all aquatic species, Black-bellied Whistling-Ducks are vulnerable to poor water quality—in the 1980s birds in Mexico were reported with high levels of DDT, dieldrin, and other persistent organic compounds. Degradation or clearing of wetlands can reduce habitat availability; however, in general Black-bellied Whistling-Ducks seem to be doing well around human development.

Diet: Plant material; including smartweed, grasses, swamp timothy, amaranth, sedges, bindweed, and nightshade. They also eat many agricultural crops including sorghum, millet, corn, rice, and wheat. They will eat a smaller amount of aquatic animals such as snails, insects, and spiders.

This duck typically forages at night, leaving roosts at sunset to fly to foraging areas. They will feed in fields or by dabbling in shallow ponds

Nesting: Sexes are alike. They have a long red bill, long head and longish legs, pale grey head and mostly grey-brown plumage. The belly and tail are black, and the body plumage, back of the neck and cap are a rich chestnut brown. The face and upper neck are grey, and they sport a thin but distinct white eye-ring. The extensive white in the wings is obvious in flight, less so on the ground; it is formed by the secondary remiges while the primaries are black; the wing-coverts are brown. Juveniles are similar but have a grey bill and less contrasting belly.

They form lifelong pair bonds and breed in their first year of life. Males spar by chasing or nipping at each other, or with a threat display that involves stretching their neck forward and opening their bill. Pairs form in winter; courtship includes birds stretching their necks out horizontally, dipping their bill, and flicking water over the back.

Both sexes help select the nest site. Nests are often found in tree hollows where a limb has broken or the trunk has rotted away. They may also use nest boxes or nest on the ground. No matter what nesting site has been chosen, they typically don't build a formal nest; rather they lay their eggs directly on whatever material was collected there. Cavity openings range from 5–12 inches across. When nesting on the ground, they make a scrape or a shallow bowl of grasses, with thick vegetation overhead, such as willow, mesquite, or cactus. Typically a clutch is 9-18 eggs with the incubation period being 25-30 days. Eggs are white in appearance and are 1.8-2.4 inches (3-4.2cm) in length. The fledging period is 10-13 days.

Females often lay eggs in the nests of other whistling-ducks—a behavior known as egg-dumping. Nest predators include raccoons, rat snakes, and bull snakes; ducklings may be killed by fire ants, bass, catfish, and gar. Great Horned Owls sometimes take adults.

Cool Facts: The whistling-ducks were formerly known as tree-ducks, but only a few, such as the Black-bellied Whistling-Duck actually perch or nest in trees. As the name implies, these are noisy birds with a clear whistling *waa-chooo* call.

Black-bellied Whistling-Ducks have long legs and spend more time than other ducks walking on land or perching in trees, fences, telephone lines, or in Spanish moss. They are gregarious year-round, forming flocks of up to 1,000 birds. Individuals are attracted to areas where corn and rice are grown and can cause damage to crops.

There are two subspecies, which intergrade in Panama:

- **Northern Black-bellied Whistling Duck**, *Dendrocygna autumnalis autumnalis* – Southern USA to Panama. It is larger, with a brown breast and upper back.
- **Southern Black-bellied Whistling Duck**, *Dendrocygna autumnalis discolor* – Panama to Paraguay and adjacent regions. It is smaller, with grey breast and upper back.

Common Name: Muscovy Duck
Scientific Name: *Cairina moschata*

Size: 26-33 inches (66-84 cm); Wingspan: 54-60 inches (137-152 cm)

Habitat: The Americas; native to Mexico, Central, and South America. Small wild and feral breeding populations have established themselves in the lower Rio Grande Valley of Texas, as well as in many other parts of North America, including southern Canada. Feral Muscovy Ducks are found in New Zealand and have also been reported in parts of Europe.

This is a non-migratory species, that normally inhabits forested swamps, lakes, streams and nearby grassland and farm crops. It often roosts in trees at night.

Status: Least Concern. **Global population:** Unknown amount of adult individuals.

Diet: Plant material obtained by grazing or dabbling in shallow water, and small fish, amphibians, reptiles, crustaceans, insects, and millipedes.



Nesting: All Muscovy Ducks have long claws on their feet and a wide flat tail. Females are considerably smaller, roughly half the males' size. On the head of the wild male there is a short crest on the nape. The bill is black with a speckling of pale pink. A blackish or dark red knob can be seen at the bill base, and the bare skin of the face is similar to that in color. The eyes are yellowish-brown. The legs and webbed feet are blackish.

The wild female is similar in plumage, but she has a feathered face and lacks the prominent knob. The juvenile is duller overall, with little or no white on the upper wing. Both sexes have pink or red wattles around the bill, those of the male being larger and more brightly colored.

Domesticated birds may look similar; most are dark brown or black mixed with white, particularly on the head.

This species does not form stable pairs. They will mate on land or in water. Domesticated Muscovy Ducks can breed up to three times each year.

The hen lays a clutch of 8–16 white eggs, usually in a tree hole or hollow, which are incubated for 35 days. The sitting hen will leave the nest once a day from 20 minutes to one and a half hours, and will then defecate, drink water, eat and sometimes bathe. Once the eggs begin to hatch it may take 24 hours for all the chicks to break through their shells. When feral chicks are born they usually stay with their mother for about 10–12 weeks. Their bodies cannot produce all the heat they need, especially in temperate regions, so they will stay close to the mother especially at night.

Often, the drake will stay in close contact with the brood for several weeks. The male will walk with the young during their normal travels in search for food, providing protection.

Cool Facts: The species is divided into two subspecies. The wild subspecies, *Cairina moschata sylvestris*, is commonly known in Spanish as the *pato real* ("royal duck") in most of its natural range.

The domestic subspecies, *Cairina moschata domestica*, is commonly known in Spanish as the *pato criollo* ("creole duck"). They have been bred since pre-Columbian times by Native Americans and are heavier and less able to fly long distances than the wild subspecies. Their plumage color is also more variable.

The term "Muscovy" means "from the Moscow region", but these ducks are neither native there nor were they introduced there before they became known in Western Europe. It is not quite clear how the term came about; it very likely originated in the late 16th century.

Domesticated Muscovy Ducks often have plumage features differing from other wild Muscovy Ducks. White breeds are preferred for meat production. The darker ones can have much melanin in the skin, which some people find unappealing.

The Muscovy Duck can be crossed with mallards in captivity to produce hybrids, known as mulard duck ("mule duck") because they are sterile. Muscovy drakes are commercially crossed with mallard-derived hens either naturally or by artificial insemination. The 40–60% of eggs that are fertile result in birds raised only for their

meat or for production of foie gras: they grow fast like mallard-derived breeds but to a large size like Muscovy Ducks. Conversely, though crossing Mallard drakes with Muscovy hens is possible, the offspring are neither desirable for meat nor for egg production.

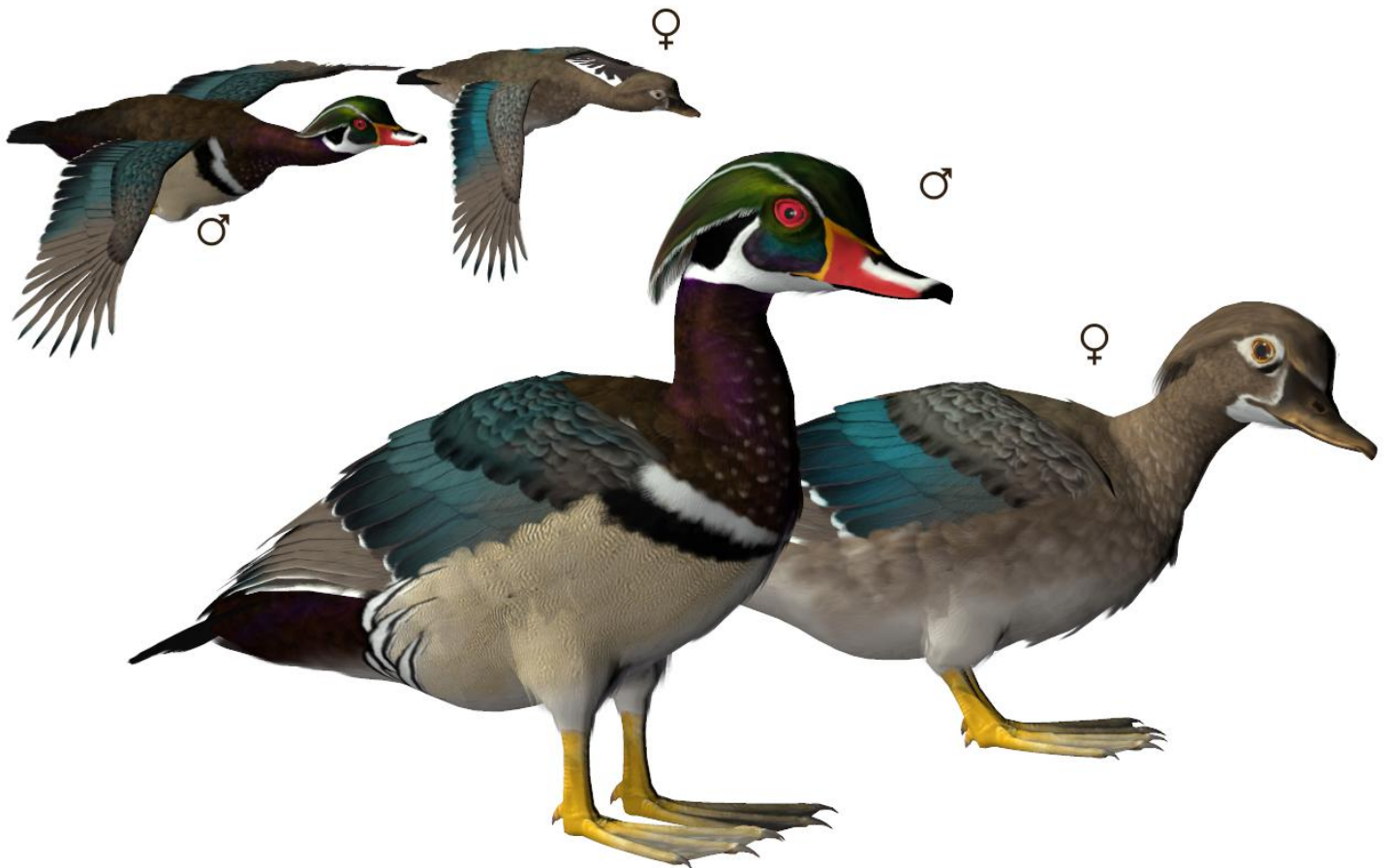
Common Name: Wood Duck

Scientific Name: *Aix sponsa*

Size: 19-21 inches (47-54 cm); Wingspan: 26-29 inches (66-73 cm)

Habitat: North America; found in eastern North America, the west coast of the United States and western Mexico.

Wood Ducks thrive in bottomland forests, swamps, freshwater marshes, and beaver ponds. They are also common along streams of all sizes, from creeks to rivers, and the sheer extent of these make them an important habitat. Wood Ducks seem to fare best when open water alternates with 50–75% vegetative cover that the ducks can hide and forage in. This cover can consist of downed trees, shrubs such as alder, willow, and buttonbush, as well as emergent herbaceous plants such as arrowhead and smartweeds.



Status: Least Concern. **Global population:** Unknown amount of individuals. The population of the Wood Duck was in serious decline in the late 19th century as a result of severe habitat loss and market hunting both for meat and plumage for the ladies' hat market in Europe. By the beginning of the 20th century Wood Ducks had virtually

disappeared from much of their former range. In response to the Migratory Bird Treaty established in 1916 and enactment of the Federal Migratory Bird Treaty Act of 1918, wood duck populations began to recover slowly. By ending unregulated hunting and taking measures to protect remaining habitat, wood duck populations began to rebound in the 1920s. The development of the artificial nesting box in the 1930s gave an additional boost to Wood Duck production.

Expanding North American Beaver populations throughout the Wood Duck's range have also helped the population rebound as beavers create an ideal forested wetland habitat for Wood Ducks.

The population of the Wood Duck has increased a great deal in the last several years. The increase has been due to the work of many people constructing Wood Duck boxes and conserving vital habitat for the Wood Ducks to breed. During the open waterfowl season, U.S. hunters have only been allowed to take two Wood Ducks per day in the Atlantic and Mississippi Flyways. However, for the 2008–2009 season, the limit was raised to three. The Wood Duck limit remains at two in the Central Flyway and at seven in the Pacific Flyway. It is the second most commonly hunted duck in North America, after the mallard.

Diet: Smartweed, water primrose, panic grass, duckweed, millet, water lily, blackberries and wild cherries, as well as flies, beetles, caterpillars, isopods, and snails. When aquatic foods are unavailable they may take to dry land to eat acorns and other nuts from forests and grain from fields. Diet studies indicate a lot of variability, but plant materials make up 80% or more of what the species eats.

They feed by dabbling or short, shallow dives.

Nesting: The adult male has distinctive multicolored iridescent plumage and red eyes, with a distinctive white flare down the neck. The female, less colorful, has a white eye-ring and a whitish throat. Both adults have crested heads.

The male's call is a rising whistle, *jeeeeee*; the females utter a drawn-out, rising squeal, *do weep do weep*, when flushed, and a sharp *cr-r-ek*, *cr-e-ek* for an alarm call.

Wood Ducks pair up in January, and most birds arriving at the breeding grounds in the spring are already paired. The Wood Duck is the only North American duck that regularly produces two broods in one year. Wood Ducks are not territorial, with the exception that a male may fight off other males that approach his mate too closely. Courting males swim before a female with wings and tail elevated, sometimes tilting the head backwards for a few seconds. Males may also perform ritualized drinking, preening, and shaking movements. Both members of a pair may preen each other.

Breeding pairs search for nest cavities during early morning. The male stands outside as the female enters and examines the site. They typically choose a tree more than 1 foot and often 2 feet in diameter, with a cavity anywhere from 2–60 feet high (higher

sites seem to be preferred). These cavities are typically places where a branch has broken off and the tree's heartwood has subsequently rotted. Woodpecker cavities are used less frequently. Wood Ducks cannot make their own cavities. The nest tree is normally situated near to or over water, though Wood Ducks will use cavities up to 1.2 miles from water.

Nest cavities can have openings as small as 4 inches across, and these may be preferred because they are harder for predators to enter. Wood Ducks sometimes use much larger openings, up to a couple of feet across. Cavity depths are variable; they average about 2 feet deep but in rotten trees can be 15 feet deep (the young use their clawed feet to climb out). Nest boxes of many designs have proved very popular and successful with Wood Ducks, though plastic nest boxes can overheat in strong sun. The female lines the nest with down feathers she takes from her breast.

Individual females typically lay 10-11 eggs per clutch, but some very full nests have been found containing 29 eggs, the result of egg-dumping.

After hatching, the ducklings jump down from the nest tree and make their way to water. The mother calls them to her, but does not help them in any way. The ducklings may jump from heights of up to 89 m (290 ft) without injury.

Cool Facts: Natural cavities for nesting are scarce, and the Wood Duck readily uses nest boxes provided for it. If nest boxes are placed too close together, many females lay eggs in the nests of other females.

Special Thanks to...

....my betatesters (Flinthawk, Rhonda, and Barbara)

...and Nerd3D (for his invaluable help in special Poser coding)

Species Accuracy and Reference Materials

The author-artist has tried to make these species as accurate to their real life counterparts as possible. Birds of the same species vary considerably, just as all others do in nature. The birds were created using the correct field markings and the most common similarities.

With the use of one generic model to create dozens of unique bird species, some give and take is bound to occur. In addition, 3D-models have many technical challenges, which make exact representations difficult, if not impossible. It's best to think of these birds represented as resembling the particular species, and they may not, in some cases, be 100% scientifically accurate.

The model and morphs were created using Luxology's Modo. The texture maps were created in Corel's Painter. The model was rigged in Smith-Micro's Poser and adapted for use in DAZ's DAZ Studio.

Field Guide Sources:

- **"The Sibley Guide to Birds"** by David Allen Sibley.
- **"The LeMaster Method to Waterfowl Identification"** by Richard LeMaster
- **"Birds of Europe"** by Killian Mullarney, Lars Svensson, Dan Zetterstorm and Peter J. Grant.
- **"Birds of Southeast Asia"** by Craig Robson.
- **"Birds of East Asia"** by Mark Brazil.
- **"Field Guide to the Birds of East Africa"** by Terry Stevenson and John Fanshawe

Internet Sources:

- **Cornell Lab of Ornithology** (<http://www.birds.cornell.edu>)
- **Wikipedia** (<http://www.wikipedia.com>)
- **Birdlife International** (<http://www.birdlife.org>)

Appendix

Maps Used on the Ducks in this Set

Duck Species	Main Map Diffuse	Main Map Specular	Main Map Bump	Wing Map Diffuse	Wing Map Specular	Tail Map	Additional Maps
African Black Duck	ABDuck1.JPG	ABDuck1_s.JPG	ABDuck1_b.JPG	ABDuck2b.JPG	ABDuck2b_s.JPG	ABDuck3.JPG	
African Black Duck2	ABDuck1.JPG	ABDuck1_s.JPG	ABDuck1_b.JPG	ABDuck2.JPG	ABDuck2_s.JPG	ABDuck3.JPG	
American Wigeon-M	AmerWigM1.JPG	AmerWigM1_s.JPG	NSMDuck1_b.JPG	AmerWigM2.JPG	EurWigM2_s.JPG	EurWigM3.JPG	
Black-bellied Whistling Duck	BWDuck1.JPG	BWDuck1_s.JPG	BWDuck1_b.JPG	BWDuck2.JPG	BWDuck2_s.JPG	BWDuck3.JPG	
Blue-winged Teal1-M	BWTealM1.JPG	BWTealM1_s.JPG	NSMDuck1_b.JPG	BWTealM2.JPG	CinTealM2_s.JPG	CinTealM3.JPG	
Blue-winged Teal2-M	BWTealM1b.JPG	BWTealM1_s.JPG	NSMDuck1_b.JPG	BWTealM2.JPG	CinTealM2_s.JPG	CinTealM3.JPG	
Blue-winged Teal3-M	BWTealM1c.JPG	BWTealM1_s.JPG	NSMDuck1_b.JPG	BWTealM2.JPG	CinTealM2_s.JPG	CinTealM3.JPG	
Cinnamon Teal-M	CinTealM1.JPG	CinTealM1_s.JPG	NSMDuck1_b.JPG	CinTealM2.JPG	CinTealM2_s.JPG	CinTealM3.JPG	
Eurasian Teal-M	EurTealM1.JPG	EurTealM1_s.JPG	EurTealM1_b.JPG	EurTealM2.JPG	EurTealM2_s.JPG	EurWigM3.JPG	
Eurasian Wigeon-M	EurWigM1.JPG	EurWigM1_s.JPG	NSMDuck1_b.JPG	EurWigM2.JPG	EurWigM2_s.JPG	EurWigM3.JPG	
Gadwall-M	GadwallM1.JPG	BWDuck1_s.JPG	BWDuck1_b.JPG	GadwallM2.jpg	BWDuck2_s.JPG	GadwallM3.jpg	
Mallard-F	MalFDuck1.JPG	NSFDuck1_s.JPG	NSMDuck1_b.JPG	MalFDuck2.JPG	MalMDuck2_s.JPG	MalMDuck3.JPG	
Mallard-M	MalMDuck1.JPG	MalMDuck1_s.JPG	NSMDuck1_b.JPG	MalMDuck2.JPG	MalMDuck2_s.JPG	MalMDuck3.JPG	
Mandarin Duck-F	ManFD1.JPG	WFDuck1_s.JPG	ManMD1_b.JPG	ManFD2.JPG	WFDuck2_s.JPG	WFDuck3.jpg	ManFD_1.JPG, ManMD_t1-5.JPGs (additional diffuse and trans)
Mandarin Duck-M	ManMD1.JPG	ManMD1_s.JPG	ManMD1_b.JPG	ManMD2.JPG	ManMD2_s.JPG	BWDuck3.jpg	ManMD_1-5.JPGs, ManMD_t1-5.JPGs (additional diffuse and trans)

Muscovy Duck-M	MuscovyM1.JPG	MuscovyM1_s.JPG	MuscovyM1_b.JPG	MuscovyM2.JPG	MuscovyM2_s.JPG	BWDuck3.JPG	
Northern Pintail-M	NoPinM1.JPG	NoPinM1_s.JPG	NSMDuck1_b.JPG	NoPinM2.JPG	EurWigM2_s.JPG	NoPinM3.JPG	NoPinM3_t.JPG (replaces sbrm_d3_t.jpg)
Northern Shoveler-F	NSFDuck1.JPG	NSFDuck1_s.JPG	NSMDuck1_b.JPG	NSFDuck2.JPG	NSFDuck2_s.JPG	NSFDuck3.JPG	
Northern Shoveler-M	NSMDuck1.JPG	NSMDuck1_s.JPG	NSMDuck1_b.JPG	NSMDuck2.JPG	NSMDuck2_s.JPG	NSMDuck3.JPG	
Tufted Duck-M	TuftedDuckM1.JPG	TuftedDuckM1_s.JPG	RedheadM1_b.JPG	TuftedDuckM1.JPG	TuftedDuckM2_s.JPG	BWDuck3.JPG	TuftedDuckM1c.JPG (replaces sbrm_d1_t5)
Wood Duck-F	WFDuck1.JPG	WFDuck1_s.JPG	ManMD1_b.JPG	WFDuck2.JPG	WFDuck2_s.JPG	WFDuck3.JPG	WFDuck1c.JPG (WoodDuck Material map)
Wood Duck-M	WMDuck1.JPG	WMDuck1_s.JPG	ManMD1_b.JPG	WMDuck2.JPG	WMDuck2_s.JPG	BWDuck3.jpg	WMDuck1c.JPG, WMDuck1cs.JPG (WoodDuck Material maps)

Poser Rendering with Ambient Occlusion Lighting

Because of the high use of specular maps and quirks in Poser rendering in the Waterfowl series, ambient occlusion lighting may produce unexpected results such as seams, grid patterns and odd shadowing. Seams appear to show up on neck lines when rendered at a distance, but not when close-up. Grids sometimes appear on close-up renders but not at distances.

The Ambient Occlusion lighting does not appear to add to the realism in rendering of the waterfowl so it is suggested that it not be used, if these issues appear.

Songbird ReMix Merchandise



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