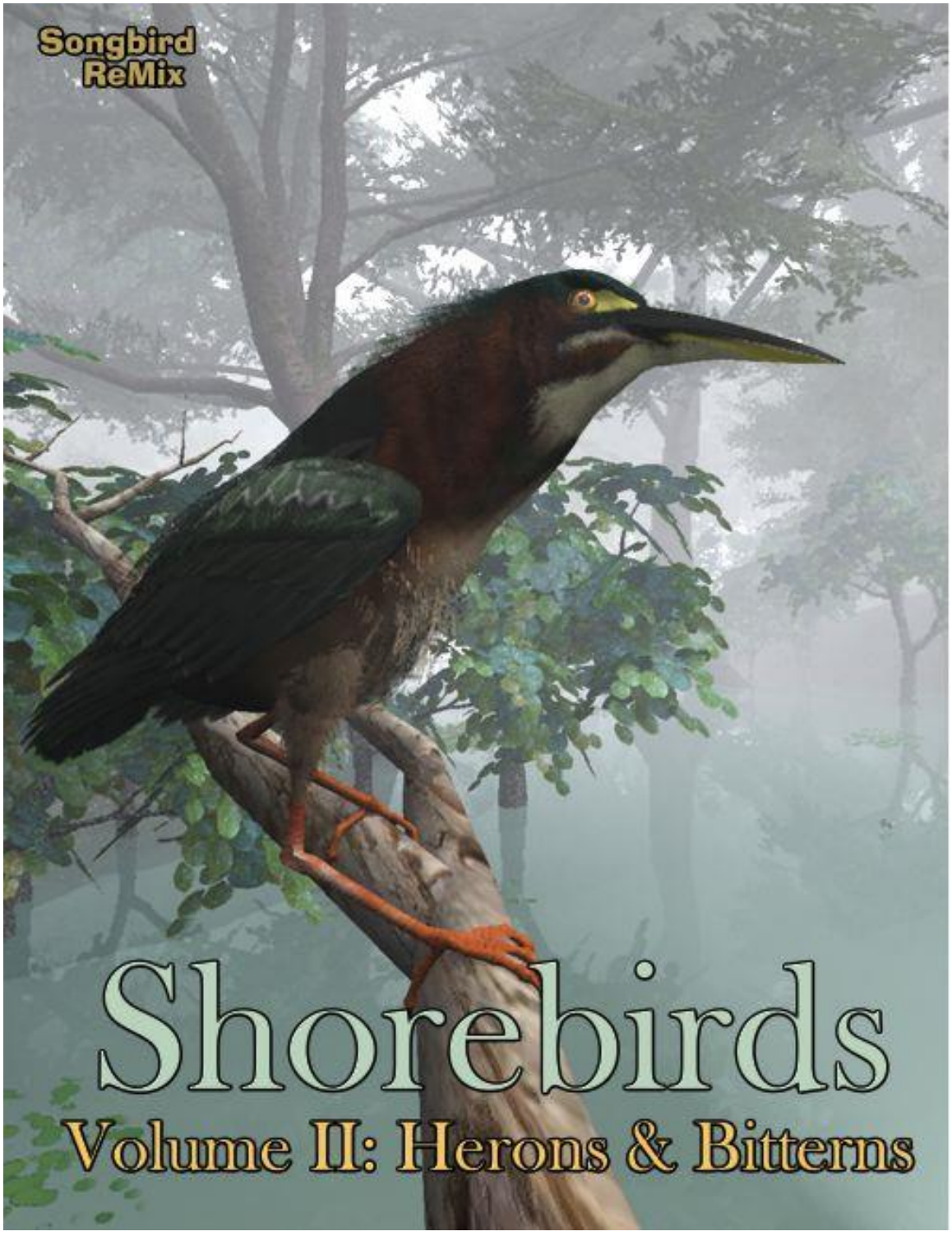


Avian Models for 3D Applications

Characters and Procedural Maps by Ken Gilliland

Songbird ReMix Shorebirds
Volume Two: Herons & Bitterns

Contents

Songbird ReMix Shorebirds
Volume Two: Herons & Bitterns

Introduction

"Songbird ReMix Shorebirds Volume Two: Herons & Bitterns" is the second part of a three volume set encompassing birds commonly found in freshwater and coastal wetlands and marshes throughout the world. "Herons & Bitterns" features the majestic Great Blue Heron to secretive Green Heron to the endangered Japanese Night Heron to the exotic Bare-throated Tiger Heron of the Yucatan. Also included are many of the common Bitterns from around the world.

Overview and Use

Select **Figures** in Runtime Folder and go to the **Songbird ReMix** folder. Here you'll find an assortment of files that are easily broken into 2 groups: **Conforming Parts** and **Bird Base models**. Let's look at what they are and how you use them:

- **Bird Base Models**
  - **<WF4> Waterfowl 4 Base Model** - This model is used with long-necked semi-palmate (partially webbed) footed birds in this package. See the **"WF4"** icon in the lower right corner? This corresponds with characters in the Pose folders. All MAT/MOR files with the **"WF4"** icon use this model. Load this model first and then the appropriate *Conforming Parts* if needed.
  - **<WF5> Waterfowl 5 Base Model** - This model is used with long-necked semi-palmate (partially webbed) footed birds in this package. This model is specifically for the "Great" birds with extremely long necks (i.e.: Great Egret, Great Blue Heron). See the **"WF5"** icon in the lower right corner? This corresponds with characters in the Pose folders. All MAT/MOR files with the **"WF5"** icon use this model. Load this model first and then the appropriate *Conforming Parts* if needed.
  - **<WF6> Waterfowl 6 Base Model** - This model is used with short-necked semi-palmate (partially webbed) footed birds in this package. This model is specifically for small herons (i.e.: Green Heron, night Heron). See the **"WF6"** icon in the lower right corner? This corresponds with characters in the Pose folders. All MAT/MOR files with the **"WF6"** icon use this model. Load this model first and then the appropriate *Conforming Parts* if needed.

- **Conforming Parts -** No conforming parts are needed for this Shorebirds volume. It is possible that with future add-on volumes and/or future free download Birds that they ***may*** be needed. (All Conforming Crests have alphanumeric icons in the lower right corners such as "**C09**", "**C22**" or "**T03**". This corresponds with characters in the Pose folders. All MAT/MOR files with the same icon use that particular Conforming Part. ***Be sure to read this:*** Most conforming parts are Crests, which cover the head part. When posing the Base Model, the Conforming Part will follow any Bend, Twist or Rotate Commands. It will not obey any **SCALE** or **MORPH** commands you give the Base Model. You must manually scale the Conforming Part and, with morphs such as "OpenBeak" or "Stretch", you must also set its counterpart in the head part of the Conforming Crest.

Conforming Crest Quick Reference

Load Model(s)	To Create… (apply MAT/MOR files)
	• American Bittern • Australasian Bittern • Bare-throated Tiger Heron • Eurasian Bittern • Little Bittern • Yellow Bittern (male and female)
	• Great Blue Heron • Grey Heron • Little Blue Heron (all variations) • Purple Heron
	• Black-crowned Night Heron • Chinese Pond Heron • Green Heron • Japanese Night Heron

Creating a Songbird ReMix Bird

1. Choose what you want to load. For this example, we'll create a Bittern species.
2. Load Poser or DAZ Studio and select **FIGURES** and the Songbird ReMix folder. DAZ Studio users will select the "Poser Formats" → "My Library" → "FIGURES" → "Songbird ReMix".
3. Because all of the Bitterns use the "WF4" base model we'll load that.
4. Go to the **POSES** folder and **Songbird ReMix** Master folder, then select the appropriate Songbird Remix library. This again, for DAZ Studio users will be found in the "Poser Formats" file section.
5. Select one of the Bittern Species and load/apply it by clicking the mouse on to our loaded Songbird ReMix base model. This species pose contains morph and texture settings to turn the generic model into the selected Bittern. It will automatically apply the correct DAZ Studio material settings if you are using DAZ Studio.

Displacement in Poser 5+

In Poser, several settings will help to bring out the best in this bird set. Under "Render Settings" (CTRL+Y) make sure you check "**Use Displacement Maps**" and (in some rare cases) the "**Remove Backfacing Polys**" boxes. In some poses, the wing morphs will expose backfacing polygons which tend to render black. Clicking the "Remove Backfacing Polys" fixes this.

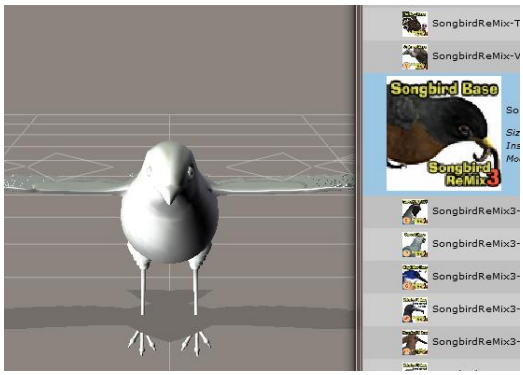
Scaling and Square Shadows in Poser

All the birds in this package have to scaled proportionally to DAZ 3D's Victoria and Michael models. The smallest of the included birds **MAY** render with a Square shadow or improper lighting. This is a bug in Poser. Poser can't figure out how to render a shadow for something really small, so it creates a square shadow. The solution is to put a larger item that casts a normal Poser shadow in the scene (even if it is off camera) and the square shadows will be fixed or BODY scale the bird to a larger size.

without prop off screen

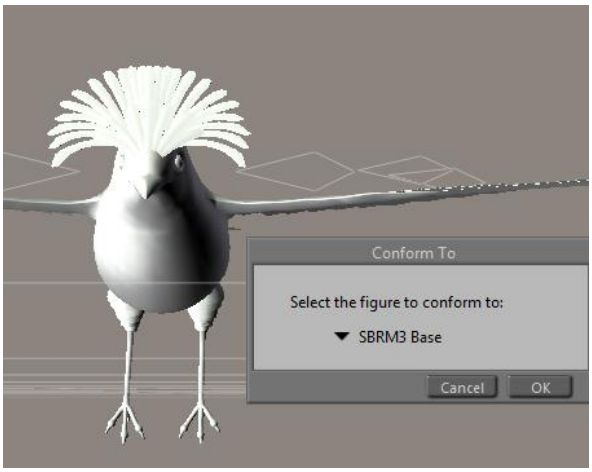
with prop off screen, lights/shadows will properly render

How to build a Songbird ReMix Character with a Conforming Crest in Poser

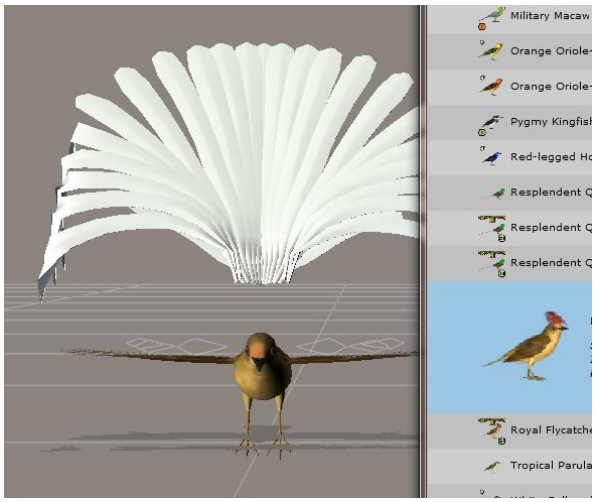


1. In the Figures section, load a Bird base Model. Then load the appropriate conforming part for the bird you're trying to create.

2. **Conform it** to the bird base model.



3. Select the Base Model and go to **POSES.** Select and apply the appropriate Character/Material pose setting for the bird you're creating.



4. The Conforming part will look wrong. That's okay—we're going to fix that now. Select the conforming part and apply appropriate Character/Material pose for the part.

5. Voila! Your bird is done. Just remember to select the bird base when posing and often there are additional morphs in the conforming part you can use.

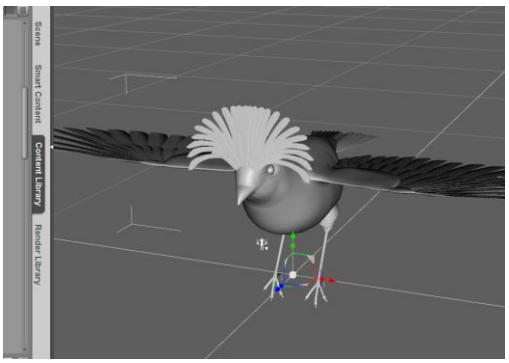
Updates and Freebies

The Songbird ReMix series is constantly growing and improving. New morphs and additions to upcoming and future products often end up benefiting existing sets with new geometry, morphs and textures.

Songbirdremix.com always has the latest updates and additions to existing Songbird ReMix products (often months before they are updated at DAZ), plus the latest digital and real bird news, tutorials, videos, all the Field Guides, free bird characters, props and much more…

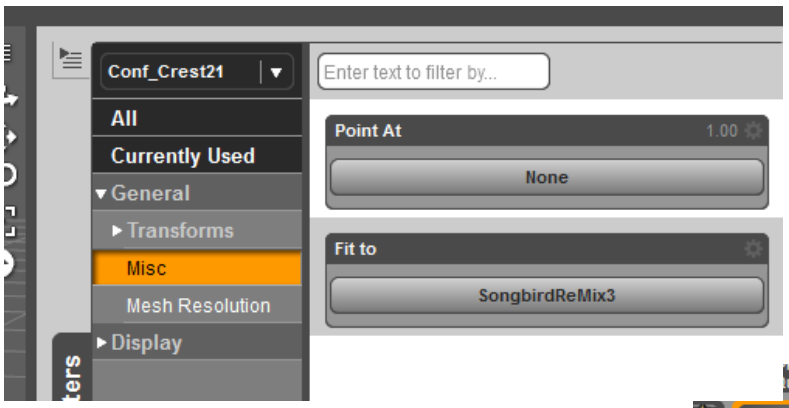
Songbird ReMix.com

How to build a Songbird ReMix Character with a Conforming Crest in DAZ Studio



In the **Runtime** folder, select **Figures** and load the Songbird ReMix Model and the appropriate Conforming Crest in Studio. Select the Conforming Crest by selecting on the screen or in the **Scene** Tab.

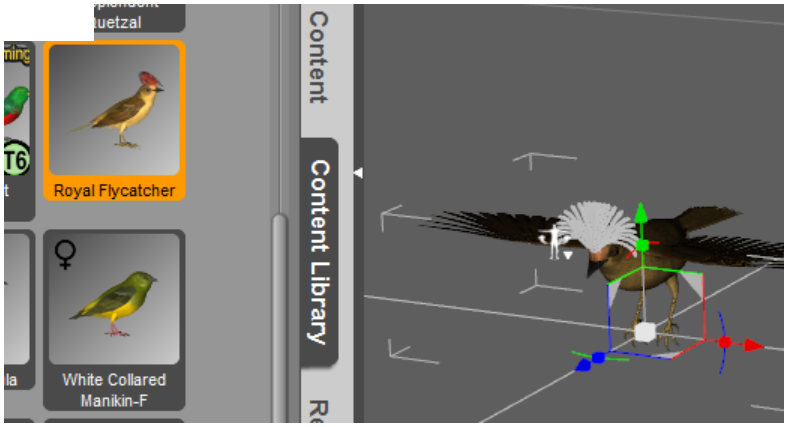
Now, using the “FIT TO” command in the Parameters Tab, Select the Songbird ReMix Model. Go back to the **Scene** Tab and select the Songbird ReMix Model.

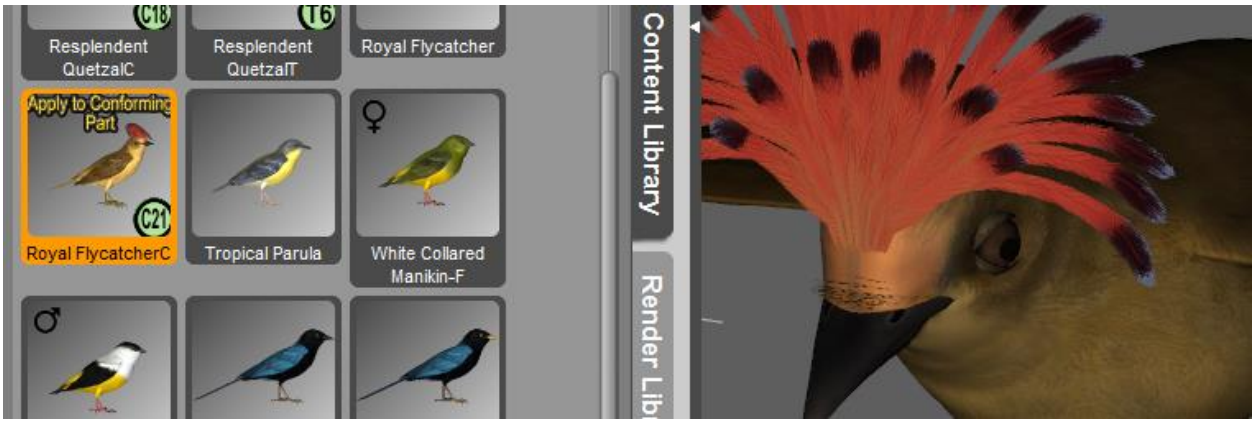


Select the Studio **Content** Folder and go to the **Animals : SBRM : !CreateYour Own : Characters** folder and select the appropriate Songbird Remix library. Apply the Character setting to the bird base. It will probably reduce the size significantly and change the shape of the bird.

Now that the bird is sized, select the conforming part and apply the conforming part character settings.

Voila! Your bird is done. Just remember to select the bird base when posing and often there are additional morphs in the conforming part you can use.





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.

Here’s a guide to help you choose the correct pose:

Out-stretched Neck 	**Cranes, Ibises, Spoonbills and Storks**
“U”-shaped Neck 	**Bitterns, Egrets and Herons**

In addition, when the thighs are pulled back, often they appear ‘lumpy’ in the model. Each Thigh section has to ‘**SmoothThigh4Flight**’ morph to correct this. This morph is used in the flight poses that are provided.

Wing Length

Because the Waterfowl 4 model is a ‘generic’ model that allows a large variety of birds, it not always be exact in the wing length of certain species. The **WingFold** morph does not allow the **WingLength** to be altered. The preset poses included turn the **WingLength** to **“0”** will the **WingFold** morph is used. The **WingLength** is set to **“1.5”** in the included flight poses. While the “1.5” setting is a good balance of the species included in this package, you may want to increase or reduce the wingspan to be totally accurate in your bird renders depending on species.

Scaling

All the birds in this package have to scaled proportionally to DAZ 3D’s Victoria and Michael models.

Other Posing Tips

Heron Head Plumes

The majority of herons included in this volume have head plumes. While you can pose them by directly selecting the plume part, **it will be easier to access them using the Head part** of the model. Located in the "Crest" section of the head morphs you'll find EZ-Pose controls for both the right and left head plumes.

Use of the "NeckInflate" morphs

Bitterns and the Bare-throated Tiger Heron are often seen with their neck inflated. Bitterns often do this when making their booming calls. Two morphs (NeckInflate and NeckInflate2 which are found in the HIP section under "Creation Morphs") can be used to simulate that behavior. These two morphs will work best with the neck straight or with minimal bending to Neck Sections 1 and 2.

Use of the "ThroatSag" morph

This morph (found in the HEAD section under "Creation Morphs") can used in conjunction with the NeckInflate morphs or to simulate swallowing or eating.

Songbird ReMix Shorebirds

Volume Two: Herons & Bitterns

Field Guide

Herons & Bitterns

Herons

Great Blue Heron
Grey Heron
Little Blue Heron
Green Heron
Purple Heron
Black-crowned Night Heron
Japanese Night Heron
Chinese Pond Heron
Bare-throated Tiger Heron

Bitterns

American Bittern
Eurasian Bittern
Australasian Bittern
Little Bittern
Yellow Bittern

Common Name: Great Blue Heron
Scientific Name: *Ardea herodias*

Size: 36-55 inches (91-140 cm)

Habitat: North and Central America; Common over most of North and Central America as well as the West Indies and the Galápagos Islands. Found along calm freshwater and seacoasts. Usually nests in trees near water, but colonies can be found away from water.

Status: Least Concern. **Global population**: 6,500. The Great Blue Heron suffered less from plume hunters and pesticides than other herons which occurred between 1850 and 1970, and its numbers have remained strong. Protected under the Migratory Bird Treaty Act of 1918.

Diet: Fish, invertebrates, amphibians, reptiles, birds, and small mammals. Although this heron eats primarily fish, it is adaptable and willing to eat other animals as well. Several studies have found that voles (mice) were a very important part of the diet, making up nearly half of what was fed to nestlings in Idaho. Occasionally a heron will choke to death trying to eat a fish that is too large to swallow.

Nesting: This species usually breeds in monospecific colonies, in trees close to lakes or other wetlands; often with other species of herons. Sexes are similar in appearance. Juvenile similar to adult, but has gray crown, a dark upper bill, rusty brown edging to back feathers, and lacks body plumes

Colony groups are called heronry (a more specific term than "rookery"). The size of these colonies may be large, ranging between 5–500 nests per colony, with an average of approximately 160 nests per colony.

Great Blue Herons build a bulky stick nest, and the female lays three to six pale blue eggs. One brood is raised each year. If the nest is abandoned or destroyed, the female may lay a replacement clutch. Reproduction is negatively affected by human disturbance, particularly during the beginning of nesting. Repeated human intrusion into nesting areas often results in nest failure, with abandonment of eggs or chicks.

Both parents feed the young at the nest by regurgitating food. Parent birds have been shown to consume up to four times as much food when they are feeding young chicks than when laying or incubating eggs.

Eggs are incubated for approximately 28 days and hatch asynchronously over a period of several days. The first chick to hatch usually becomes more experienced in food handling and aggressive interactions with siblings, and so often grows more quickly than the other chicks. Predators of eggs and nestlings include turkey vultures, several corvids, hawks, bears and raccoons, the latter two also potential predators of adults. Adult herons, due to their size, have few natural predators, but can be taken by bald eagles, great horned owls and, less frequently, red-tailed hawks. When predation on an adult or chick occurs at a breeding colony, the colony can be abandoned by the other birds, but this does not always occur.

Cool Facts: An all-white Caribbean population was once known as a separate species, the *Great White Heron*. The "Great White Heron" could be confused with Great Egret but is larger, with yellow legs as opposed to the Great Egret's black legs. The Reddish Egret (light morph) and Little Blue Heron could be mistaken for the Great Blue Heron, but are smaller, and lack white on the head and yellow in the bill. Erroneously, the Great Blue Heron is sometimes referred to as a "crane".

Great Blue Herons congregate at fish hatcheries, creating potential problems for the fish farmers. A study found that herons ate mostly diseased fish that would have died shortly anyway. Sick fish spent more time near the surface of the water where they were more vulnerable to the herons.

Common Name: Grey Heron
Scientific Name: *Ardea cinerea*

Size: 36-39½ inches (90-100 cm)

Habitat: Europe, Asia & Africa; throughout temperate Europe and Asia and also parts of Africa. Preferred habitat is shallow water, relatively large prey, and four or five months of ice-free breeding.

Status: Least Concern. **Global population**: 790,000 - 3,700,000. In Europe the species was heavily persecuted in the nineteenth century due to its consumption of fish, which resulted in competition with fishermen and fish farmers. Although killing at aquaculture farms has not reduced the global population so far (possibly because it is young birds that are mostly killed), 800 herons are estimated to have died per year at Scottish fish-farms between 1984 and 1987, by being shot, drowned or poisoned by fish farmers. Renewed hunting poses a threat to Bavarian populations by decreasing numbers to levels that inhibit recovery following severe winters (severe winters increase mortality rates for juveniles). The species is vulnerable in Madagascar owing to its restricted range, exceedingly high levels of habitat alteration (from siltation and the need for agricultural land for rice and grazing), hunting, and predation at nesting colonies. Timber harvesting is a threat throughout much of the species range by removing trees used by nesting colonies and/or disturbing nearby colonies. The species is also susceptible to avian influenza and avian botulism, so may be threatened by future outbreaks of these diseases. It is protected by the Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA).

Diet: Fish, frogs, and insects with its long bill. Herons will also take small mammals (even small rabbits), reptiles and occasionally warbler nestlings, plovers, snipes, ducklings and tern chicks and other small birds.

Nesting: The species breeds January-May in the Palearctic region and in spring and summer in temperate areas, but mainly during the rains in Africa and the tropics (although here it may also breed in any month of the year). It breeds in mixed colonies of hundreds or thousands of pairs (the largest colony in Europe is 800-1,300 pairs), although it may also nest solitarily or in small groups of 2-10 nests. The nest is a stick platform that is often re-used over successive years, usually positioned high in a tall tree up to 50 m, but also on the ground or on cliff edges, in reed beds or in bushes. In reed-beds nests may be built of reeds, and ground nests may be reduced to a slight scrape, ringed with small stones and debris. The species commonly nests in colonies, and nesting sites are typically situated 2-38 km (convenient flying distance) from preferred feeding areas.

Cool Facts: The primary difference between the American Great Blue Heron and the Grey Heron (besides location) is the Grey's smaller size and the lack of the chestnut brown tint to the neck, thigh and flank feathers.

The species is typically a solitary feeder but at abundant temporary food sources, or where available feeding areas are restricted, large congregations may occur. It feeds at any time day or night, but is most active at dawn or dusk, typically roosting communally or solitarily during the middle of the day and at night in trees and on cliffs, low rocks, islets or along shores. The call is a loud croaking "fraaank".

There are four subspecies:

- Ardea cinerea cinerea Linnaeus, 1758. Europe, Africa, western Asia
- Ardea cinerea jouyi Clark, 1907. Eastern Asia
- Ardea cinerea firasa Hartert, 1917. Madagascar
- Ardea cinerea monicae Jouanin & Roux, 1963. Islands off Banc d'Arguin, Mauritania.

Herons are also known as "shitepokes", or euphemistically as "shikepokes". The name is derived from lexicographer Noah Webster and has become a genericized trademark for this type of dictionary.... suggests that herons were given this name because of their habit of defecating when flushed.

Common Name: Little Blue Heron
Scientific Name: *Egretta caerulea*

Size: 22-29 inches (56-74 cm)

Habitat: North and South America; breeds from the Gulf States of the USA through Central America and the Caribbean south to Peru and Uruguay. It is a resident breeder in most of its range, but some northern breeders migrate to the southeastern USA or beyond in winter. Found in freshwater swamps, lagoons, coastal thickets and islands.

Status: Least Concern. **Global Population:** 300,000 - 450,000. The Little Blue Heron is protected under the Migratory Bird Treaty Act of 1918.

Diet: Fish, frogs, crustaceans, small rodents and insects. Little Blue Herons stalk prey methodically in shallow water, often running as they do so.

Nesting: Breeding adult birds have blue-grey plumage except for the head and neck, which are purplish and have long blue filamentous plumes. The legs and feet are dark blue. Sexes are similar. Non-breeding adults have dark blue head and neck plumage and paler legs. Young birds are all white except for dark wing tips and have yellowish legs. They gradually acquire blue plumage as they mature.

The male usually chooses the nesting territory before selecting a female. The male will court the female by stretching his neck out and pointing his bill up. He then crouches and may snap his bill, sway his neck back and forth and vocalize. The female may approach him aggressively at first, but soon the pair will groom each other and twine their necks together. Both the herons build the nest. The male then gathers twigs for the nest and presents them to the female who will build the nest. The nest is made of sticks, reeds and grass. The nest is usually built a few feet above the ground in a tree or a bush, although sometimes it is built on reeds or on the ground. The female lays three to five eggs. The eggs hatch in about three weeks. Both parents incubate the eggs. Chicks are fed regurgitated food by both parents. They fledge when they are 35 and 40 days old. The little blue heron has a lifespan of up to seven years.

Cool Facts: White Little Blue Herons often mingle with Snowy Egrets. The Snowy Egret tolerates their presence more than Little Blue Herons in adult plumage. These young birds actually catch more fish when in the presence of the Snowy Egret and also gain a measure of protection from predators when they mix into flocks of white herons. It is plausible that this is because of these advantages; they remain white for their first year.

The Little Blue is the farmer’s friend too, as it often follows farmers as they are plowing fields and then grabs the insects that are disturbed by the plow.

Common Name: Green Heron
Scientific Name: *Butorides virescens*

Size: 16-18 inches (41-46 cm)

Habitat: North America and Northern South America; Winters mostly in coastal areas, especially mangrove swamps. Breeds in swampy thickets. Forages in swamps, along creeks and streams, in marshes, ponds, lake edges, and pastures.

Status: Least Concern. **Global Population:** Currently unknown. The Green Heron is protected under the Migratory Bird Treaty Act of 1918.

Diet: Insects, frogs, and small fish. They typically stand still on shore or in shallow water or perch upon branches and await prey. The Green Heron is one of the few tool-using birds. It commonly drops bait onto the surface of the water and grabs the small fish that are attracted. It uses a variety of baits and lures, including crusts of bread, insects, earthworms, twigs, or feathers.

Nesting: Green Herons are seasonally monogamous. The pairs form in the breeding range after an intense courtship display by the males, which select the nesting sites and fly in front of the female noisily and with puffed-up head and neck plumage. They nest in forest and swamp patches, over water or in plants near water in small, loose colonies. Nests are a basket of sticks, placed in small tree or shrub, usually over water. Nest locations in trees are preferred.

The clutch is usually 2-6 glossy pale green eggs which are laid in 2-day intervals. After the last egg has been laid, both parents incubate for about 19-25 days until hatching, and feed the young birds. The frequency of feedings decreases as the

offspring near fledging. The young sometimes start to leave the nest at 16 days of age, but are not fully fledged and able to fend for themselves until 30-35 days old. Sometimes, particularly in the tropical parts of its range, it will breed twice a year.

Cool Facts: The Green Heron's call is a loud and sudden *kyow*; it also makes a series of more subdued *kuk* calls. During courtship, the male gives *a raah-rahh* call with wide-open bill, makes noisy wingbeats and *whoom-whoom-whoom* calls in flight, and sometimes calls *roo-roo* to the female before landing again. While sitting, an *aaroo-aaroo* courtship call is also given.

The species is most conspicuous during dusk and dawn, and if anything these birds are nocturnal rather than diurnal, preferring to retreat to sheltered areas in daytime.

Common Name: Black-crowned Night Heron
Scientific Name: *Nycticorax nycticorax*

Size: 22-26 inches (55-66 cm)

Habitat: Worldwide. Found in various wetland habitats, including salt, brackish, and freshwater marshes, swamps, streams, lakes, and agricultural fields.

Status: Least Concern. **Global Population:** 510,000 - 3,600,000. Because of wide distribution and feeding habits, the Black-crowned Night-Heron is an excellent indicator of ecosystem health.

While populous and widespread, there are threats nonetheless to this species in some areas. This species is threatened by wetland drainage and destruction and by drought in wintering areas. It is highly susceptible to pesticides such as organophosphates, carbamate and DDE (a breakdown product of DDT) which negatively affect hatching success. There are also cases of genetic damage to chicks as a result of petroleum contamination. The species is susceptible to avian influenza and Newcastle disease so may be threatened by future outbreaks. It is also persecuted (anti-predation killing) at aquaculture facilities due to its depredation on fish stocks, and has suffered declines due to the exploitation of chicks from nesting colonies in the past. Chicks of the species are still taken for food in some areas (e.g. Madagascar) and adults are hunted and traded at traditional medicine markets in Nigeria.

Diet: Fish, small invertebrates, crustaceans, vertebrates, mammals, eggs and young of other birds, and plants. It forages early morning and in the early evening. Usually a solitary forager, it strongly defends its feeding territory.

Nesting: Night Herons are monogamous and breed in colonies. One to seven pale blue or green eggs are laid in a flimsy platform lined with roots and grass, built near the trunk of a tree or in branches. Black-crowned Night-Heron may nest in the same tree with ibises or other herons. Incubation ranges from 21 to 26 days and is carried out by both parents.

Cool Facts: The Black-crowned Night-Heron is the most widespread heron in the world. This heron is known also 'Bihoreau à couronne noire' in French and 'Yaboa real', 'Guanaba' and ' Guaco' in Spanish.

A case of stage fright? Young Black-crowned Night-Herons often disgorge their stomach contents when disturbed. This habit makes it easy for scientists to study their diet.

Adult Black-crowned Night-Herons apparently do not distinguish between their own young and those from other nests, and may brood chicks not their own.

Common Name: Bare-throated Tiger Heron
Scientific Name: *Tigrisoma mexicanum*

Size: 28 - 32 inches (80 cm)

Habitat: Central and South America; from Mexico to northwestern Colombia. Found in more open habitats than other Tigrisoma herons, such as river banks and lake edges. It prefers fresh or brackish still waters.

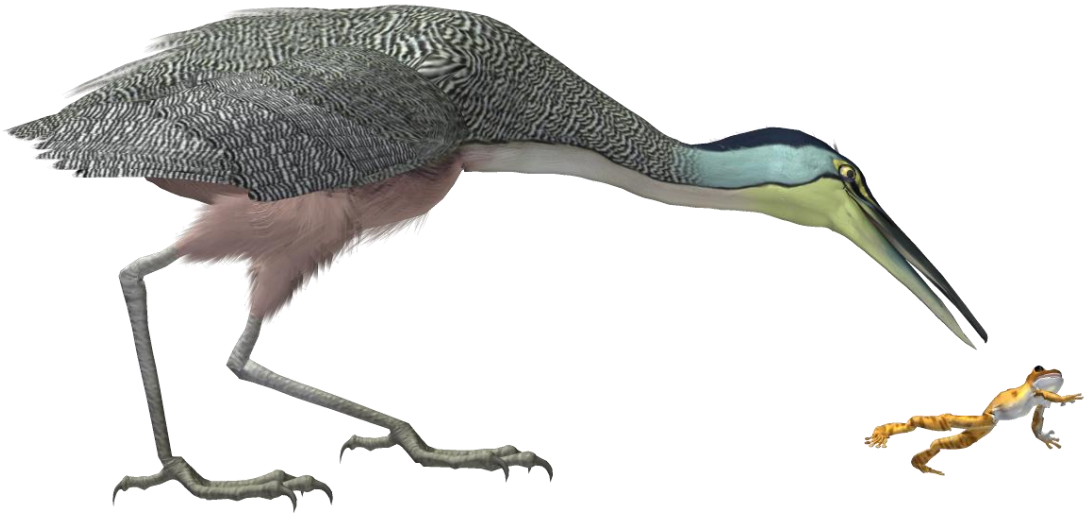
Status: Least Concern. **Global Population:** 50,000 - 499,999. This heron is protected under the Migratory Bird Treaty Act of 1918.

Diet: Small fish, frogs and crayfish. It stands motionless in the water and waits from its' prey, striking quickly.

Nesting: The juvenile is buff coarsely barred with black, more mottled and vermiculated on wings; the throat, median under parts and belly are whitish. This heron is a solitary breeder, not normally found in heron colonies. The nest is a small flattish stick platform in a tree into which 2-3 green-tinged white eggs are laid.

Cool Facts: Its flight is heavy and labored. The call is a hoarse '*howk-howk-howk'*. Males also give a booming '*hrrrowwr!'* call, especially at sunset.

The Bare-throated Tiger Heron was Ken's (the author) first "Wow" bird and definitely hooked me on birding when I first saw one in Belize.



Common Name: Purple Heron
Scientific Name: *Ardea purpurea*

Size: 31 ½ - 35 ½ inches (80-90 cm)

Habitat: Europe, Asia and Africa; breeding in Africa, central and southern Europe, and southern and eastern Asia. The European populations are migratory, wintering in tropical Africa; the more northerly Asian populations also migrate further south within Asia.It is found in any type of shallow water (including seasonal pools) that has a dense fringe of reeds or other vegetation, though it prefers fresh to salt water.

Status: Least Concern. **Global population:** 270,000 - 570,000. The main threat to this species in Europe is the loss of reed beds though direct elimination (to reduce sedimentation), agricultural encroachment, water management practices (e.g. drainage) and reed cane harvesting. It is protected by the Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA).

Diet: Fish, amphibians, lizards, invertebrates and insects; occasionally small mammals and birds. It is a passive feeder which remains motionless in its preferred habitat of dense vegetation, waiting for prey to approach.

Nesting: Purple Herons nest in small colonies, often with other heron species. Some may nest alone. Preferred nest sites are dense reedbeds and thick vegetation where they pull down the reeds to make a platform. In

Singapore, they nest at the base of dense Mangrove Ferns (Acrostichum sp.). They also nest in trees on a platform of twigs. The males find and bring nesting materials to the females, who do the actual construction of the nest. 2-5 pale blue-green eggs are laid. Incubation takes about 25 days and the young fledge in about 3 months. Both parents feed and look after the young, who tug at their parents' bills to get them to regurgitate titbits. There is intense sibling rivalry and often the younger chicks starve to death. They breed at about 1 year of age, and may live up to 23 years. Purple Herons defend their feeding territory from each other by aggressively puffing out neck feathers and raising crests.

Cool Facts: This is a solitary, shy bird which can be difficult to see. One reason for their shyness could be because Grey Herons *(Ardea cinera)* often steal the Purple Herons' catch when they are hunting close to each other. Purple Herons become even more shy during breeding season, preferring to hunt near cover.

Common Name: Chinese Pond Heron
Scientific Name: *Ardeola bacchus*

Size: 15 ¾ - 19 ½ inches (40-50 cm)

Habitat: Asia; China and adjacent temperate and subtropical East Asia. It is found in shallow fresh and salt-water wetlands and ponds.

Status: Least Concern. **Global Population:** 25,000 - 1,000,000.

Diet: Insects, fish, and crustaceans.

Nesting: Their breeding habitat is marshy wetlands. They nest in small colonies, often with other wading birds, usually on platforms of sticks in trees or shrubs. Two to five eggs are laid.

Cool Facts: Members of the heron family commonly forage either by 'standing still' and awaiting prey, in an upright or crouched posture, then spearing the prey when it comes within reach, or by 'walking slowly' searching for prey on land or in shallow water'. The Chinese Pond Heron also does something very unusual for herons; they fly from tree perches to snatch prey that they had spotted on the surface of a lake.

Common Name: Japanese Night Heron
Scientific Name: *Gorsachius goisagi*

Size: 19 ¼ inches (49 cm)

Habitat: Asia; Japan (some sightings in South Korea, China, Taiwan and Russia). It breeds in heavily forested areas, including coniferous, broadleaved and degraded forest, on hills and on the lower slopes of mountains (up to 1,500 m), where there are watercourses and damp areas. It winters in dark, deeply shaded forest near water up to 2,400 m.

Status: Endangered. Global population: 1,000-2,499 with a declining trend. The main threat is deforestation in both its breeding and non-breeding ranges. The development of dense scrub undergrowth in forest and on abandoned farmland (following a change in traditional agricultural practices) is believed to reduce the suitability of these habitats for feeding. It has probably been hunted in many parts of its range. It declined rapidly on Miyake-jima in the Izu Islands, where it was formerly abundant; following the introduction of Siberian weasel Mustela sibirica in the early 1970s. Today nest predation by Corvids is an increasing threat as crow populations increase in urban and suburban areas. It is legally protected in Japan and Hong Kong.

Diet: Earthworms are probably the principal food source, but land snails, crabs, ground and scarabid beetles are all present in its diet. It forages mainly in forest, but will use swamps, rice-fields and farmland and is mainly crepuscular.

Nesting: Juvenile has blackish crown, less rufous on head, more streaked neck and paler wing-coverts. Breeding has been recorded from April to July.

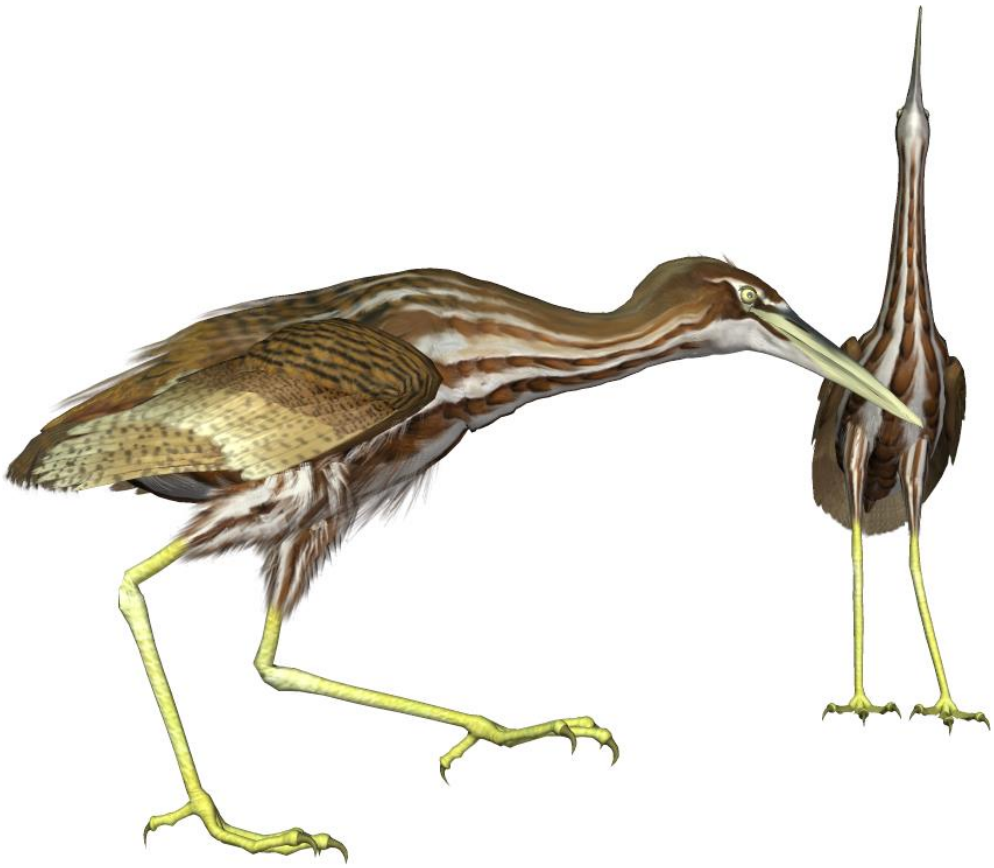
Cool Facts: This species has been recorded in all parts of Japan (including Hokkaido, where it is very rare), but it is only known to breed in Honshu, Shikoku, Kyushu and on the Izu islands.

Common Name: American Bittern
Scientific Name: *Botaurus lentiginosus*

Size: 23 ½ - 27 ½ inches (59-70 cm)

Habitat: North and Central America; winters in the southern United States and Central America. It summers throughout Canada and much of the United States. As a long-distance migrant, it is a very rare vagrant in Europe, including Great Britain and Ireland. Found (usually well-hidden) in bogs, marshes and wet meadows.

Status: Least Concern. **Global population:** 3,000,000. This bird's numbers have declined in the southern parts of its range due to habitat loss. Bitterns are protected under the Migratory Bird Treaty Act of 1918.



Diet: Amphibians, fish, insects and reptiles.

Nesting: This bird nests in isolated places with the female building the nest and the male guarding it. Two or three eggs get incubated by the female for 29 days, and the chicks leave after 6-7 weeks.

Cool Facts: Bitterns are camouflage experts; when alarmed, it points its bill skyward and aligns its body contours, and thus the stripes on its breast with the surrounding vertical wetland grasses. This is commonly known as the “bittern-stance” that the bird can maintain for hours.

Its far-carrying booming call is distinctive, but the bittern itself likes to keep under cover.

Common Name: Eurasian or Great Bittern
Scientific Name: *Botaurus stellaris*

Size: 27-31 inches (69-81cm)

Habitat: Europe, Asia and Africa; Populations breeding on the Atlantic coast of Europe, in the Mediterranean and in South Africa are largely sedentary due to the relatively mild winters (although they may make local dispersive movements related to rainfall). Continental populations are mainly migratory however with a marked post-breeding dispersal of immatures. The species breeds from March to June in Eurasia and during the rains from September to January in South Africa. The species avoids saline waters but is abundant in fresh or brackish habitats (e.g. in estuarine or delta marshes), and may occasionally nest in stands of rushes (Scirpus or Papyrus spp.) if reeds are unavailable.

Status: Least Concern. **Global Population:** 110,000-340,000. The species is threatened mainly by the loss of reed marshes owing to habitat alteration through drainage, direct destruction, changes in traditional management (e.g. changes to

reed harvesting regimes), sea level rise and salt water intrusion, the effects of wave action from boat traffic at the edge of open water, and pollution. Disturbance from humans during the nesting period is also a threat (e.g. disturbance from reed cutting, noisy recreation and water-sports, motor vehicles and hunting). The hunting of adults and collecting of eggs and chicks still occurs in some areas, and the species may suffer high mortalities in very cold winters (especially in sedentary populations). It is protected by the Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA).

Diet: Fish, frogs, small mammals and insects.

Nesting: This bittern is a solitary nester and has highly restrictive breeding habitat requirements. It shows a strong preference for quiet lowland marshes around lakes and rivers (less than 200 m above sea-level) with extensive dense young reedbeds of *Phragmites spp*. that are flooded but are fairly shallow (less than 30 cm deep), have few fluctuations in water-level, have low acidity and are surrounded by clear open areas. The nest is a pad of reeds and other vegetation constructed close to or floating on water amidst dense reedbeds.

Cool Facts: Its folk names include "barrel-maker", "bog-bull", "bog hen", "bog-trotter", and "butterbump", mire drum, mostly refer to the mating call of the male, which is a deep fog-horn or bull-like boom, easily audible from a distance of 2 miles on a calm night. The Latin for bittern, Botaurus, also refers to the bull. The other part of its scientific name, stellata is Latin for starry, in reference to its plumage.

Eurasian Bittern is proposed as a rational explanation behind the mythical creature drekavac in short story Brave Mita and drekavac from the pond by Branko Ćopić.

If a bittern senses that it has been seen, it becomes motionless, with its bill pointed upward, causing it to blend into the reeds. It is most active at dawn and dusk.

Common Name: Australasian Bittern
Scientific Name: *Botaurus poiciloptilus*

Size: 27 inches (71 cm)

Habitat: Asia and Australia; occurs in the wetlands of southern Australia, New Zealand and New Caledonia. Found in freshwater swamps and marshes.

Status: Endangered. **Global population:** 1,000-2,499. In Australia and New Zealand, the main threats are wetland drainage for agriculture, as well as changes brought about by high levels of grazing and salinisation of swamps. In Australia, the species appears able to adapt to the availability of ephemeral wetlands, but is likely to be particularly sensitive to the destruction of drought refugia. Loss of these habitats may explain its dramatic decline in Western and South Australia. The Murray-Darling basin, a former stronghold of the species, has suffered consecutive droughts in recent years and over-extraction of water is an ongoing problem. Shooting and flying into power lines are additional contributory causes, but hunting pressure is very low. In Australia, Bool Lagoon and Lake Muir are managed specifically for the species.

Diet: Frogs, eels and freshwater crustaceans.

Nesting: It is a solitary nester on the ground in dense wetland vegetation on trampled reeds and other plants.

Cool Facts: It is a cryptic and partly nocturnal species that inhabits densely vegetated wetlands. It has a distinctive booming voice and may be heard more often than seen.

Common Name: Little Bittern
Scientific Name: *Lxobrychus minutus*

Size: 10 ½ - 14 inches (27-36 cm)

Habitat: Europe, Asia, Africa and Australia; the species is most common in freshwater marshes with beds of bulrushes, reeds or other dense aquatic vegetation, preferably also with deciduous bushes and trees such as willow or alder. It may also occupy the margins of lakes, pools and reservoirs, wooded and marshy banks of streams and rivers, desert oases, peat bogs, wooded swamps, wet grasslands, rice-fields, rank vegetation around sewage ponds, and in places mangroves, the margins of saline lagoons and salt marshes.

Status: Least Concern. **Global Population:** 76,000-610,000. The species is threatened by habitat degradation and loss through direct destruction, pollution and hydrological changes (e.g. in rivers). The species also suffers mortality as a result of drought and desertification on African staging and wintering grounds (degrades wetland habitats needed by the species). In Victoria (Australia) the

Little Bittern is listed as “Endangered”. Protected by the Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA).

Diet: Varies with region and season but it is essentially insectivorous and takes aquatic adult and larval insects such as crickets, grasshoppers, caterpillars and beetles. Other food items include spiders, mollusks, crustaceans (e.g. shrimp and crayfish), fish, frogs, tadpoles, small reptiles and small birds.

Nesting: The nest is constructed from reeds and twigs and is normally placed near open pools in thick emergent vegetation (such as beds of bulrushes or reeds close to the surface of the water or up to 60 cm above it. Alternatively nests may be placed in low bushes or trees (e.g. alder or willow) up to 2 m above water. Preferred nesting sites are usually 5-15 m out from the shore in water 20-30 cm deep. The species usually nests singly but may nest in loose colonies in favorable habitats with neighboring nests as close as 5 m apart (solitary nests are usually 30-100 m apart). Nests are often reused in consecutive years

Cool Facts: There are four subspecies:

- Ixobrychus minutus minutus (Linnaeus, 1766). Europe, Asia, northern Africa; winters in sub-saharan Africa and southern Asia.
- Ixobrychus minutus payesii (Hartlaub, 1858). Sub-saharan Africa, resident.
- Ixobrychus minutus podiceps (Bonaparte, 1855). Madagascar, resident.
- Ixobrychus minutus dubius (Matthews, 1912). Australia, New Guinea, resident.

Common Name: Yellow Bittern
Scientific Name: *Ixobrychus sinensis*

Size: 15 inches (38 cm)

Habitat: Asia; breeding in tropical Asia from Pakistan, India and Sri Lanka east to Japan and Indonesia.

Status: Least Concern. **Global Population:** 100,000 - 1,000,000. Yellow Bitterns are still common and currently not endangered, but they are affected by habitat destruction and overuse of pesticides which poisons their prey and in turn they ingest. Ironically, these bitterns are actually helping to control the insect populations on rice fields are trying to poison.

Diet: Small fish, frogs, invertebrates & insects. They usually hunt from cover but may also forage over floating vegetation, such as water-hyacinth beds. They are more active at dawn and dusk.

Nesting: The male is uniformly dull yellow above and buff below. The head and neck are chestnut, with a black crown. The female's crown, neck and breast are streaked brown, and the juvenile is like the female but heavily streaked brown below, and mottled with buff above.

Yellow Bitterns prefer to nest in dense vegetation near water. They make a small neat nest, generally a thick pad of sticks, reeds, grass. Nests are 10cm-3m above the water line, sometimes roofed by surrounding vegetation. 3-5, average 4, pale blue-green eggs are laid. Both parents share incubation duties. The chicks have pale peach-pink down and can climb before they can fly. The chicks stay away from the nest from about day 15.

Cool Facts: Yellow Bitterns are one of the smallest of the bitterns. They can be difficult to see, given their skulking lifestyle and reed bed habitat, but tend to fly fairly frequently, when the striking contrast between the black flight feathers and the other wise yellowish plumage makes them unmistakable.

When alarmed, it points its bill skyward and aligns its body contours, and thus the stripes on its breast with the surrounding vertical wetland grasses. This is commonly known as the “bittern-stance” that the bird can maintain for hours.

Special Thanks to…

….my beta testers (Bea, Jan, Kelvin, Nancy, Rhonda, Sandra and Walter)

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/)
- **All About Birds/Cornell** (http://www.birds.cornell.edu/AllAboutBirds/)
- **Wikipedia** (http://www.wikipedia.com)
- **BirdForum.net** (http://www.birdforum.net)
- **Birdlife International** (http://www.birdlife.org)
- **International Crane Foundation** (http://www.savingcranes.org/)
- **Natureworks** (http://www.nhptv.org/natureworks)
- **Smithsonian National Zoological Park** (http://nationalzoo.si.edu)
- **Threatened Birds of Asia** (http://birdbase.hokkaido-ies.go.jp/rdb/rdb_en/gorsgois.pdf)

Other Resources:

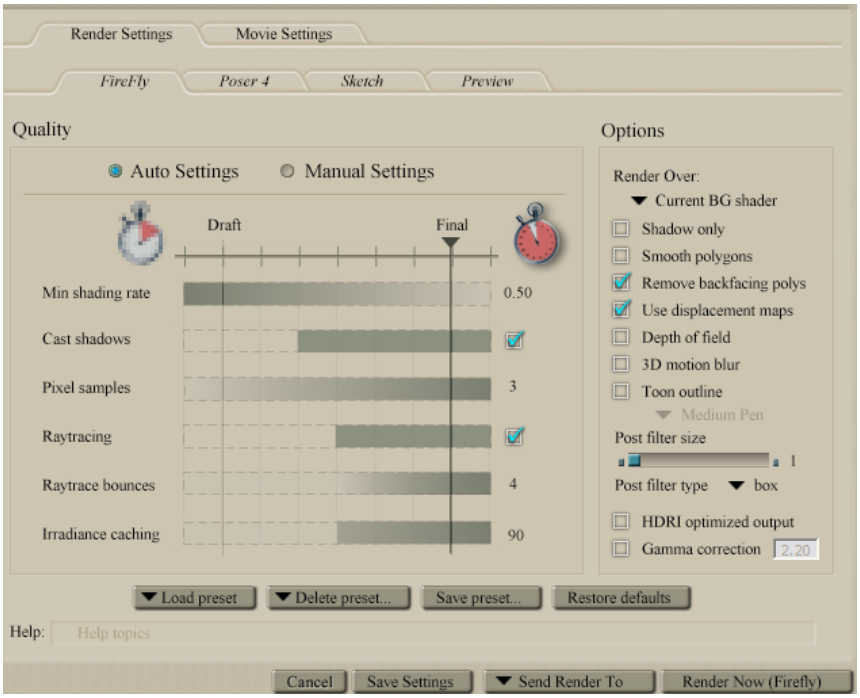
- **Songbird ReMix Central** (http://www.songbirdremix.com)
- **Songbird ReMix "Bird Brains" User Group and Forum** (http://artzone.daz3d.com/groups/songbirdremix)

Rendering Tips

In POSER 5+…

In Poser, several settings will help to bring out the best in this bird set.

Under “Render Settings” (CTRL+Y) make sure you check “**Use Displacement Maps**” and (in some rare cases) the “**Remove Backfacing Polys**” boxes. In some poses, the wing morphs will expose backfacing polygons which tend to render black. Clicking the “Remove Backfacing Polys” fixes this.



In VUE…

Vue has trouble with back-facing polygons which tend to show-up in certain wing and “Fluff” poses. The easiest and fast solution is to limit the amount of bending in the Forearm, Hand and Feather controllers and the hide or limit the ‘Fluff’ used

Bake it! The better (but much slower solution) is to in “Polygon Mesh Options”, **bake the model**. You might also click “Force double-sided baking” as well as playing with the Max smoothing angle and checking Dynamic Subdivison. Put Quality boost into the + area. Then bake it—“baking” will take hours on most computers.

The “Eye” material uses a Poser reflection map; since Vue has a built-in environment, it’s better to use the Vue one and cut down the reflection to 20-50% depending on light in the scene.

I also often find in better to also cut down the “Highlight Global Intensity” to 40% and “Highlight Global Size” to 50% on Plumage, Wings and Beak materials in the “Highlights” section.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