



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

## Songbird ReMix

# Sparrows of the World

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## Songbird ReMix

# Sparrows of the World

## Introduction

Sparrows are probably the most familiar of all wild birds. Throughout history sparrows have been considered the harbinger of good or bad luck. They are referred to in many works of ancient literature and religious texts around the world. The ancient Egyptians used the sparrow symbol in their hieroglyphs to express evil tidings, the ancient Greeks associated it with Aphrodite, the goddess of love as a lustful messenger, and Jesus used sparrows as an example of divine providence in the Gospel of Matthew.

Songbird ReMix Sparrows contains 18 Old and New World species of sparrows. The sparrows featured include the exotic Arabian Golden Sparrow, very common Eurasian Tree Sparrow and the exotic looking Harris's sparrow and Dead Sea Sparrow, among others. Whether you are looking for a sign of a higher power's benevolence, a catcher of lost souls, an omen of dark tidings or simply a familiar bird to add life to your imagery, Songbird ReMix Sparrows is a perfect choice.

## 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):
  - **Perching Birds (Order Passerines)**
- **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". For DAZ Studios 3Delight renders, the SubD must be turned from the "High Resolution" setting to the "Base" setting (otherwise some areas will render incorrectly transparent).



## 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 (3*Delight* 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.

# One Folder to Rule Them All

When I reworked the entire Songbird ReMix library starting in 2018, I decided to abandon the way the birds were sorted (by product name) and choose an Ornithological approach. All birds are found in the Bird Library folder and are arranged by type of bird. This approach is hopefully easier for most to find what bird they are looking for. Admittedly, it will take some getting use to for some longtime users, but I've always approached the Songbird ReMix series as a learning tool as well as a graphics tool, so hopefully some knowledge will rub off by seeing how birds are grouped.

Probably the most deceiving subfolder in the **Bird Library** is “**Perching Birds (Order Passeriformes)**”. This is folder you probably will end up “favoriting” because this one folder (Passeriformes) **holds more than 50% of all birds**. Perching birds range from cardinals and jays to chickadees, crow and swallows.




 Finding the bird you want within the “**Perching Birds (Order Passeriformes)**” folder can be daunting, even for an experienced birder (such as myself), so I’ve included an online reference tool within this folder that helps to make your search easier. Click the “**Perching Birds Finder**” icon and when loaded, look at the first column and search for the type of bird you want. For example, I want a “manakin” (a bird common to Central and South America). Scroll down the first column alphabetically and

stop on “manakin”. Looking across to the second column, you will now know that manakins can be found in the “Tyrant Flycatchers & their Allies” subfolder.

## 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 is about right.
- **Raise Upper Beak** (*in Action Controls*): This morph is a “one size fits all” control. Because of the variety of beak shapes. It may not work with all birds.
- **Tongue poke-through** (especially when the beak is open). This can be easily solved by using the **Throat-Fuller1 & 2** morphs (*found in Creation Control/Head Shapes*).

## 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

Type Folder	Bird Species
<b>Perching Birds (Order Passeriformes)</b> Finches, OW Sparrows & their Allies	Arabian Golden Sparrow Cape Sparrow Chestnut Sparrow Dead Sea Sparrow Eurasian Tree Sparrow Great Sparrow Italian or Cisalpine Sparrow Russet Sparrow Spanish or Willow Sparrow
<b>Perching Birds (Order Passeriformes)</b> NW Sparrows & their Allies	American Tree Sparrow Harris's Sparrow Fox Sparrow Golden-crowned Sparrow Lark Sparrow Lincoln's Sparrow Rufous-crowned Sparrow Rufous-winged Sparrow Savannah Sparrow

## Where to find your poses

Type Folder	For what species?
<b>Perching Birds (Order Passeriformes)</b> Poses can be found in "Universal Poses" & "type" folders	All Sparrows

**Songbird ReMix**

# Sparrows of the World

## Field Guide

### **Old World Sparrows**

Spanish or Willow Sparrow  
Italian or Cisalpine Sparrow  
Eurasian Tree Sparrow  
Dead Sea Sparrow  
Arabian Golden Sparrow  
Russet Sparrow  
Cape Sparrow  
Great Sparrow or Southern Rufous-sparrow  
Chestnut Sparrow

### **New World Sparrows**

American Tree Sparrow  
Harris's Sparrow  
Fox Sparrow  
Golden-crowned Sparrow  
Lark Sparrow  
Lincoln's Sparrow  
Rufous-crowned Sparrow  
Savannah Sparrow  
Rufous-winged Sparrow

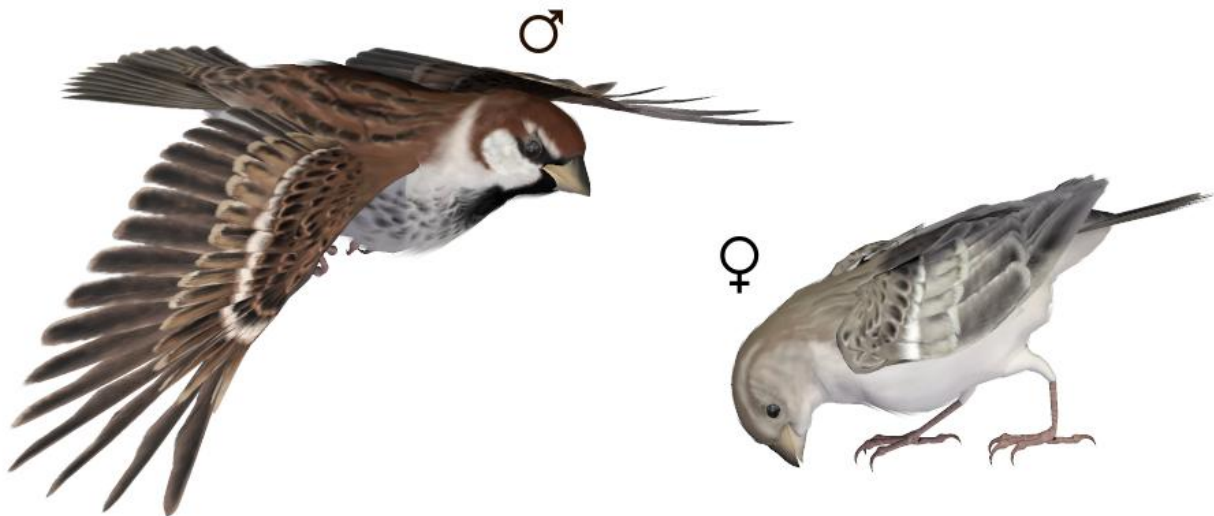
**Common Name:** Spanish or Willow Sparrow

**Scientific Name:** *Passer hispaniolensis*

**Size:** 6 inches (15-16 cm)

**Habitat:** Europe, Africa and Asia. The Spanish Sparrow has a highly complex distribution in the Mediterranean region, Macaronesia, and southwest to central Asia. It breeds mostly in a band of latitude about fifteen degrees wide, from the Danube valley and the Aral Sea in the north to Libya and central Iran in the south. Over the last two centuries its range has expanded greatly through natural colonization. From 1950 onwards it has reached Romania, Serbia, and Moldova in the Balkans; and although its range expansion in Macaronesia has been attributed to introductions and travel by ship, it was more likely the result of natural colonization by migrating birds. Vagrants can occur over a broad area, even as far north as Scotland and Norway.

**Status:** Least Concern. **Global Population:** 17,000,000-74,000,000 mature individuals. The European population of the Spanish Sparrow comprises between 2,800,000 and 6,200,000 breeding pairs. There have been population decreases in some parts of Europe, but in other areas the population has increased and the species is not seriously threatened.



**Diet:** Mostly eats seeds of grains and other grasses. It will also eat leaves, fruits, other plant materials, and occasionally insects.

**Nesting:** It is slightly larger and heavier than House Sparrows and also has a slightly longer and stouter bill. The male is similar to the House Sparrow in plumage, but it differs in its under parts which are heavily streaked with black, a chestnut rather than a gray crown, and white rather than gray cheeks. The female is effectively inseparable from the House Sparrow in its plumage, which is gray-brown overall but more boldly



marked. The female has light streaking on its sides, a pale cream supercilium, and broad cream streaks on its back.

The Spanish Sparrow nests in large colonies of closely spaced nests or even in multiple shared nests. Their nests are usually placed in trees or bushes, amongst branches or underneath the nests of larger birds such as White Storks. Colonies may hold from ten pairs to hundreds of thousands of pairs. Each pair lays 3–8 eggs, which hatch in 12 days, with the chicks fledging when about 14 days old. Males spend more time constructing nests than females.

**Cool Facts:** The Spanish Sparrow is a close relative of the House Sparrow in the genus *Passer* and the sparrow family *Passeridae*. Its taxonomy is greatly complicated by the "biological mix-up" it forms with the House Sparrow in the Mediterranean, where one or both of the two species occurs, with only a limited degree of hybridization. On the Italian Peninsula and Corsica, the two species are replaced by the Italian Sparrow (*Passer italiae*), a puzzling type of sparrow apparently intermediate between the Spanish Sparrow and the House Sparrow.

- *P. h. hispaniolensis*. The nominate subspecies is found on the Iberian Peninsula, Sardinia, Greece and Balkans, western Asia Minor, eastern Atlantic islands (Madeira, Canary Islands and Cape Verde Island) and northwestern Africa (Morocco eastward to northeastern Libya). It is a non-breeding visitor to northeastern Africa and southwestern Asia.
- *P. h. transcaspicus*. It is found in Cyprus, eastern Turkey and Levant eastward to Iran, Afghanistan, southern Kazakhstan and northwestern China (western Xinjiang). It winters in southwestern Asia, Pakistan and northwestern India. Race *transcaspicus* is very much like the nominate, and the male is almost identical, but freshly molted individuals (particularly the females) are paler.

**Common Name:** Italian or Cisalpine Sparrow

**Scientific Name:** *Passer italiae*

**Size:** 5.5-6.3 inches (14-16 cm)

**Habitat:** Europe. The Italian Sparrow is found in northern and central Italy, Corsica, and small parts of France, Switzerland, Austria, and Slovenia.

This sparrow is associated with human habitations, living in towns, cities, and agricultural areas. In most cities in Italy, it shares the urban environment with the Eurasian Tree Sparrow.

**Status:** Least Concern. **Global Population:** 5,000,000-10,000,000 mature individuals. It has a population density of 58 to 160 pairs per square km. Up to the mid-1990s, its population increased steadily, probably due to increased urbanization. Between 2000 and 2005, the Italian Sparrow's population in Italy declined by 27.1%, mirroring the declines of the House Sparrow throughout Europe. From 1998 to 2008, urban populations declined by about 50%. A study of the Italian Sparrow's status listed a large number of potential causes for its decline, including shortages of insect food, agricultural intensification, and reductions of green areas. The Italian Sparrow is among the most common birds in Italian cities, but other species, including the European Goldfinch, are more common.



**Diet:** Seeds of grains and other grasses, also eating leaves, fruits, and other plant materials, and occasionally insects.

**Nesting:** The male has a full chestnut cap and white cheeks like the Spanish Sparrow but it has a pale belly without black spotting, so it is unlike the Spanish Sparrow in that respect. The female looks like the female House Sparrow. It is identified by proximity to males of the same species.

The Italian Sparrow nests in large colonies of closely spaced or even multiple shared nests. Nests are usually placed in trees or bushes, amongst branches or underneath the nests of larger birds such as White Storks. Colonies may hold from ten pairs to hundreds of thousands of pairs. Each pair lays 2–8 eggs, which hatch in 12 days, with the chicks fledging when about 14 days old. Males spend more time constructing nests than females.

**Cool Facts:** Besides intergrading with the Spanish and House Sparrows, the Italian Sparrow has been recorded hybridizing with the Eurasian Tree Sparrow.

In most of its range, the Italian Sparrow is an abundant and familiar bird around urban areas. It has been one of the wild birds most commonly consumed as food in Italy. The Italian Sparrow is portrayed in the frescos in the ruins at Pompeii.

Like the House Sparrow, the Italian Sparrow is considered a biological indicator of habitat degradation.

**Common Name:** Eurasian Tree Sparrow  
**Scientific Name:** *Passer montanus*

**Size:** 5-5.5 inches (12.5-14 cm)

**Habitat:** Europe and Asia. This sparrow breeds over most of temperate Eurasia and Southeast Asia.

The Eurasian Tree Sparrow is widespread in the towns and cities of eastern Asia, but in Europe it is a bird of lightly wooded open countryside, with the House Sparrow breeding in the more urban areas.

**Status:** Least Concern. **Global Population:** Unknown mature individuals. The Eurasian Tree Sparrow's extensive range and large population ensure that it is not endangered globally. However, in western European populations there have been large declines, which is due in part to changes in farming practices involving increased use of herbicides and loss of winter stubble fields.



**Diet:** Mainly seeds, but invertebrates are also consumed, particularly during the breeding season.

**Nesting:** This sparrow is distinctive even within its genus in that it has no plumage differences between the sexes. The adult's crown and nape are rich chestnut, and there is a kidney-shaped black ear patch on each pure white cheek; the chin, throat, and the area between the bill and throat are black. The upper parts are light brown, streaked with black, and the brown wings have two distinct narrow white bars. The legs are pale

brown to pink, and the bill is lead-blue in summer, becoming almost black in winter. The juvenile also resembles the adult, although the colors tend to be duller.

The untidy looking nest is built in a natural cavity, a hole in a building or in an abandoned nest of a European Magpie or White Stork. The typical clutch is five or six eggs which hatch in less than two weeks.

**Cool Facts:** While this species is sometimes viewed as a pest, it is also widely celebrated in oriental art. The fluttering of the bird gave rise to a traditional Japanese dance, the Suzume Odori, which was depicted by artists such as Hokusai.

This species varies little in appearance across its large range, and the differences between the eight extant subspecies are slight.

- *P. m. montanus*, the nominate subspecies, ranges across Europe except southwestern Iberia, southern Greece, and the former Yugoslavia. It also breeds in Asia east to the Lena River and south to the northern regions of Turkey, the Caucasus, Kazakhstan, Mongolia and Korea.
- *P. m. transcausicus*, breeds from the southern Caucasus east to northern Iran. It is duller and grayer than the nominate race.
- *P. m. dilutus*, a resident in the extreme northeast of Iran, northern Pakistan and northwest India. It also occurs further north, from Uzbekistan and Tajikistan east to China. Compared to *P. m. montanus*, it is paler, with sandy-brown upper parts.
- *P. m. tibetanus*, the largest race by size, is found in the northern Himalayas, from Nepal east through Tibet to northwest China. It resembles *P. m. dilutus*, but is darker.
- *P. m. saturatus*, breeds in Sakhalin, the Kuril Islands, Japan, Taiwan and South Korea. It is deeper brown than the nominate subspecies and has a larger bill.
- *P. m. malaccensis*, is found from the southern Himalayas east to Hainan and Indonesia. It is a dark race, like *P. m. saturatus*, but is smaller and more heavily streaked on its upper parts.
- *P. m. hepaticus*, breeds from northeast Assam to northwest Burma. It is similar to *P. m. saturatus*, but redder on its head and upper parts.

As with other small birds, infection by parasites and diseases, and predation by birds of prey take their toll, and the typical life span is about two years.



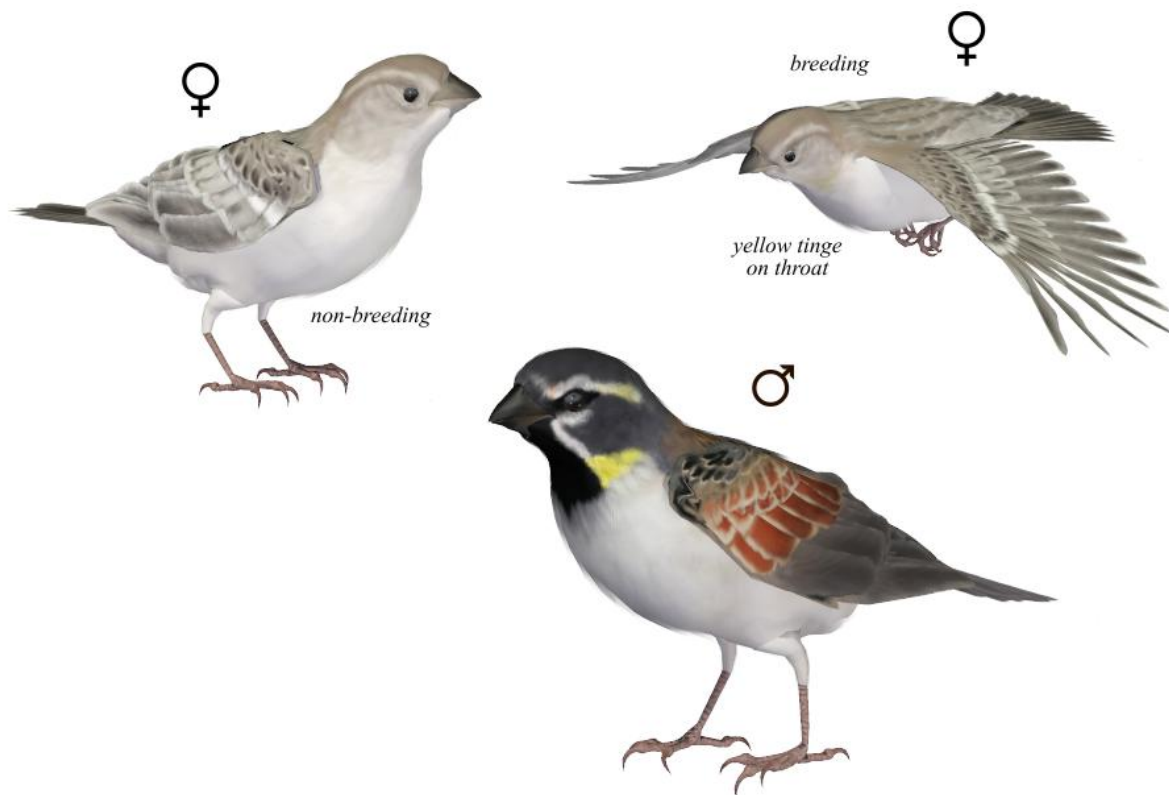
**Common Name:** Dead Sea Sparrow  
**Scientific Name:** *Passer moabiticus*

**Size:** 5-5.1 inches (12-13 cm)

**Habitat:** Europe, Africa and Asia; it is found in the River Jordan, Dead Sea, and into Iraq, Iran and western Afghanistan.

The Dead Sea Sparrow is migratory or dispersive. The regular wintering grounds of this nomadic species are largely unknown, although the eastern race does winter in Pakistan and flocks of the nominate western race have been found further south in the Middle East.

It prefers riverine or lacustrine areas with trees or scrub, and irrigated semi-desert where flush of annual grasses. Outside the breeding season it is found in cultivated areas.



**Status:** Least Concern. **Global Population:** 7,300-120,000 mature individuals. The population is suspected to be stable. It is locally common in the west of range; locally common in Afghanistan. Numbers in breeding colonies tend to rise and fall, particularly with changes in land use. It has extended its range since middle of 20th century. The first recorded sighting in Cyprus was in 1973 It became extinct as a breeder in mid-to-

late 1980s, and is now considered to be an accidental visitor, with occasional sightings during spring and autumn since early 1990s.

**Diet:** Predominantly a seed eater, specializing on smaller seeds of grasses, rushes and sedges, shrubs and trees. Nestlings fed with both invertebrates and seeds. Searches leaves of trees for insects. Forages also on ground. In loose flocks.

**Nesting:** Dead Sea Sparrows are sexually dimorphic. The male has a gray crown, rear neck and cheeks, and a small black bib. It has a pale supercilium shading to buff at the rear, and yellow neck sides. The upper parts are dark-streaked reddish brown, and the under parts are gray-white. The female is like a small House Sparrow, with a streaked brown back, grayish head and buff-white under parts. She is paler and smaller billed than her relative, and sometimes shows yellow on the neck sides.

Dead Sea Sparrows breed in dry lowlands with some shrubs and tamarisk, with close access to water. Nests are built in trees and 4-7 eggs are laid.

**Cool Facts:** The flight call is a high-pitched *chi-wit*. This species is often silent.

- *P. m. moabiticus*. The nominate race is found in Southern Turkey, Cyprus, Israel, Western Jordan, Northern and Southern Syria and Iraq eastward to southwestern Iran. It has been recently recorded in Lebanon and Kuwait.
- *P. m. yatii*. It is found in the Seistan region, on the borders of eastern Iran and southwestern Afghanistan. The eastern race of the Dead Sea Sparrow is sandier, and the male has a yellow wash to the under parts.

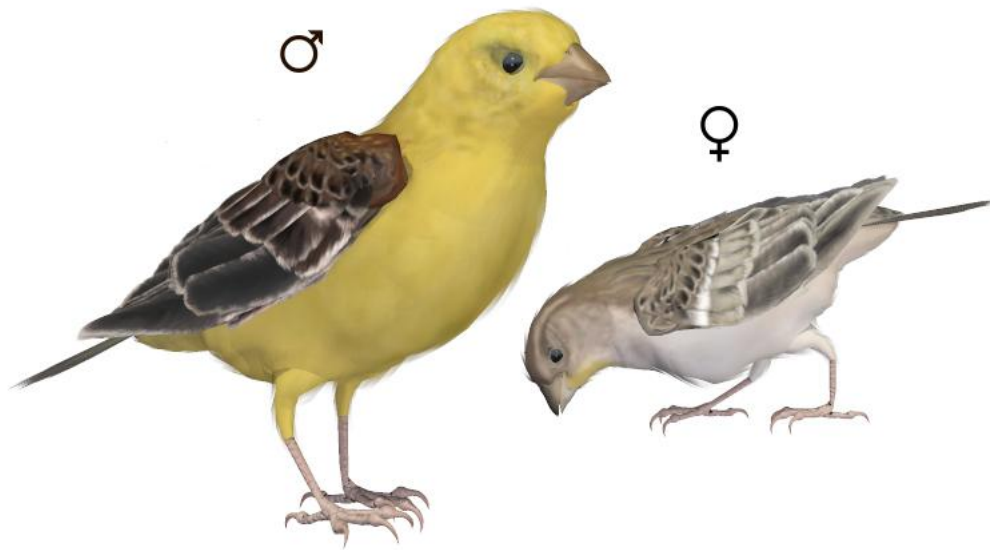
**Common Name:** Arabian Golden Sparrow  
**Scientific Name:** *Passer euchlorus*

**Size:** 5.1 inches (13 cm)

**Habitat:** Africa and Asia; found in south west Arabia and also the coast of Somalia and Djibouti.

It prefers thorn savanna and scrub habitats. It also frequents cultivated areas.

**Status:** Least Concern. **Global Population:** Unknown amount of mature individuals. The population is suspected to be stable in the absence of evidence for any declines or substantial threats.



**Diet:** Seeds, occasionally insects. Sparrows are gregarious and mainly sedentary.

**Nesting:** Arabian Golden Sparrows are sexually dimorphic. Male is golden yellow with white-edged black flight feathers and tail. Breeding female is greenish-gray above and pale yellow below, especially from chin to breast. Non-breeding females and immature sparrows are gray-brown above and bluff white below with yellow restricted to the throat area.

2-4 eggs are laid in a woven nest located in trees.

**Cool Facts:** This species and *Passer luteus* were formerly placed in a separate genus, *Auripasser*. The two actually form a superspecies but in the past were often treated as conspecific.

**Common Name:** Russet Sparrow  
**Scientific Name:** *Passer cinnamomeus*

**Size:** 5.5-5.9 inches (14-15 cm)

**Habitat:** Habitat: Asia; found in parts of eastern Asia and in the Himalayas. In the Himalayas the Russet Sparrow breeds from the far northeast of India through southeastern Tibet, Bhutan, Sikkim, Nepal, Uttarakhand, and Himachal Pradesh to Kashmir and Nuristan in Afghanistan. Here, the Russet Sparrow makes short movements to lower altitudes between November and April. In eastern Asia, the Russet Sparrow is found in Sakhalin, the Kuril Islands, a small part of mainland Russia, Japan, southern Korea, and part of northern China, where it is mostly migratory. It is distributed through southern China and Taiwan, and the mountainous parts of Burma, southern Northeast India, Laos, and Vietnam, where it is mostly resident. The Russet Sparrow also occurs as a winter visitor in southern Japan, the further south of China, and northern Thailand. In eastern Asia, the autumn migration occurs between August and November.

The Russet Sparrow is the typical sparrow of human habitations in towns where the House and Eurasian Tree sparrows are absent. In the southern part of its range, the Russet Sparrow prefers higher altitudes, but in the north it breeds by the sea.



The Russet Sparrow appears to be abundant in most habitats across its very large range, and in some areas it is among the most common birds.

**Status:** Least Concern. **Global Population:** Unknown amount of mature individuals. Populations appear to be stable. The species is described as common or locally common, although scarce in some parts of its range.

**Diet:** Seeds of herbs and grains, but it also eats berries and insects, particularly during the breeding season. While this diet makes it a minor pest in agricultural areas, it also makes it a predator of insect pests.

**Nesting:** The breeding male is bright russet or cinnamon red on its upper parts from its crown to its rump, with a black streaking on its mantle. It has a small black bib and black around its eye, separated from the russet of its crown by a very thin white supercilium, a stripe running from the bill to the rear of the head. The side of its neck and cheek are off-white, and its under parts are pale gray or washed with yellow, varying geographically. Shoulders and greater coverts are chestnut, and its median coverts are black at the base with white at the tips. The rest of the wing is light brown with black tinges. Its tail is blackish brown, edged with ashy brown. The non-breeding male differs little from the breeding male, being paler with more orange upper parts. The female has mostly pale brown upper parts, and pale gray under parts, so it resembles the female House Sparrow. It differs from the House Sparrow in its slightly darker, russet-tinged plumage. It has a conspicuous cream supercilium from above its eye nearly around its head, and a bold dark brown stripe through its eye. It has mostly grayish brown wings and a back streaked with black and buff. The juvenile is similar to the female, though more pale and sandy. As the male reaches its first winter, it resembles the adult, differing in less bold chestnut and a dusky bib.

While breeding, it is not social, as its nests are dispersed. It forms flocks when not breeding, although it associates with other bird species infrequently. Its nest is located in a tree cavity, or a hole in a cliff or building. The male chooses the nest site before finding a mate and uses the nest for courtship display. The typical clutch contains five or six whitish eggs. Both sexes incubate and feed the young.

**Cool Facts:** Three subspecies are recognized, differing chiefly in the yellowness of their under parts. The subspecies *P. r. rutilans* and *P. r. intensior* breed in parts of eastern Asia, where they are usually found in light woodland, and the larger subspecies *P. r. cinnamomeus*, breeds in the Himalayas, where it is usually associated with terrace cultivation.

The Russet Sparrow is known well enough in the Himalayas to have a distinct name in some languages, and is depicted in Japanese art.

- *P. c. rutilans*. It is found in north-central and eastern China, Korea, Taiwan, southern Sakhalin, southern Kuril Island and Japan.
- *P. c. intensior*. It is found in northeastern India (Assam), south-central and south China, and northern Myanmar eastward to northern Laos and northwestern Vietnam. Race *intensior* is like the nominate, but a deeper russet tone above, yellow on the face and the underparts are much paler.
- *P. c. cinnamomeus*. The nominate subspecies is found in northeastern Afghanistan eastward in Himalayas (mostly above 1800 m) to southern China (southern and southeastern Xizang and southern Qinghai) and northeastern India (Arunachal Pradesh). It has a strong yellow tinge on the cheeks and the underparts.

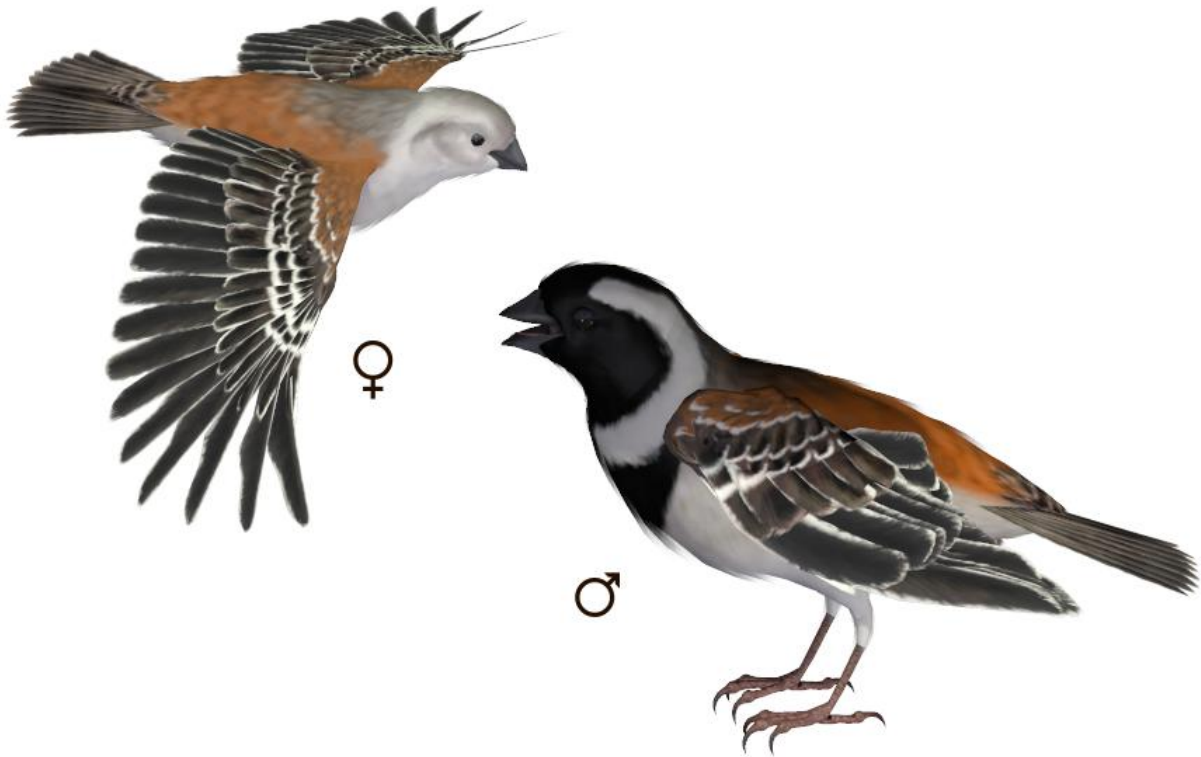


**Common Name:** Cape Sparrow  
**Scientific Name:** *Passer melanurus*

**Size:** 5.5 inches (14-16 cm)

**Habitat:** Africa; found in southern Africa from Angola south to South Africa and east to Lesotho.

Cape sparrow's original habitats were the semi-arid savanna, thornveld, and light woodland areas that are typical of southern Africa. When settled agriculture arrived in its range about a thousand years ago, it adapted to cultivated land. Since the arrival of settlement, it has moved into towns, but it prefers parks, gardens, and other open spaces, and has a low reproductive success in more built-up areas. The Cape Sparrow prefers habitats with an annual rainfall of less than 75 cm (30 in), though in desert areas it is usually found near watercourses or watering holes.



**Status:** Least Concern. **Global Population:** Unknown amount of mature individuals. The population is suspected to be stable in the absence of evidence for any declines or substantial threats.

**Diet:** Primarily granivorous, it also eats soft plant parts and insects.

**Nesting:** The breeding male has a mostly black head, but with a broad white mark on each side, curling from behind the eye to the throat. On the throat a narrow black band connects the black bib of the breast to black of the head. Under parts are grayish, darker on the flanks. The back of the male's neck is dark gray, and its back and shoulders are bright chestnut. The male has a white and a black wing bar below its shoulders, and flight feathers and tail streaked gray and black. The female is similar to the male, but is duller and has a gray head with a different pattern from the male, though it bears a hint of the pale head markings of the male. The juvenile is like the female, but young males show black on the head from an early age.

Cape Sparrows breed in colonies and gather in large nomadic flocks while not breeding. The nest can be constructed in a variety of locations, in a tree or a bush, in a hole or an empty nest of another species. A clutch contains three or four eggs, and both parents are involved from nest building to feeding young.

**Cool Facts:** An unusual social behavior has been described in the Cape Sparrows of Johannesburg. Groups of 20–30 birds separate from larger flocks and stand close together with their tails on the ground and heads held high. These groups sometimes move in an unorganized fashion by hopping slowly. Often birds will fly up and hover 30–60 cm (12–24 in) above the ground. During these gatherings birds are silent and are never antagonistic. This behavior's significance is unknown, and it is not reported in any other sparrow.

The Cape Sparrow has been featured on several coins of the South African rand, and on stamps from Lesotho and the Central African Republic.

- *P. m. damarensis*. It is found in southwestern Angola (southward from Benguela), Namibia, Botswana and southwest Zimbabwe southward to northern South Africa (southward to Northern Cape, North West Province and northern Limpopo Province). Race *damarensis* is slightly smaller than nominate, the male has a black-browish head and the female is paler.
- *P. m. melanurus*. The nominate species is found in southwestern South Africa (southern Northern Cape and Western Cape eastward to southwestern Free State).
- *P. m. vicinus*. It is found in eastern South Africa (southern Limpopo Province southward to eastern Free State, western KwaZulu-Natal and the Eastern Cape), Lesotho and (rare) western Swaziland. Race *vicinus* is larger than the nominate. The males black is more glossy and the underparts are pure white. The female is darker than the nominate female.

**Common Name:** Great Sparrow or Southern Rufous-sparrow  
**Scientific Name:** *Passer motitensis*

**Size:** 6-6.3 inches (15-16 cm)

**Habitat:** Africa; Near-endemic to southern Africa, occurring from south-western Angola through to Namibia, Botswana, southern Zimbabwe and northern South Africa.

It generally prefers arid and semi-arid savanna woodland and shrubland, especially with Acacia trees, but it also occupies fallow grazing land with scattered bushes.



**Status:** Least Concern. **Global Population:** Unknown amount of mature individuals. Populations appear to be stable.

**Diet:** Seeds of grains and other grasses, leaves, fruits, other plant materials, and occasionally insects. It forages both on the ground and in tree foliage.

**Nesting:** The Great sparrow has a gray crown; brown upper parts with a rufous rump and white under parts; it has a smaller black bib and a heavier bill than the House Sparrow.

The nest is built by both sexes, consisting of an untidy, thick-walled hollow ball with a side entrance, made of grass and asparagus leaves and lined with feathers and fine grass. It is typically placed in a thorn tree or bush, sometimes fairly exposed and easy to spot. It lays 2-4 eggs (September-April), which are incubated by both sexes for about 12-14 days. The chicks are fed by both parents on a diet of insects. They leave the nest after about 15-18 days.

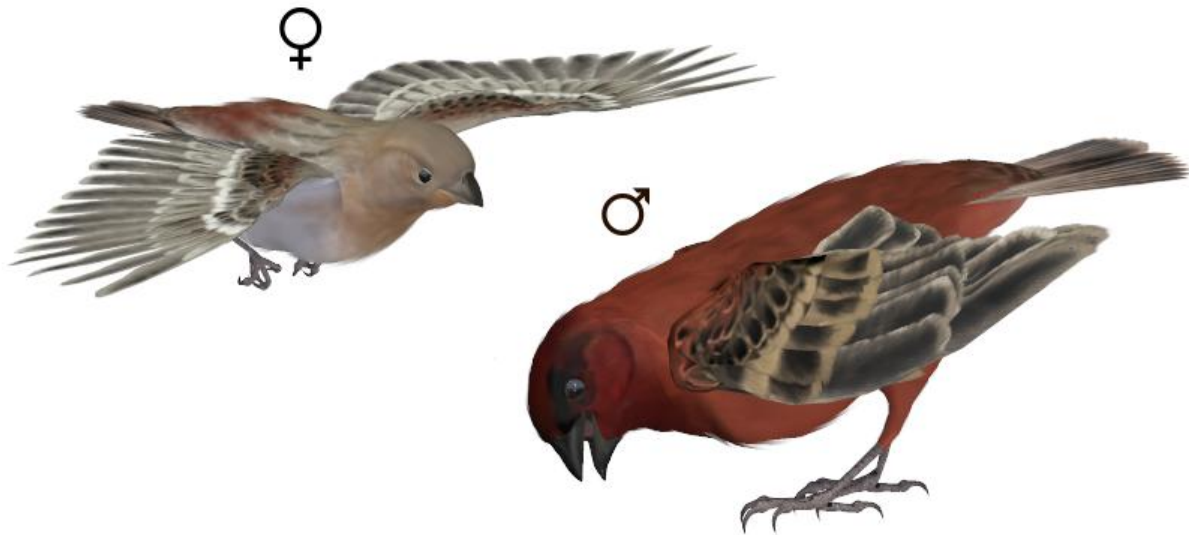
**Cool Facts:** The taxonomy of this species and the other "rufous sparrows" is confused. Some authors considered this species to be the same as the Iago Sparrow, while others recognize only some of the rufous sparrows as separate from the Great Sparrow.

**Common Name:** Chestnut Sparrow  
**Scientific Name:** *Passer eminibey*

**Size:** 4.1-4.7 inches (10.5-11.5 cm)

**Habitat:** Africa; found in East Africa along a broad band of mostly lower country from Darfur through the Kordofan region, South Sudan, Somalia, Uganda, and Kenya to north-central Tanzania. Its range also extends northeast into the southwest and Great Rift Valley of Ethiopia.

It is found mostly in dry acacia savanna, in fields and villages. It is sometimes found in swamps of papyrus (*Cyperus spp.*).



**Status:** Least Concern. **Global Population:** Unknown amount of mature individuals. Populations appear to be stable.

**Diet:** Seeds of herbs and grains, also berries and insects, particularly during the breeding season. While this diet makes it a minor pest in agricultural areas, it also makes it a predator of insect pests.

It feeds on the ground, foraging in small groups and in flocks. It is also found alone and in pairs.

**Nesting:** The plumage of the breeding male is mostly a deep shade of chestnut in color with darker coloration on the face, wings, and tail. The breeding male's legs and feet are pale gray. The non-breeding male Chestnut Sparrow has white flecking on the upper



parts and much of its plumage is buff or whitish with chestnut crescent markings, until the bright chestnut of the breeding plumage is exposed by wear. The non-breeding male's bill fades to a dusky-tipped horn, similar to that of females, but without dusky tones on the cutting edge of the mandible (lower portion of beak). Females have the same plumage pattern as males, though with somewhat duller coloration. The female has a gray head; buff supercilium, chin, and throat; black and warm brown upper parts; and off-white under parts. The bill of the female is pale yellow with the tip and cutting edge of mandible dusky. Juveniles are dull gray with a brown back, a pale yellow supercilium, and a pale gray bill.

This sparrow is known to parasite the abandoned nests of weavers. It will also build its own nests. Nests built by the Chestnut Sparrow, like most sparrow nests, are untidy domed structures which are made of grass and lined with feathers. Its breeding season varies between different regions, following rains, and the breeding seasons of its hosts in areas where it parasitizes nests; as a result it has been recorded breeding in every month of the year across its range. Clutches typically contain three or four eggs, which are ovular, mostly colored white or bluish-white. The incubation period lasts for 18 to 19 days.

**Cool Facts:** The Chestnut Sparrow is the smallest member of the sparrow family. The basic call of the Chestnut Sparrow is a subdued chirp, with two recorded variations: a scolding threat call, rendered *chrrrrit* or *chrrrrreeerrrrrrrr* and a *chew chew* flight call. Displaying males give a high twittering trill, rendered as *tchiweeza tchiweeza tchi-tchi-tchi-tchi- see-see-see-seeichi*.

**Common Name:** American Tree Sparrow  
**Scientific Name:** *Spizella arborea*

**Size:** 5.5 inches (14 cm)

**Habitat:** North America; Canada and Northern United States. American Tree Sparrows breed in the tundra of the far North and they migrate to southern Canada and the northern United States for the winter. They migrate at night, often in flocks. Females generally winter farther south than males. The return flight to northern Canada and Alaska coincides with spring snowmelt in the far North.

In summer, American Tree Sparrows breed near the northern tree line, where straggling thickets of alder, willow, birch, and spruce give way to open tundra. Though some American Tree Sparrows nest in open tundra, most territories include at least a few small trees that the males can sing from, along with a source of water. During spring and fall migrations, they'll search out weedy fields, marshes, hedgerows, and open forests for foraging between nights of flying. They winter in similar habitats in their southern range, adding gardens and backyards with feeders in settled areas.



**Status:** Least Concern. **Global Population:** 40,000,000 mature individuals. American Tree Sparrows breed in summer across 250 million acres of northern Canada and Alaska, beyond the range of usable timber or arable land, where they're generally little affected by humans. Canada's plans for tar sands extraction may change this. Local populations can be at risk from development, as shown by a study that found high levels

of arsenic compounds in American Tree Sparrows from a gold-mining region in the Northwest Territories. But common predators like hawks and owls don't threaten overall numbers. During the winter, American Tree Sparrows thrive all across southern Canada and the northern United States. They adjust easily to disturbed habitats and human settlements, flocking around backyard feeders.

**Diet:** Seeds, berries, and insects, but the relative proportions of those foods change radically from winter to summer months. From fall through spring, they're almost exclusively vegetarian, eating grass, sedge, ragweed, knotweed, goldenrod, and other seeds, as well as occasional berries, catkins, insects, insect eggs, and larvae. In settled areas, they happily eat small seeds from feeders—including millet scattered on the ground. In summer, after their migration north, they begin eating a wider and wider variety of insects until, during June and July they eat almost exclusively insects such as beetles, flies, leafhoppers, wasps, moths, and caterpillars, as well as spiders and snails. These protein-rich foods are particularly important for the growing chicks. Once the chicks are gone, their diet begins reverting to its winter pattern. They may augment their summer food with seeds from alder, spruce, blueberries, and cranberries. They are commonly seen near feeders with Dark-eyed Juncos, foraging on the ground or in low bushes.

**Nesting:** Sexes look alike. Adults have a rusty cap and gray under parts with a small dark spot on the breast. They have a rusty back with lighter stripes, brown wings with white bars and a slim tail. Their face is gray with a rusty line through the eye. Their flanks are splashed with light brown.

American Tree Sparrows nest on or near the ground, often in a tussock of grass at the base of a shrub, occasionally as high as about 4 feet on a limb of a willow or spruce. In open tundra with no trees in sight, the nest may sit on a mossy hummock. The nest is an open cup of moss, grasses, shreds of bark and twigs, lined with fine grass and feathers (usually from a ptarmigan). 4 to 6 pale blue with reddish speckled eggs are laid.

**Cool Facts:** The American Tree Sparrow was misleadingly named by European settlers reminded of Eurasian Tree Sparrows back home; American Tree Sparrows are ground birds. It was formerly known as the Winter Sparrow.

In winter, American Tree Sparrows often forage industriously in small flocks. They scratch the ground for dried seeds, and hop up at bent-over weeds or along low branches gathering catkins or berries. Inventive in their foraging, they've been seen beating grass seed heads sticking up out of the snow with their wings to release seeds they can pluck from the ground. These hardy birds often continue foraging undaunted as winter blizzards roll in. Individuals may take solitary perches on low branches or atop stalks like goldenrod. In their summer range, they search out insects from weeds and bushes, occasionally snatching moths or mosquitoes from the air as well. As their spring migration progresses, flocks dissolve and American Tree Sparrows pair up. Females spend much of their time on the nest they build and rarely venture outside the male's

territory. Males roost nearby, visiting the nest frequently. Pairings don't outlast breeding season.

American Tree Sparrows need to take in about 30 percent of their body weight in food and a similar percentage in water each day. A full day's fasting is usually a death sentence. Their body temperature drops and they lose nearly a fifth of their weight in that short time.

**Common Name:** Harris's Sparrow  
**Scientific Name:** *Zonotrichia querula*

**Size:** 6.7-7.9 inches (17-20 cm)

**Habitat:** North America; It breeds along the edge of boreal forest and tundra in north-central Canada, and spends the winter along hedgerows, shelterbelts, agricultural fields, weed patches, and pastures in the very central region of the United States. It is rarely found in the far east or in the west of North America.

It breeds at edge of boreal forest and tundra and winters along hedgerows, shelterbelts, agricultural fields, weed patches, and pastures.



**Status:** Least Concern. **Global Population:** Unknown amount of mature individuals. Because of remote nesting area and preference for disturbed areas on wintering grounds, the Harris's Sparrow is unlikely to be negatively affected by human activities. Canada's plans for tar sands extraction may change this. Populations appear to be stable.

**Diet:** Seeds, fruits, arthropods, and young conifer needles. Harris's Sparrows primarily feed on ground by scratching leaf litter with both feet. It will come to feeders.

**Nesting:** Sexes are alike. In their breeding plumage they have conspicuous pink bills, black on the crown, face, throat and upper breast, contrasting with gray on the sides of the head and neck. The back is brown, overlaid with heavy black streaking. There are two white wing bars and white lower under parts with some black mottling on flanks. Non-breeding adults are more buff than gray and brown. Black markings are reduced

or absent and they often have whitish scalloping on the head and throat. Immature birds have less black plumage, they are normally marked with a white chin and throat, a black malar stripe and a broad smudgy black breast-band, a brownish crown streaked with black and fine dark streaks and some broader black markings on the underside. Birds molt from July to September.

In winter flocks, Harris's Sparrows maintain linear dominance hierarchies that determine access to food and roost sites. The most dominant birds are the oldest males, and they also have the largest bibs. If first winter birds have their feathers dyed black, creating an artificially large bib, they rise in the dominance hierarchy.

The nest is an open cup of mosses, small twigs, and lichens, lined with dried grass and often some caribou hair. It is placed on ground, sunken into moss and lichens. 3 to 5 eggs are laid. The eggs are pale green with irregular spots and blotches.

**Cool Facts:** Because of its remote and restricted breeding grounds, the Harris's Sparrow was one of the last North American species to have its nest discovered. The first nest was found in 1931 at Churchill, Manitoba, by George M. Sutton.

The Harris's Sparrow is the only bird species that breeds in Canada and nowhere else in the world.

**Common Name:** Fox Sparrow  
**Scientific Name:** *Passerella iliaca*

**Size:** 6–7.5 inches (15–19 cm)

**Habitat:** North America; Canada, Alaska and the western United States. They migrate on the west coast of the United States.

Fox Sparrows breed in thickets and chaparral across northern North America and south along the western mountains. Each of the four main types of Fox Sparrows has its own preferences when it comes to vegetation. “Red” Fox Sparrows live in scrubby, brushy woods and forest edges (containing black spruce, white spruce, balsam fir, tamarack, aspen, birch, willow, and alder) from Alaska to Newfoundland, reaching into the northwestern corner of Maine. They winter in densely thicketed habitats across eastern North America, from Newfoundland to Minnesota to Texas to Florida, and in small numbers farther west. “Sooty” Fox Sparrows breed in deciduous streamside thickets (with willow and blackberry) along coastal Alaska and British Columbia from the



Aleutian Islands to Washington, and they winter in chaparral farther south along the Pacific Coast. “Slate-colored” Fox Sparrows breed in dense riparian thickets (of alder, water birch, willows, currants, gooseberries, and rose) from central British Columbia south to Colorado, and they winter in tall chaparral from California to New Mexico. “Large-billed” Fox Sparrows nest in brushy fields at high elevations (with green-leaf manzanita, mountain whitehorn, and bush chinquapin) from western Oregon south into California and western Nevada, wintering in chaparral farther south in California. During migration, Fox Sparrows forage in the leaf litter of open hardwood forests as well as swampy thickets.



**Status:** Least Concern. **Global Population:** Unknown amount of mature individuals. Fox Sparrows are numerous and their populations seem to be stable. Human disturbance does not seem to have harmed Fox Sparrow populations, possibly because many of the birds nest in remote northern North America, where there are few direct impacts from people. However, the distribution of Fox Sparrows has probably shifted because of logging and changes to forest fire regimes in the West. Both logging and forest fires create dense, shrubby regrowth that can serve as Fox Sparrow habitat.

**Diet:** Seeds and insects, as well as some berries. Coastal fox sparrows may also eat crustaceans. They find their prey with a characteristic “double-scratch” involving a hop forward and an immediate hop back, during which they simultaneously scratch both feet backwards through the leaf litter. (This foraging move is common among some sparrows and towhees.)

**Nesting:** Fox Sparrows are dark, splotchy sparrows with four main groups that can range from foxy red to gray to dark brown.

Fox sparrows nest in wooded areas across northern Canada and the west coast of North America from Alaska to California. They nest either in a sheltered location on the ground or low in trees or shrubs. Nest typically contains two to five pale green to greenish white eggs speckled with reddish browns.

**Cool Facts:** The nineteenth century naturalist William Brewster was inspired by the rich song of breeding Fox Sparrows in the Gulf of Saint Lawrence. “At all hours of the day,” he wrote, “in every kind of weather late into the brief summer, its voice rises among the evergreen woods filling the air with quivering, delicious melody, which at length dies softly, mingling with the sighing of the wind in the spruces, or drowned by the muffled roar of the surf beating against neighboring cliffs.”

Fox Sparrow fossils from the Pleistocene (about 11,000 years ago) have been found in Pennsylvania, Virginia, and at the La Brea tar pits in California.

There are 4 Sub-species of Fox Sparrow:

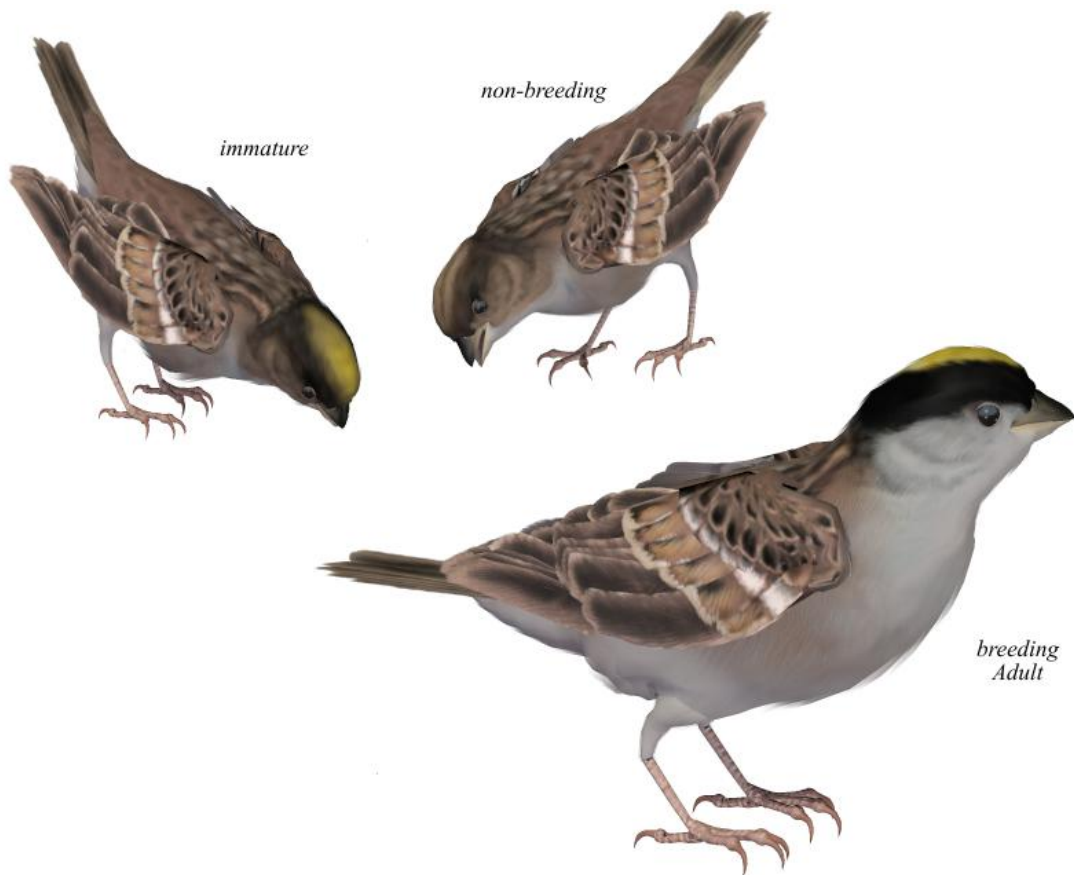
- *P. i. iliaca*. The “Red” Fox Sparrow is the generally central and east coast taxa in the genus *Passerella*. This is the brightest colored group.
- *P. i. unalaschensis*. The “Sooty” Fox Sparrow is the west coast taxa in the genus *Passerella*. It is browner and darker than the Red Fox Sparrow.
- *P. i. schistacea*. The “Slate-colored” Fox Sparrow is the Rocky Mountain taxa in the genus *Passerella*. It is a tiny-billed bird with a gray head and mantle, brown wings, brown breast streaks, and a russet tail.
- *P. i. megarhyncha*. The “Thick-billed” Fox Sparrow is the Sierra Nevada taxa in the genus *Passerella*. This group features a particularly thick bill, as its name would suggest.

**Common Name:** Golden-crowned Sparrow  
**Scientific Name:** *Zonotrichia atricapilla*

**Size:** 5.9 - 7.1 inches (15-18 cm)

**Habitat:** North America; along the western edge of North America. It is a migratory species, breeding from north-central Alaska (including the Aleutian Islands as far west as Unimak Island) and central Yukon south to the northwestern corner of the US state of Washington, and wintering from southern coastal Alaska to northern Baja California. It has been recorded as a vagrant in Japan and Russia, and the eastern coast of North America, from Nova Scotia to Florida.

In the winter, it is generally found in brushy areas, particularly chaparral, usually in dense shrubs



**Status:** Least Concern. **Global Population:** Unknown amount of mature individuals. Populations appear to be stable and increasing. Throughout its range, it is protected by the Migratory Bird Treaty Act of 1918, and many of its wintering grounds are in protected areas, including national forests and national wildlife refuges.

**Diet:** Its diet, particularly in the winter, consists primarily of plant material; items include seeds, berries, flowers and buds, as well as the occasional crawling insect. Paired birds commonly forage together, with the male following the female.

**Nesting:** Males and females are similarly plumaged, though males average slightly larger than females. Other than a plain gray nape, the adult's upper parts are grayish-brown, with broad brownish-black streaks on the back and scapulars, and unstreaked rump. Its under parts are gray, slightly paler on the belly and buffier on the flanks. Its wings and tail are brown, and it shows two white wing bars. Its legs are pale brown, and its bill is dark, with the upper mandible darker than the lower.

In the breeding season, the Golden-crowned Sparrow has a broad yellow central crown stripe which becomes pale gray towards the back of the head. The size and color of a bird's crown patches are better predictors of dominance (indicating which bird will avoid confrontation with another) than are the bird's size or sex. Birds with similarly sized gold crown patches are far more likely to engage in agonistic behavior than are those showing differences, and the outcomes of such confrontations can be predicted based on the color of their black stripes. This suggests that social status in this species involves more complexity than a single signal will allow, and that the multiple color patches allow a gradient of interactions between flock mates.

The breeding season runs from late May through early August. Males on the breeding ground sing throughout the day from an exposed perch. The nest is a bulky cup built by the female. Located on the ground (or occasionally on a low branch), it is made of dried plant material and lined with hair, fine grasses and feathers. The female typically lays five eggs, though clutches of 3–5 have been recorded. The eggs, are pale green, oval and heavily spotted with reddish-brown. They are incubated by the female for 11–14 days. The young are born naked, blind and helpless and fledge from the nest within 12 days. Both parents feed the young.

**Cool Facts:** The Golden-crowned Sparrow arrives earlier and stays longer on its California wintering grounds than almost any other bird species. When day length increases in the spring, the Golden-crowned Sparrow detects the change through photoreceptors (light-sensitive cells). Its body responds by putting on fat and getting an urge to migrate.

This species is an important destroyer of weed seeds on the Pacific Coast, with various ryegrasses, fescues, bromes, pigweeds, chickweeds, mulleins, filarees, common knotweed and poison oak among its known food sources.

Miners in the Yukon at the turn of the twentieth century woefully referred to the Golden-crowned Sparrow as the “no gold here” bird, because its song resembled that depressing phrase. They also interpreted its song to say “I’m so tired,” prompting them to dub the bird “Weary Willie.”

The oldest Golden-crowned Sparrow on record was at least 10 years, 6 months old. It was caught by a bird bander in California and released.

**Common Name:** Lark Sparrow

**Scientific Name:** *Chondestes grammacus*

**Size:** 5-9-6.7 inches (15-17 cm)

**Habitat:** North America; breeds in southern Canada, much of the United States, and northern Mexico. It is much less common in the east, where its range is contracting. The populations in Mexico and adjacent states of the United States are resident, but other birds are migratory, wintering in the southern United States, Mexico and south to Guatemala.

Lark Sparrows breed in open habitats, where grass adjoins scattered trees and shrubs, especially in poor or sandy soils. They are also found in park-like woodlands, mesquite grasslands, sage brush and fallow fields with brushy edges.

**Status:** Least Concern. **Global Population:** Unknown amount of mature individuals. This species has undergone a large and statistically significant decrease over the last 40 years in North America (-62.6% decline over 40 years, equating to a -21.8% decline per decade)



**Diet:** Mostly seeds, and occasionally insects (Grasshoppers especially) during breeding season. They forage on the ground or in low bushes and form into flocks during migration and in winter.

**Nesting:** Sexes are alike. Adults have a typically sparrow-like dark-streaked brown back, and white under parts except for a dark central spot. The cheeks and crown sides are chestnut, with white eyebrow and crown stripes. Young Lark Sparrows are duller, and the under parts are streaked.

A courting male Lark Sparrow crouches on the ground, holds his tail up at a 45 degree angle from the ground, spreads the tail feathers to show off the white tips, and then struts with its wings drooping so that the wingtips nearly touch the ground. When the female is receptive, the male gives her a small twig just before copulation.

The breeding habitat of the Lark Sparrow is a variety of open ranges including grasslands and cultivated areas. They nest on the ground, laying 3-6 eggs in a grass cup nest sheltered by a clump of grass or other vegetation. They are also known to often take over old mockingbird or thrasher nests instead of building their own. Occasionally the eggs and young of two species are found in the same nest, suggesting that the Lark Sparrow shares the nest with the other bird. Its eggs are white with black scrawling.

**Cool Facts:** Unlike many songbirds, the Lark Sparrow walks on the ground rather than hops. It hops only during courtship.

**Common Name:** Lincoln's Sparrow  
**Scientific Name:** *Melospiza lincolnii*

**Size:** 5.1-5.9 inches (13-15 cm)

**Habitat:** North America; their breeding habitat is wet thickets or shrubby bogs across Canada, Alaska, and the northeastern and western United States; this bird is less common in the eastern parts of its range. They migrate to the southern United States, Mexico, and northern Central America; they are passage migrants over much of the United States, except in the west.

**Status:** Least Concern. **Global Population:** Unknown amount of mature individuals. Lincoln's Sparrow populations seem to be stable or increasing except for declines in Quebec in the late twentieth century. This species seems vulnerable to livestock grazing or human disturbance in their subalpine wetland breeding habitat. Like virtually all migrant songbirds, Lincoln's Sparrows are vulnerable to collisions with structures such as TV towers and buildings. They have also shown sensitivity to herbicide application. Breeding populations are of particular concern in Massachusetts.

**Diet:** Seeds and some insects. They prefer foraging in dense vegetation and are very secretive. Lincoln's Sparrows spend most of their time on the ground walking and hopping as they search for food. They tend to forage by themselves or in very small numbers.



**Nesting:** Sexes are alike. Adults have dark-streaked olive-brown upper parts with a light brown breast with fine streaks, a white belly, and a white throat. They have a brown cap with a gray stripe in the middle, olive-brown wings, and a narrow tail. Their face is gray with brown cheeks, a brown line through the eye, and an eye ring. They are somewhat similar in appearance to the Song Sparrow.



Nests are solely constructed by the female over 2–3 days. The nest is a cup of woven, dried sedges and grasses with a substantial inner lining of soft vegetation. When placed among a cluster of branches, the branches are not incorporated into the woven outer layer; the nest is instead sandwiched among the branches. If disturbed during nest construction, the female is quite likely to abandon her nest. Pairs are usually monogamous and defend their nests by giving a series of alarm calls or engage in various displays to distract intruders. 3 to 5 eggs are laid and can be blue, green, pink, or white, variably spotted with brown in color. Incubation time is approximately 10 days, followed by 10-13 to fledge.

**Cool Facts:** This bird was named by John James Audubon after his friend, Thomas Lincoln, of Dennysville, Maine. Lincoln shot the bird on a trip with Audubon to Nova Scotia in 1834, and Audubon named it "Tom's Finch" in his honor.

The Lincoln's Sparrow shows less geographical variation in song than any other species in its genus, perhaps a result of high dispersal rates among juveniles.

**Common Name:** Rufous-crowned Sparrow  
**Scientific Name:** *Aimophila ruficeps*

**Size:** 5.25 inches (13.6 cm)

**Habitat:** North America; It lives in California, southern Arizona, southern New Mexico, Texas, and central Oklahoma south along Baja California and in western Mexico to southern Puebla and Oaxaca. In the midwestern United States, the sparrow is found as far east as a small part of western Arkansas, and also in a small region of northeastern Kansas, its most northeastern habitat. The range of this species is discontinuous and is made up of many small, isolated populations. The Rufous-crowned Sparrow is a non-migratory species, though the mountain subspecies are known to descend to lower elevations during severe winters. It is found from sea level up to 9,800 feet, though it tends to be found between 3,000 and 6,000 feet.

It is found in open oak woodlands and dry uplands with grassy vegetation and bushes. It is often found near rocky outcroppings. The species is also known from coastal scrublands to chaparral areas. The Rufous-crowned Sparrow thrives in open areas cleared by wildfires.



**Status:** Least Concern. **Global Population:** 2,400,000 mature individuals. In years without sufficient rains, many birds fail to breed and those that do produce fewer offspring. Some of the local populations of this bird are threatened and declining in number. The island subspecies and populations have declined in some cases: *A. r. sanctorum* of the Todos Santos Islands is believed to be extinct, and the populations on Santa Catalina Island and Baja California's Islas de San Martin have not been observed since the early 1900s. Populations of the species in southern California are also

becoming more restricted in range because of urbanization and agricultural development in the region. Additionally, the sparrow is known to have been poisoned by the rodenticide, warfarin, though more research is needed to determine the effects of pesticides on the Rufous-crowned Sparrow.

**Diet:** This sparrow feeds primarily on small grass and forb seeds, fresh grass stems, and tender plant shoots during autumn and winter. During these seasons, insects such as ants, grasshoppers, ground beetles, and scale insects as well as spiders make up a small part of its diet. In the spring and summer, the bird's diet includes a greater quantity and variety of insects. It forages slowly on or near the ground by walking or hopping under shrubs or dense grasses.

**Nesting:** Both sexes are similar in appearance although males tend to be larger than females. It has a brown back with darker streaks and gray under parts. Its wings are short, rounded, and brown and lack wingbars, or a line of feathers of a contrasting color in the middle of the bird's wing. The sparrow's tail is long, brown, and rounded. The face and supercilium (the area above the eye) are gray with a brown or rufous streak extending from each eye and a thick black streak on each cheek. The crown ranges from rufous to chestnut, a feature which gives it its common name, and some subspecies have a gray streak running through the center of the crown. The bill is yellow and cone-shaped. The sparrow's throat is white with a dark stripe. Its legs and feet are pink-gray.

The Rufous-crowned Sparrow breeds in sparsely vegetated scrubland. Males attract a mate by singing from regular positions at the edge of their territories throughout the breeding season. These birds are monogamous, taking only one mate at a time, and pairs often remain together for several years. If singing males come within contact of each other, they may initially raise their crowns and face the ground to display this feature; if that fails to make the other bird leave, they stiffen their body, droop their wings, raise their tails, and stick their head straight out. Male sparrows maintain and defend their territories throughout the year.

The female bird builds a bulky, thick-walled open-cup nest typically on the ground, though occasionally in a low bush up to 18 in (46 cm) above it, from dried grasses and rootlets, sometimes with strips of bark, small twigs, and weed stems. Nests are well hidden, as they are built near bushes or tall grasses or overhanging rock with concealing vegetation. Once a sparrow chooses a nesting site, it tends to return to the site for many years. It lays between two and five eggs at a time and typically only raises one brood a year. The eggs are an unmarked, pale bluish-white. Incubation of the eggs lasts 11 to 13 days and is performed solely by the female. The hatchlings are naked and quills do not begin to show until the third day. Only females brood the nestlings, though both parents may bring whole insects to their young. When a young Rufous-crowned Sparrow leaves the nest after eight or nine days, it is still incapable of flight, though it can run through the underbrush; during this time it is still fed by the parents. Juveniles tend to leave their parent's territory and move into adjacent habitat in autumn or early winter. Reproductive success varies strongly with annual rainfall and is highest in wet El

Niño years, since cool rainy weather reduces the activity of snakes, the main predator of the sparrow's nests.

**Cool Facts:** The average territory size of Rufous-crowned Sparrows in the chaparral of California ranges from 2 acres.

There are 12 recognized subspecies:

- *A. r. ruficeps*, the nominate subspecies, was described by Cassin in 1852. It is found in the coastal ranges of California and on the western slopes of the Sierra Nevada. This subspecies is darker and noticeably smaller than *A. r. eremoeca* and has distinct rufous-brown streaking on its upper parts.
- *A. r. canescens* was described by American ornithologist W.E. Clyde Todd in 1922, and it is found in southwestern California and northeast Baja California as far east as the base of the San Pedro Martir. While the species itself is listed as of Least Concern, this subspecies is listed as a "species of special concern" by the California Department of Fish and Game, signifying that this population is threatened with extinction. It appears to be extremely similar to *A. r. ruficeps* but is darker.
- *A. r. obscura*, described by Donald R. Dickey and Adriaan van Rossem in 1923, is found in the Channel Islands of California on Santa Cruz, Anacapa, and formerly on Santa Catalina. While the Santa Catalina population has not been observed since 1863, the subspecies seems to have colonized Anacapa Island. No records exist of them before 1940. This subspecies is similar to *A. r. canescens* but is darker.
- *A. r. sanctorum* was described by van Rossem in 1947. It was found on the Todos Santos Islands off the coast of northwest Baja California. This subspecies is believed to be extinct. This is the darkest of the coastal subspecies, especially on its underbelly.
- *A. r. sororia* was described by Robert Ridgway in 1898, and it is found in the mountains of southern Baja California, specifically the Sierra de la Laguna. It is the palest of the coastal subspecies.
- *A. r. scottii*, described by George Sennett in 1888, is found from northern Arizona to New Mexico south to northeastern Sonora and northwestern Coahuila. It appears to be a darker gray than *A. r. eremoeca* and has narrower and darker rufous streaks on its breast.
- *A. r. rupicola* was described by van Rossem in 1946.[12] It is found in the mountains of southwestern Arizona. It is similar in appearance to *A. r. scottii* but is darker and grayer on its back.
- *A. r. simulans* was described by van Rossem in 1934, and it is found in northwestern Mexico from southeastern Sonora and southwestern Chihuahua to Nayarit and northern Jalisco. It has more rufous coloration on its back and is paler on its underbelly than *A. r. scottii*.
- *A. r. eremoeca* was described by N. C. Brown in 1882. It is found from southeastern Colorado to New Mexico, Texas, northern Chihuahua, and central Coahuila. It has grayish upper parts and a dark breast.

- *A. r. fusca*, described by Edward William Nelson in 1897, is found in western Mexico from southern Nayarit to southwestern Jalisco, northern Colima, and Michoacan. It is darker and more rufous on its upper parts than *A. r. australis*. It also possesses a darker rufous crown which does not show a gray stripe down the middle.
- *A. r. boucardi* was described by Philip Sclater in 1867, and it is found in eastern Mexico from southern Coahuila to San Luis Potosí, northern Puebla, and southern Oaxaca. This subspecies is darker than *A. r. eremoeca* and has dull brown, not rufous, streaking on the chest.
- *A. r. australis*, described by Edward William Nelson in 1897, occurs in southern Mexico from Guerrero to southern Puebla and Oaxaca. *A. r. scottii* is similar in appearance, but this subspecies is smaller and has a shorter bill.

**Common Name:** Savannah Sparrow  
**Scientific Name:** *Passerculus sandwichensis*

**Size:** 4.3-5.9 inches (11-15 cm)

**Habitat:** North America; it breeds in Alaska, Canada, northern, central and Pacific coastal USA, Mexico and Guatemala. The Pacific and Mexican breeders are resident, but other populations are migratory, wintering from the southern United States across Central America and the Caribbean to northern South America. It is a very rare vagrant to Western Europe.

On both their summer and winter ranges, Savannah Sparrows live in grasslands with few trees, including meadows, pastures, grassy roadsides, sedge wetlands, and cultivated fields planted with cover crops like alfalfa. Near oceans, they also inhabit tidal saltmarshes and estuaries. In Alaska and northern Canada, they live among the shrubby willows of the tundra.



**Status:** Least Concern. **Global Population:** Unknown amount of mature individuals. Savannah Sparrows are widespread and abundant, although the Breeding Bird Survey indicates their numbers have declined in the last half-century in parts of the U.S. and Canada. They likely benefited greatly from human changes to landscapes early in the twentieth century that cleared forests and opened up pasturelands, but then they may have lost ground to the urbanization that followed—and to shifting agricultural practices that favor intensive row-cropping for corn and soybeans instead of dairy farms and hayfields. Savannah Sparrows are susceptible to some crop pesticides and, owing to their foraging style, may eat granular pesticides scattered in cornfields. Savannah

Sparrow nesting can be disrupted when grassy areas are mowed or fields are hayed before young have fledged. Overgrazing by expanding populations of Snow Geese in northern Manitoba may be reducing suitable habitat for Savannah Sparrows there.

**Diet:** During the breeding season, Savannah Sparrows eat nutritionally rich insects and spiders. They stalk through grassy areas or along beaches in search of beetles, grasshoppers, and other bugs, as well as spiders, millipedes, and pillbugs, snapping them up in their bill and swallowing them whole. When white frothy spittle masses appear on goldenrod plants, Savannah Sparrows hop up on the plant and devour the spittlebug nymphs inside the foam. On their winter range, Savannah Sparrows switch to a diet of mostly small seeds from grasses and forbs. Along coastal areas, they may eat tiny crustaceans.

**Nesting:** Sexes are alike. This species has a typically sparrow-like dark-streaked brown back, and whitish under parts with brown or blackish breast and flank streaking. It has whitish crown and supercilium stripes; sometimes with some yellow (more often near the beak). The cheeks are brown and the throat white. The flight feathers are blackish-brown with light brown or white border. The eyes are dark. The feet and legs are horn-colored, as is the lower part of the bill, with the upper part being dark gray.

The female builds the nest in one to three days. The nest is about 3 inches across and composed of two parts: an exterior of coarse grasses and in the middle, a finely woven tiny cup of thin grass. This inner cup is about 2 inches across and 1 inch deep. 2 to 6 eggs are laid and are pale greenish, bluish, tan, or white, with speckles and streaks. Colors vary greatly, sometimes even within clutches. Raising young is hard work: a female Savannah Sparrow must gather 10 times her weight in food to feed herself and her young during the 8 days they are in the nest.

**Cool Facts:** While the Savannah Sparrow's name sounds like a nod to its fondness for grassy areas, this species was actually named by famed nineteenth century ornithologist Alexander Wilson for a specimen collected in Savannah, Georgia.

Like many grassland sparrows, Savannah Sparrows walk along the ground to forage for bugs, occasionally running or hopping to seize prey. Flights are typically quick and low among grasses. At the outset of the breeding season, males perch on the outer limbs of shrubs and trees or atop fence posts to sing and declare their territory. They also use these vantages to keep watch over their area. If another Savannah Sparrow enters a male's territory, he may use a "flutter flight" display to scare him away—fluttering up with his tail cocked and legs dangling, beating his wings slowly to hover in the air. Males also raise their wings vertically behind their backs in a territorial display, as well as chase intruders off their territory. Males engage in a similar type of flutter-flight display above females during courtship. In the middle and southern parts of their range, many Savannah Sparrow males breed with more than one female, though in the north of their range Savannah Sparrows tend to be monogamous (perhaps because the male's help is needed at the nest for raising young quickly in a short northern summer). Leading up



to winter migration, Savannah Sparrows gather in large flocks and become increasingly restless until one night, they depart.

There are numerous subspecies (including the Large-billed Sparrows) currently recognized, though many are only described from wintering birds and much of the variations seem to be geographical rather than physical:

- **Savannah Sparrows proper**
  - *P. s. labradorius*, Cape Bonavista, Newfoundland and Labrador. All are migratory; wintering ranges overlap widely. *P. s. labradorius*, breeds in Newfoundland, Labrador, and N Quebec
  - *P. s. oblitus*, breeds in N Ontario and Manitoba
  - *P. s. savanna* (Eastern Savannah Sparrow), breeds in the NE USA and adjacent Canada (includes *P. s. mediogriseus*)
  - *P. s. sandwichensis* (Aleutian Savannah Sparrow), breeds on the Aleutian Islands and W Alaskan Peninsula
  - *P. s. anthinus*, breeds in the remainder of Alaska, south and east to central British Columbia and north of the Great Plains to Manitoba
  - *P. s. brooksi* (Dwarf Savannah Sparrow), breeds in southernmost British Columbia to northernmost California
  - *P. s. alaudinus*, breeds in coastal northern and central California
  - *P. s. nevadensis*, breeds in the N Great Plains and the Great Basin
  - *P. s. brunnescens*, breeds from central Mexico south to Guatemala (includes *P. s. rufofuscus*)
  - *P. s. wetmorei* is a doubtful subspecies that may breed in the mountains of Guatemala. It is known from only 5 specimens, collected June 11–17, 1897, in Huehuetenango Department.
- **Ipswich Sparrow**. Some post-breeding dispersal. Formerly considered a distinct species.
  - *P. s. princeps*, breeds almost exclusively on Sable Island. The Ipswich Sparrow is somewhat larger and paler in color than other eastern Savannah Sparrows. The breast streaks are narrower and pale brown and is 50% heavier than the nominate species. Some birds overwinter on the island; others migrate south along the Atlantic coast, usually departing later and returning sooner than mainland birds. Some birds interbreed with *P. s. savanna* in Nova Scotia. These birds frequently raise three broods in a year. This bird was first observed in winter on the dunes near the town of Ipswich, Massachusetts.
- **Large-billed Sparrows**. The Large-billed Sparrows proper are dark, large and strong-billed subspecies.

- *P. s. rostratus*, which breed on the Gulf Coast of NE Baja California and NW Sonora (some post-breeding dispersal).
- *P. s. atratus*, resident on the coast of central Sonora to central Sinaloa (resident).
- *P. s. beldingi*, wintering at Bolsa Chica Ecological Reserve, California (USA). The Belding's (Savannah/Large-billed) Sparrows are all-year residents of salt marshes of the Californian Pacific coast. They are dark, rufous, and have rather long but not very hefty bills.
- *P. s. anulus*, resident around Sebastián Vizcaíno Bay, Baja California
- *P. s. guttatus*, resident around San Ignacio Lagoon
- *P. s. magdalenae*, resident around Magdalena Bay. The San Benito (Savannah/Large-billed) Sparrow is a resident bird of the Islas San Benito off Baja California; a stray bird was observed on Cedros Island on April 21, 1906.
- *P. s. sanctorum*. This is a large-bodied and large-billed subspecies, similar to *rostratus*. They utilize different habitat and their breeding season does not seem to coincide with that of Belding's Sparrows. However, their bill size is due to convergent evolution and their habitat choice simply to the lack of alternatives on their barren island home; altogether, it appears to be a fairly recent offshoot from the Belding's Sparrows group. It appears as distinct evolutionarily from these as does the Ipswich Sparrow from the Savannah Sparrow proper group, only that there seems to have been more gene flow and/or a larger founder population in the case of the latter.

**Common Name:** Rufous-winged Sparrow  
**Scientific Name:** *Peucaea carpalis*

**Size:** 5.1-5.5 inches (13-14 cm)

**Habitat:** North America; year-round resident of south-central Arizona and Guadalupe Canyon, New Mexico, south to northern Sinaloa, Mexico.

The Rufous-winged Sparrow inhabits desert grasslands with scattered mesquite or cholla. It also occurs in washes with sandy bottoms and vegetated slopes, brushy irrigation ditches, and creeks bordered by broad-leaved trees, mesquite, grasses, and forbs.



**Status:** Least Concern. **Global Population:** Unknown amount of mature individuals. Habitat loss from grazing and development has led to declines and elimination of local Rufous-winged Sparrow populations.

**Diet:** During the breeding season, adult Rufous-winged Sparrows feed on a variety of insects, caught on the wing or gleaned off plant surfaces. At other times, the bird eats seeds. Normal forage behavior includes pecking at ground and at bases of grass stems.

**Nesting:** Sexes are alike. Rufous-winged Sparrow pairs remain on their territories year-round and stay bonded for life. The back is brown with darker streaks, while the belly is

pale gray. The wings and crown are rust-colored. This sparrow has a conical, yellow-based bill and a long brown tail.

Rufous-winged Sparrows usually breed during the monsoon months of July and August. The nest is built low in small trees, bushes, or cactus, including hackberry, palo verde, cholla, and mesquite. The average clutch size is four; pairs may have two broods per year.

**Cool Facts:** The Rufous-winged Sparrow may depend more on rainfall as a stimulus for nesting than any other North American bird. It typically nests after summer rains have begun, often building a nest and laying its first egg within five or six days after the first rain.

## *Special Thanks to...*

....my betatesters

**2013 Re-release** (Jan, FlintHawk, Linda, Kat, Barbara and Sandra)

**2020 Re-release** (FlintHawk, Carey and Alisa)

## *Species Accuracy and Reference Materials*

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 Goggle searches and several field guides were used.

### *Field Guide Sources:*

- **"The Sibley Guide to Birds"** by David Allen Sibley.
- **"Birds of East Asia"** by Mark Brazil. Princeton University Press
- **"Birds of Southeast Asia"** by Craig Robson. Princeton University Press
- **"Field Guide to the Birds of East Africa"** by Terry Stevenson and John Fanshawe
  
- **Cornell Lab of Ornithology** (<http://www.birds.cornell.edu>)
- **Wikipedia** (<http://www.wikipedia.com>)
- **Birdlife International** (<http://www.birdlife.org>)

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