

Avian Models for 3D Applications
Characters and Procedural Maps by Ken Gilliland

Songbird ReMix Flamingos

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Songbird ReMix Flamingos

Introduction

“Songbird ReMix Flamingos brings to life all six species of Flamingo plus the infamous Plastic Lawn Ornament. This unique bird comes in all shades of pink to coral red. From the threatened James’s Flamingo of the Andes to the Greater Flamingo of the African wetlands to the American Flamingo of the Mangrove swamps, Songbird ReMix Flamingo will definitely fulfill your needs for a pink bird.

Overview and Use

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):
 - **Flamingos (Order Phoenicopteriformes)**
- **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. When 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.

Posing & Shaping Considerations

This volume has various species, so when using generic poses not every pose will work perfectly with every bird. You may find that some minor alteration on the stock poses may be warranted.

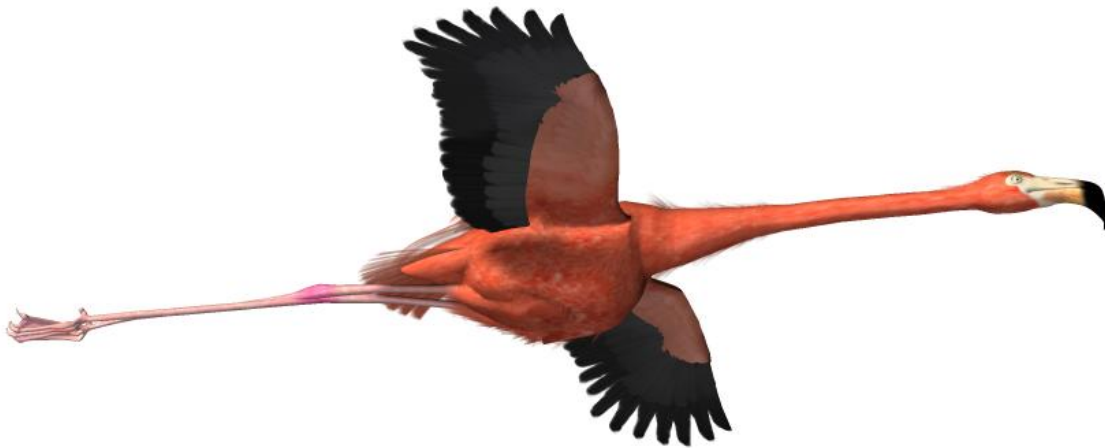
Here are some of the most common alterations you may need to make:

- Birds will not be flat on the zero plane due to leg size and overall scale.
- Because of the numerous beak shapes, closing the beak may range from 0.5 to 1+. Usually 0.8-1.0 is about right.
- **Coverlets.** In some cases (Northern & Wattled Jacanas), the models wings do not depict the true markings of the bird when folded; the Coverlet body parts fixes this. They were designed as slipcovers for the folded wings. By default, the Coverlets will be deployed when the wings are folded. The Hide Coverlet morph (which is hidden) has two modes; On or off. "Unhide" parameters if you want to their use to be optional. The basic rule is that they should always be hidden if the Wings are in any position other than completely Folded. There are additional Coverlets morphs are in the Creation Controls (Wings and Tail) section. You can hide the coverlets by turning the Opacity in DAZ Studio to "0" or disconnecting the transparency map node in Poser.
- **"Fluff" lines.** With some lighting, seams where the "Fluff" transparency planes correct to the model may show badly. In these cases, there are 3 "work-arounds"...
1) reposition the lighting so the seam(s) doesn't show; 2) smooth/paint it out in postwork; or 3) use the "Hide Fluff" morphs found in Correction Controls on the offending area.

Birds in Flight

Long-necked shorebirds will fly differently depending on their species; some fly with their necks out stretched while other fly with their necks bunched in a “U” shaped position. These birds often have the same neck pose when not in flight.

Flamingos fly with their necks out-stretched as shown in the image below.



IK Concerns

Some poses may go askew when IK is turned on. By default, Poser's IK feature is turned off when loading a bird. To turn it on, select the “Figure” category from the main tool bar and “Use Inverse Kinematics” from the submenu.

By default, DAZ Studio's IK feature is turned on when loading a bird. This will cause the thigh and shin rotations change when the character is moved. The **CTRL K** keypress will turn IK on and off in DAZ Studio. IK doesn't work that well in Studio, so I suggest selecting the character in the **Scene tab** and simply deleting the two IK body parts to remove IK.

Where to find your Birds and Poses

Type Folder	Bird Species
Gulls and Waders (Order Charadriiformes)	Northern Jacana Wattled Jacana African Jacana Lesser Jacana Madagascar Jacana Bronze-winged Jacana Pheasant-tailed Jacana Comb-crested Jacana



Songbird ReMix Flamingos

Field Guide

Old World Flamingos

**Greater Flamingo
Lesser Flamingo**

New World Flamingos

**Chilean Flamingo
James's Flamingo
Andean Flamingo
American Flamingo
Plastic Lawn Flamingo**

General Flamingo Facts

From Wikipedia, the free encyclopedia (edited by Ken Gilliland)

Flamingos or flamingoes are gregarious wading birds in the genus *Phoenicopterus* and family *Phoenicopteridae*. They are found in both the Western Hemisphere and in the Eastern Hemisphere, but are more numerous in the latter. There are four species in the Americas and two species in the Old World. Two species, the Andean and the James's Flamingo, are often placed in the genus *Phoenicoparrus* instead of *Phoenicopterus*.

Evolution

The prehistory of the *Phoenicopteriformes* is far better researched than their systematic affinities. An extinct family of peculiar "swimming flamingos", the *Palaelodidae*, was initially believed to be the ancestors of the *Phoenicopteridae*. This is now rejected, as the fossil genus *Elornis*, apparently a true albeit primitive flamingo, is known from the Late Eocene, before any palaelodid flamingoes have been recorded. A considerable number of little-known birds from the Late Cretaceous onwards are sometimes considered to be flamingo ancestors. These include the genera *Torotix*, *Scaniornis*, *Gallornis*, *Agnopterus*, *Tiliornis*, *Juncitarsus* and *Kashinia*; these show a mix of characters and are fairly plesiomorphic in comparison to modern birds. (The supposed "Cretaceous flamingo" *Parascaniornis* is actually a synonym of *Baptornis* and not a close relative to any living bird). There exists a fairly comprehensive fossil record of the genus *Phoenicopterus*. The systematics of prehistoric *Phoenicopteriformes* known only from fossils is as followed:

- **Palaelodidae**
 - *Adelalopus* (Borgloon Early Oligocene of Hoogbutsel, Belgium)
 - *Palaelodus* (Middle Oligocene -? Middle Pleistocene)
 - *Megapalaelodus* (Late Oligocene - Early Pliocene)
- **Phoenicopteridae**
 - *Elornis* (Middle? Eocene - Early Oligocene) - includes *Actiornis*
 - *Phoenicopteridae* gen. et sp. indet. (Camacho Middle? - Late Miocene? of San José, Uruguay)[2]
 - Prehistoric species of *Phoenicopterus*:
 - *Phoenicopterus croizeti* (Middle Oligocene - Middle Miocene of C Europe)
 - *Phoenicopterus floridanus* (Early Pliocene of Florida)
 - *Phoenicopterus stocki* (Middle Pliocene of Rincón, Mexico)
 - *Phoenicopterus copei* (Late Pleistocene of W North America and C Mexico)
 - *Phoenicopterus minutus* (Late Pleistocene of California, USA)
 - *Phoenicopterus aethiopicus*

Relations

The identity of the closest relatives of the flamingos is a rather contentious issue. A wide variety of birds have been proposed as their closest relatives, on a wide variety of evidence. To reflect the uncertainty about this matter, flamingos are generally placed in their own order. Recent molecular and anatomical studies have suggested a relation with grebes.

Traditionally, the long-legged Ciconiiformes, probably a paraphyletic assemblage, have been considered the flamingos' closest relatives and the family was included in the order. Usually the ibises and spoonbills of the Threskiornithidae were considered their closest relatives within this order. Earlier genetic studies, such as those of Charles Sibley and colleagues, also supported this relationship. Relationships to the waterfowl were considered as well, especially as flamingos and waterfowl are parasitized by feather lice of the genus *Anaticola*, which are otherwise exclusively found on ducks and geese. Other scientists proposed flamingos as waders most closely related to the stilts and avocets, Recurvirostridae. The peculiar presbyornithids were used to argue for a close relationship between flamingos, waterfowl, and waders, but they are now known to be unequivocal waterfowl with a peculiarly derived morphology paralleling waders and flamingos.

Genetic studies since 2004 have identified a major clade of birds, which has been named the Metaves. This group contains includes flamingos and grebes, as well as the hoatzin, pigeons, hummingbirds, and the sunbittern. Most of these groups have been difficult to place on the family tree of birds. Relations within this group are somewhat unclear, and it has been suggested that this clade is based on molecular convergence.

Morphological evidence also strongly supports a relationship between flamingos and grebes. They hold at least eleven morphological traits in common, which are not found on other birds. Many of these characteristics have been previously identified on flamingos, but not on grebes. The fossil *Palaeodids* can be considered evolutionarily and ecologically, intermediate between flamingos and grebes.

For the grebe-flamingo clade, the taxon *Mirandornithes* ("miraculous birds" due to their extreme divergence and apomorphies) has been proposed. Alternatively, they could be placed in one order, with *Phoenicopteriformes* taking priority.

Diet

Flamingos filter-feed on brine shrimp. Their oddly-shaped beaks are specially adapted to separate mud and silt from the food they eat, and are uniquely used upside-down. The filtering of food items is assisted by hairy structures called lamellae which line the mandibles, and the large rough-surfaced tongue. The flamingo's characteristic pink coloring is caused by the beta carotene in their diet. The source of this varies by species, but shrimp and blue-green algae are

common sources; zoo-fed flamingos may be given food with the additive canthaxanthin, which is often also given to farmed salmon. Flamingos produce a milk-like substance (similar to pigeon milk) due to the action of a hormone called prolactin. It contains more fat and less protein than the latter does, and it is produced in glands lining the whole of the upper digestive tract, not just the crop. Both parents nurse their chick, and young flamingos feed on this milk, which also contains red and white blood cells, for about two months until their bills are developed enough to filter feed.

Appearance

Flamingos often stand on one leg. The reason for this behavior is not fully known. A leg is tucked beneath the body, because the flamingo like some other animals has the ability to have half of its body go into a state of sleep, and when one side is rested, the flamingo will swap leg and then let the other half sleep, but this has not been proven. It is often suggested that this is done in part to keep the legs from getting wet, in addition to conserving energy. As well as standing in the water, flamingos may stamp their webbed feet in the mud to stir up food from the bottom. Recent research has indicated that standing on one leg may allow the birds to conserve more body heat, given they spend a significant amount of time wading in cold water.

Young flamingos hatch with grey plumage, but adults range from light pink to bright red due to aqueous bacteria and beta carotene obtained from their food supply. A well-fed, healthy flamingo is more vibrantly colored and thus a more desirable mate. A white or pale flamingo, however, is usually unhealthy or malnourished. Captive flamingos are a notable exception; many turn a pale pink as they are not fed carotene at levels comparable to the wild. This is changing as more zoos begin to add prawns and other supplements to the diets of their flamingos.

Common Name: Greater Flamingo
Scientific Name: *Phoenicopterus roseus*

Size: 47-57 inches (120-145 cm)

Habitat: Eurasia and Africa; distributed in southern and eastern Spain and southern France southward through northern, western and eastern Africa to South Africa and Madagascar, and eastward to Kazakhstan and through Middle East to India and Sri Lanka. It is partially migratory and highly dispersive.



Northern populations may perform regular migrations but these hardly ever involve the whole population. At the Camargue, France, the proportion of first-year birds migrating to winter elsewhere is highly variable but increases with favorable environmental conditions (wet years), when intermediate staging areas are more readily available. Long-distance movements are often by night.

Its preferred habitat is shallow, salty lagoons and lakes.

Status: Least Concern. **Global population:** 545,000–682,000 mature individuals with a stable population trend. The Palearctic population

(including West Africa, Iran and Kazakhstan) is estimated to number between 205,000 and 320,000, the South West and South Asian populations combined at

240,000, and the sub-Saharan African populations between 100,000 and 120,000. The Palearctic population appears to be increasing, while the Asian and sub-Saharan African populations appear to be stable.

The species suffers from low reproductive success if exposed to disturbance at breeding colonies from tourists, low-flying aircraft and especially all-terrain vehicles), or if water-levels surrounding nest-sites lower (resulting in increased access to and therefore predation from ground predators such as foxes and feral dogs). The lowering of water levels in lakes can also lead to hyper-salinity which may affect food resources. Other threats to the species's habitat include effluents from soda-ash mining pollution from sewage and heavy metal effluents from industries. The species also suffers mortality from lead poisoning (lead shot ingestion) collisions with fences and powerlines, and from diseases such as tuberculosis, septicemia (blood poisoning) and avian botulism. In Egypt large numbers of adults are shot or captured to be sold in markets, and egg collecting from colonies occurs in some areas (this may become a threat).

Diet: Crustaceans (primarily brine shrimp (*Artemia salina*)), mollusks, annelid worms, larval aquatic insects, small fish, adult terrestrial insects (e.g. water beetles, ants), the seeds or stolons of marsh grasses, algae, diatoms and decaying leaves.

Nesting: The adult is much paler in colored than American Flamingo, and has a pinkish white head, neck and body plumage. Females are up to 20% smaller and shorter legged. Juveniles are gray brown with some pink in the under parts, wings and tail. Its legs, feet and bill are mainly brown. There are variable sub-adult plumages during first 3 years of life.

The species nests in large dense colonies on mudflats or islands of large water bodies, occasionally also on bare rocky islands, with a distance between neighboring nests of between 20 and 50 cm. The nest is usually an inverted cone of hardened mud with a shallow depression on the top (alternatively it may be a small pile of stones and debris when mud is not available).

Cool Facts: The Greater Flamingo is the most widespread Flamingo. Flamingos ingest mud in order to extract organic matter (e.g. bacteria).

In Ancient Rome, flamingo tongues were considered a delicacy.

Common Name: Lesser Flamingo
Scientific Name: *Phoeniconaias minor*

Size: 31.5-35.4 inches (80-90 cm)

Habitat: Africa and Asia; Found in Africa (Great Rift Valley) to Northwest India. Its preferred habitat is shallow, salty lagoons and lakes.

Status: Near Threatened. **Global population:** 1,960,00–2,980,000 mature individuals with a declining population trend. Scientists have discovered that flamingos are dying by the thousands along the Great Rift Valley lakes of Kenya and Tanzania. However, they are baffled as to the reason. Possible causes include avian cholera, botulism, metal pollution, pesticides or poisonous bacteria, say researchers. Also, fears for the future of this species have been raised by plans to pipe water from one of their key breeding areas, the shores of Lake Natron. The lakes are crucial to the birds' breeding success because the flamingos feed off the blooms of cyanobacteria that thrive there.

Diet: Blue-green algae (*Spirulina spp.*, *Oscillatoria spp.* and *Lyngbya spp.*) and diatoms (*Navicula spp.*, *Bacillariophyceae*). To a lesser extent the species will also take small aquatic invertebrates such as rotifers (*Brachiomus spp.*).

Nesting: It is the smallest of the flamingo species with a long, very dark bill. The female is slightly smaller. The juvenile is gray brown, slightly darker overall, with browner head and neck than "American" juvenile (*Phoenicopterus ruber*).



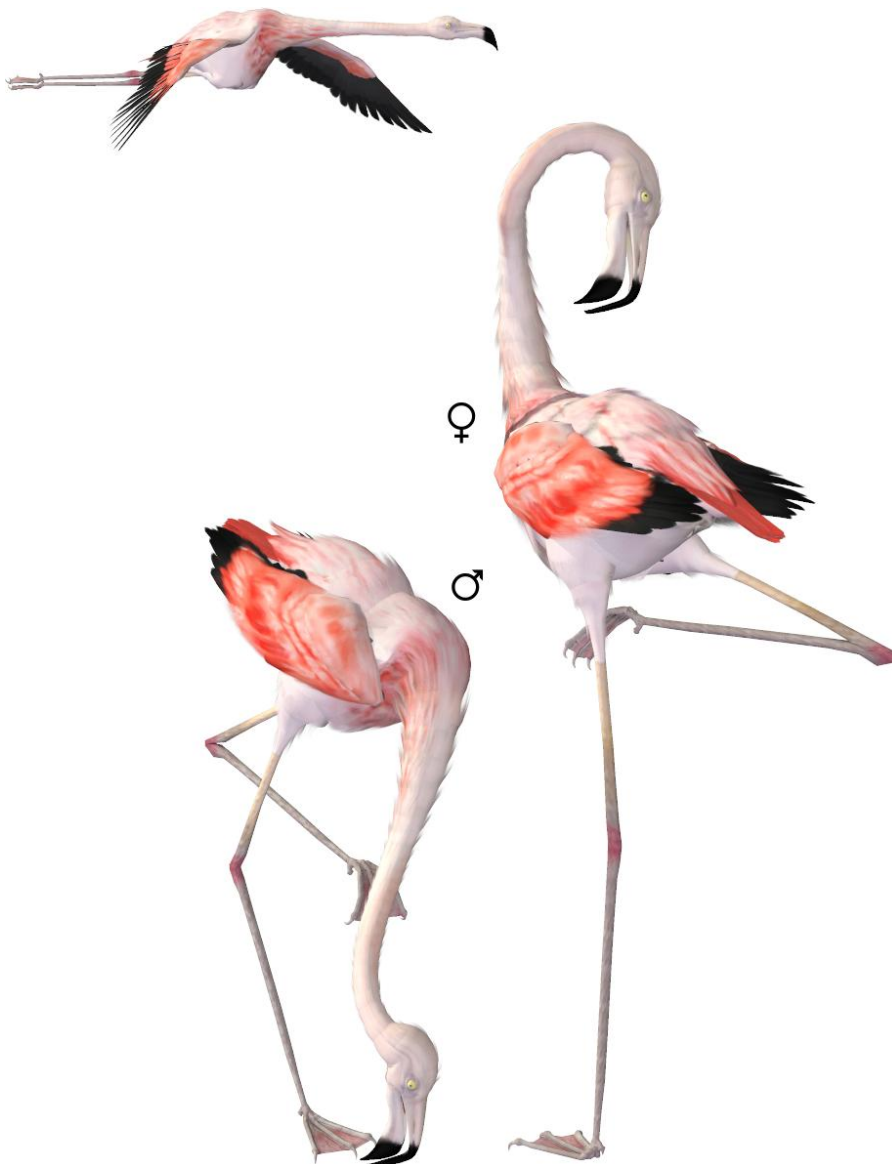
It breeds in huge colonies of many thousands of pairs on large, undisturbed alkaline and saline lakes or coastal lagoons, usually far out from the shore. The timing of breeding varies geographically and pairs may not breed every year. It is adapted to respond to local environmental changes in sites by moving elsewhere, and thus depends on a network of suitable areas.

Cool Facts: The Lesser Flamingo is the most numerous Flamingo in the world. Lesser flamingos eat an estimated 60 g (2.1 oz.) dry weight to fulfill their daily food requirements. Through slow-motion photography, researchers discovered that these birds pump water through their bills 20 times a second to filter their food.

Common Name: Chilean Flamingo
Scientific Name: *Phoenicopterus chilensis*

Size: 41.3 inches (105 cm)

Habitat: South America; Found in temperate areas of southern South America (Bolivia, Argentina, Chile and erratically in Paraguay with a few wintering in Uruguay and south-east Brazil, and vagrants in Ecuador and the Falkland Islands (Malvinas)).



It occurs on coastal mudflats, estuaries, lagoons and salt-lakes at elevations up to 4,500 m.

Status: Near Threatened. **Global population:** 300,000 mature individuals with a declining population trend. It has probably been subject to intensive egg-harvesting since the arrival of humans in South America and, in recent years, egg-collectors have been responsible for the partial or complete failure of colonies in Bolivia. Mar Chiquita (Argentina), perhaps the most important breeding site, is threatened by abstraction of water for irrigation projects. Mining has wrought extensive habitat alteration, and the species also suffers

from hunting and tourism-related disturbance. The species breeds fairly well in captivity and small feral populations have been reported in Europe and North America.

Diet: Insects, aquatic invertebrates, small fishes and algae.

Nesting: Sexes are alike apart from females being slightly smaller. It is a pale pink overall with salmon primaries. It has yellowish-gray legs with contrasting red knees and feet. The black of bill tip extends beyond bend, while the rest of bill is very pale. The immature is gray with brown and pink markings.

Breeding habitat is typified by the presence of suitable salinities and islands with extensive surrounding mudflats - conditions that do not occur each year.

Cool Facts: Chilean flamingos have shallow-keeled bills and feed on insects, aquatic invertebrates, and small fishes.

Common Name: Puna or James's Flamingo
Scientific Name: *Phoenicopterus jamesi*

Size: 35 ½ inches (90-92 cm)

Habitat: South America; Found in small range in the Andes, from the southern tip of Peru through western Bolivia and northwestern Argentina to northern Chile. It is found mainly on saline lakes in the high Andean plateaus, where it feeds mainly on diatoms, but it is also a partial elevational migrant which moves to lower altitude lakes in the non-breeding season.



Status: Near Threatened.

Global population:

106,000–107,000 mature individuals with a stable population trend. Up until 1986, egg collection and hunting were intensive. Loss and degradation of the habitat of the flamingo have also contributed to its decline, including the pollution and diversion of streams feeding the salt lakes. Also, levels of diatoms may be affected by climate change to the detriment of flamingo food resources. Mining activity and the associated demand for water, as well as tourism are further threats to some wetlands.

Following the massive declines of the 20th century due to egg

collection and hunting, two guards on motorcycles were employed in 1987 to protect the flamingos at the Laguna Colorada colony in Bolivia. Additionally, in 1984, a program began to protect the birds of northern Chile from mining activities. Now, young are ringed in their first year, and breeding colonies are monitored and guarded

Diet: Algae and diatoms (phytoplankton)

Nesting: Sexes are alike except that females are smaller. It has a band of carmine streaks on the breast in breeding plumage with elongated scapulars that are bright red. All flight feathers are black, including the innermost secondaries, which in all other species are red. Drooping tip of bill is very short. This species also lacks a hind toe. The immature plumage is fairly uniform fawn with very narrow black streaks on the upper parts .

It breeds on islands or islets of soft clay or sand, as well as along the shorelines of salt lakes. Until 1957, the breeding grounds of the James's flamingo had not been located. It is now known that puna flamingos gather at nest sites in colonies of thousands of pairs, sometimes mixing with the Chilean and Andean flamingo. These large gatherings of birds display collectively for a long time surrounding the breeding period, although pair bonds appear to form during these displays. Pairs build a truncated cone of mud topped with a shallow bowl in which the female lays a single egg. Breeding will only take place if the water level of the lake is neither too high nor too low. Incubation of the egg is shared between the male and female. Once the chick begins to hatch, the adults may help it to escape from its shell. The bill of the chick is straight at first, but soon gains its characteristic down-curve. The chick spends up to 12 days in the nest after hatching. It becomes darker grey in color after leaving the nest but will not achieve full adult plumage until three to four years of age.

Cool Facts: James's flamingo migration is poorly understood, but flocks are known to leave higher altitude breeding grounds at the end of summer, possibly to move to lower altitudes. However, some birds remain at the breeding site as the hot springs in the area prevent the lakes from freezing in the cold weather.

While the James's Flamingo may look similar and nest with other South American

Flamingos, it is distinctive; Chilean Flamingo is pinker, with a paler and longer bill while the Andean Flamingo is larger showing more black in wings and bill and has yellow legs.



Common Name: Andean Flamingo
Scientific Name: *Phoenicoparrus andinus*

Size: 40 – 43 ½ inches (102-110 cm)

Habitat: South America; Found in the high Andes of Peru, Chile, Bolivia and Argentina. Preferred habitat is salt and alkaline lakes at altitudes of between 2,300 – 4,500 m above sea level. It may be nomadic in search of temporally patchy food supplies (mainly diatoms).

Status: Vulnerable. **Global population:** 34,000 mature individuals with a decreasing population trend. It is estimated that the population of Andean flamingos has declined by as much as 24% since the mid-1980s. In the mid-20th century the collection of eggs was widespread and thousands were collected annually, with devastating results. Habitat deterioration in the form of mining activities and falling water levels due to drought, also has played a part in the decline of this species.

The Andean flamingo is protected by its listing on Appendix II of the Convention on International Trade in Endangered Species (CITES) and Appendix I of the Convention on Migratory Species (CMS). Breeding occurs in Salinas and Aguada Blanca Nature Reserve (Peru), in

Salar de Atacama National Flamingo Reserve (Chile), in Las Chinchillas Provincial Natural Reserve (Argentina) and Eduardo Avaroa National Faunal Reserve (Bolivia). Conservation actions include habitat management, prevention of egg-collecting and raising public awareness.

Diet: Algae and diatoms (phytoplankton)



Nesting: This Flamingo is the largest flamingo in the Andes. Sexes are alike except that females are slightly smaller. The adult is an overall pale pink, with the feathers on the lower neck and chest being a much brighter pink. The coverts may be similarly bright pink. The head and upper neck may be a brighter pink than the rest of the body, which can appear almost white with only a pale pink wash, but the head and upper neck are never as bright as the lower neck and breast. The primaries and secondaries are black, which when wings are folded, appear as a bold black triangle that is not obscured by other feathers. Its bill is pale yellow near the skull, but black for the majority of its length, and curves downward. Its lower mandible is less apparent than other species of flamingo. Juveniles are overall uniformly pale gray, often appearing duskier on the head and neck. The coverts and scapulars can have darker brown centers, appearing as streaking on some individuals. The primaries are black

They breed together in colonies, between December and February. Usually only a single egg is laid, and breeding success appears to be low.

Cool Facts: This particular flamingo is long-lived; reaching up to 50 years of age. Flocks of Andean flamingos may be partly nomadic, searching for their inconsistent food supply of algae.

A self-sustaining captive population of Andean flamingos exists at the Wildfowl and Wetlands Trust at Slimbridge in the UK. These birds provide useful research subjects into behavioral aspects of this species.

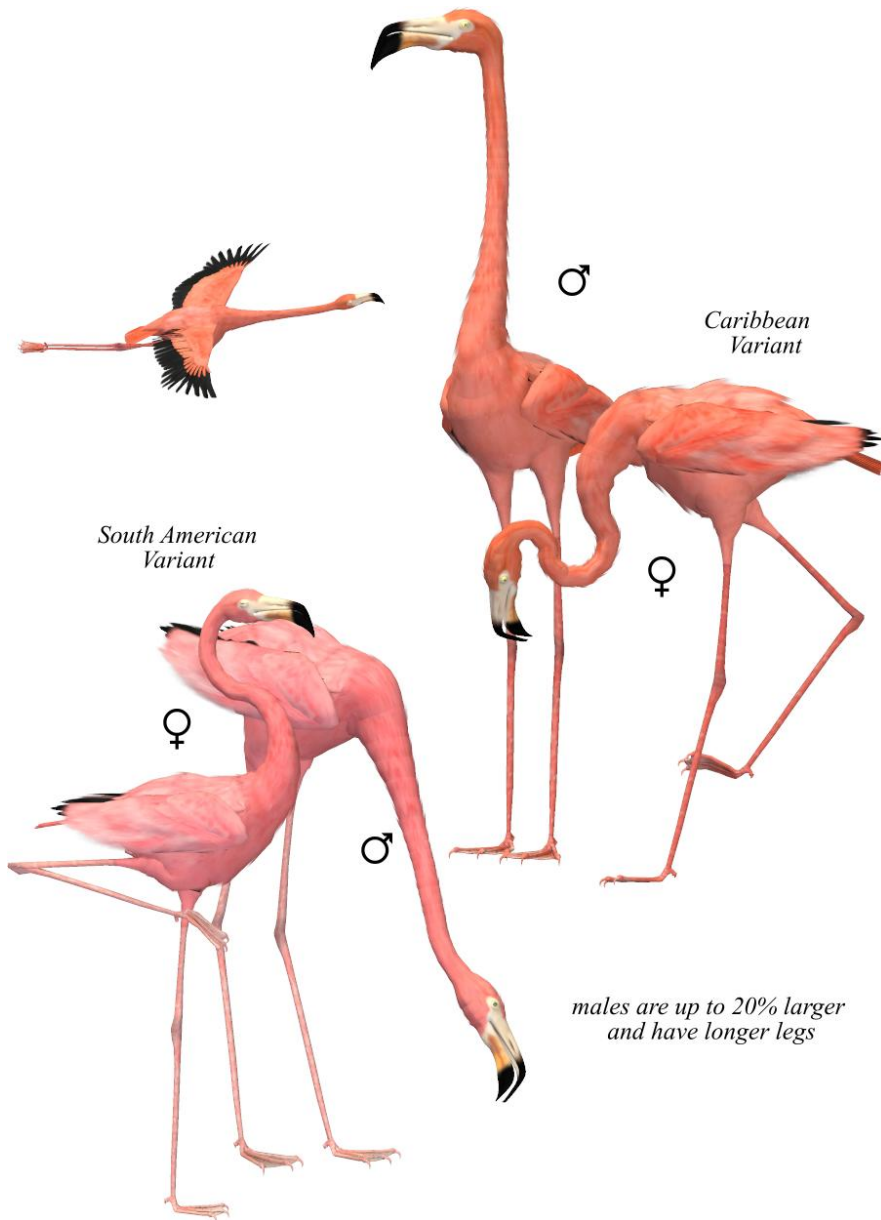
Andean miners kill Andean flamingos for their fat, believing it to be a cure for tuberculosis. The Moche people of ancient Peru worshiped nature, placing an emphasis on animals and often depicted flamingos in their art.

Common Name: American or Caribbean Flamingo

Scientific Name: *Phoenicopterus ruber*

Size: 46-57 inches (120-145 cm)

Habitat: Central America; Found in the Caribbean, Florida, Columbia, Venezuela and the Galapagos Islands. It is partially migratory and highly dispersive. Some southward post-breeding movement reported in the northern populations.



Its preferred habitat is shallow, salty lagoons and lakes.

Status: Least Concern. **Global population:** 200,000 mature individuals with a declining population trend. Development, human disturbance, and habitat loss threatens the coastal Caribbean wetlands on which this flamingo depends. The population remains very large and is actually believed to be increasing overall. In 2007, a network of in-situ and ex-situ conservation initiatives was established by the Caribbean Alliance for Flamingo Research and Conservation, to ensure the protection and conservation of the Caribbean flamingo. This

includes a range of research and conservation activities coordinated across several countries that fall within the species' range. The isolated population of the Galapagos is stable at 400–500 birds but is clearly vulnerable to natural disasters

and predation by pigs and other introduced species. The species has suffered from habitat loss and disturbance as well as direct persecution by humans. It has benefited, however, from specific measures taken to protect the breeding colonies and to establish new ones.

Diet: Crustaceans, mollusks, aquatic insects, polychaete worms, and algae.

Whereas smaller flamingos and other wading birds are restricted to the shallows, the Caribbean flamingo's great size enables it to wade out into relatively deep water. It rarely takes food from the surface, but instead generally feeds with its whole head submerged underwater. Flamingos will feed at day and night.

Nesting: Females are up to 20% smaller than males and shorter-legged, but otherwise the same in appearance. It is much more brightly colored than Greater Flamingo. The adult has a pinkish-red head, neck and body plumage. Juveniles are gray-brown with some pink in the under parts, wings and tail. The legs, feet and bill are mainly brown. It has variable sub-adult plumages during first three years. The isolated Galápagos population differs genetically from that in the Caribbean. The Galápagos birds are smaller, largely due to their shorter tarsus length, and lay smaller eggs than the Caribbean populations.

American flamingos reach sexual maturity at about 6 years of age.

Breeding can occur in any season, and a flamingo may breed twice in a year. Breeding and nest building may depend on rainfall and its effect on food supply. American flamingos perform structured preening when courtship begins. Group courtship displays are typical of this flamingo, with thousands of individuals raising their wings, turning their heads, or bowing their necks in spectacular synchrony. Engaging in these displays ensures that all members of the colony are ready to mate at the same time. Birds interested in each other will call to one another in unison. Male and female bounding is very strong during breeding season. American flamingos may mate with more than one partner.



A flamingo's nest is made of mud, stones, straw and feathers and may be as high as 12 inches. Both sexes are involved in building the nest from bits of mud piled into a smooth cone, and spaced just beyond pecking distance of other pairs' nests. A single egg is laid on the top of a tall mound. At hatching the youngster is covered with white down which turns gray in approximately 3 weeks. Young flamingos leave the nest after five days and form groups. But the young will return to the nest to feed on fluid produced in the digestive system of the parents. The adult dribbles this fluid from its mouth into the youngster's bill. After about two weeks, the young start to find their own food.

Cool Facts: The Caribbean Flamingo is the brightest of the Flamingos. This species, with the exception of its black wing flight feathers, varies from bright red to pale pink. This color is based on region and the available food supplies. Chemicals in the crustaceans and algae are what gives the flamingo its pink color; without a crustacean (shrimp) rich diet flamingo feathers are white. For example, flamingos of the Caribbean area have coral red feathers, and South American flamingos have pinkish white feathers.

American flamingos are waders and good swimmers. They congregate in large flocks. Flamingo vocalizations range from nasal honking to growling. Specific calls can be associated with certain behaviors. Vocalizations are used in parents chick recognition.

Common Name: Plastic Lawn Flamingo

Scientific Name: *Phoenicopterus festuca plasticus*

Size: 52 inches (132cm)

Habitat: North America; in the southern United States and in the west (Los Angeles). Found on suburban lawns.

Status: Least Concern. **Global Population:** 1,000,000+. The persistent threat of the change in cultural tastes may someday bring this species closer to extinction.

Diet: Unknown. Lawn Flamingos do not appear to feed.

Nesting: Lawn Flamingos do not nest; they rely on companies such as Union Products for their reproduction.

Cool Facts: The history of the pink flamingo can be traced back to 1946 when a company in Leominster, Massachusetts called Union Products started manufacturing products they titled "Plastics for the Lawn". Their original collection included two dimensional dogs, ducks, frogs, and even a flamingo.

In 1956, the company hired a young designer named Don Featherstone. Don's first project was to redesign their popular duck into the third dimension. Don used a live duck as his model and after five months of work, the duck was retired to a local park.

His next project would prove to be his most



famous. He couldn't get his hands on real flamingos, so he used photographs from a National Geographic in its place. He sculpted the original out of clay, which was then used to make a plaster cast. The plaster cast, in turn, was used to form the molds for the plastic. The original design called for detailed wooden legs, but they proved to be too costly and were replaced by the metal ones still seen today. While the exact date was never recorded, the first pink flamingo was born some time during 1957.

Since then it has become an icon of pop culture, and won Don Featherstone a Nobel Prize for Art in 1996.

After the release of John Waters's 1972 movie "Pink Flamingos", plastic flamingos came to be the stereotypical example of lawn kitsch.

Many imitation products have found their way onto front lawns and store shelves since then; those "official" pink flamingos made by Union Products from 1987 (the 30th anniversary of the plastic flamingo) onward can be identified by the signature of Don Featherstone located on the rear underside of the flamingo. These official flamingos were sold in pairs, with one standing upright and the other with its head low to the ground, "feeding". Union Products, of Leominster, Massachusetts, stopped production of pink flamingos on November 1, 2006. However, HMC International LLC, a subsidiary of Faster-Form Corporation, purchased the copyright and plastic molds of Featherstone's original plastic flamingos in 2007, and will be resuming production of them in Westmoreland, New York.

In a famous 1979 prank by the Pail and Shovel Party, then controlling the Student Government Association at the University of Wisconsin–Madison, the slope of Bascom Hill was covered with over 1000 plastic flamingos the morning of the first day of classes. The book "If at All Possible, Involve a Cow: The Book of College Pranks" used a photo of the flamingos on its cover. In 2009, the city of Madison, Wisconsin Common Council designated the plastic flamingo as the city's official bird.

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- **2009 Beta Team:** Bea, Jan, Kelvin, Nancy, Sandra and Walter
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Species Accuracy and Reference Materials

Many birds of the same species do vary considerably in color. This package tries to emulate the colors and markings in the most commonly found variants.

The author-artist has tried to make these species as accurate to their real life counterparts as possible. With the use of one generic model to create dozens of unique bird species, some give and take is bound to occur. The texture maps were created in Painter with as much accuracy as possible. Photographic references from photographs from various Internet searches and several field guides were used.

Field Guide Sources:

- “The Sibley Guide to Birds” by [David Allen Sibley](http://www.sibleyguides.com/) (www.sibleyguides.com/)
- Wikipedia (<http://www.wikipedia.com>)
- Cornell Labs Birds of the World (<https://birdsoftheworld.org>)
- Birdlife International (<http://www.birdlife.org>)
- Flamingo Resource Centre (<http://www.flamingoresources.org/>)

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