

**Songbird
ReMix**

*Threatened,
Endangered,
Extinct*

2



17 birds species on or beyond the brink of extinction

Avian Models for 3D Applications

Characters and Procedural Maps by Ken Gilliland

Songbird ReMix

More Threatened, Endangered, Extinct

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Opinions expressed on this booklet are solely that of the author, Ken Gilliland, and may or may not reflect the opinions of the publisher, DAZ 3D.

Songbird ReMix *More Threatened,* Endangered, Extinct Manual & Field Guide

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Introduction

“More Threatened, Endangered, Extinct” is a continuation of the Songbird ReMix series. It is **not** a stand-alone project. It requires the original Songbird ReMix package available through DAZ 3D.

This add-on package to the Songbird ReMix series and is a sequel to the popular “Threatened, Endangered, Extinct” volume which features birds at or beyond the brink of extinction. It is the authors’ hope that this package will raise awareness and be a catalyst for artists to educate the public about the crisis many birds are facing due to man’s footprint.

Overview and Use

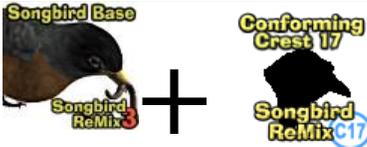
Select **Characters** in Poser and go to the **Songbird ReMix** folder. Here you’ll find an assortment of files that are easily broken into 2 groups: **Conforming Parts** and **Bird Base models**. Let’s look at what they are and how you use them:

- **Bird Base Models**
 - **SBRM Base Model** - This model is used with most birds in this package. Load this model first and then the appropriate Conforming Parts as needed.
 - **<G> SBRM Gamebird Base Model** - This model is specifically for use with Gamebirds, Pigeons and Doves. See the “G” icon in the lower right corner? This corresponds with characters in the Pose folders. All MAT/MOR files with the “G” icon use this model.
 - **<P> SBRM Parrot Base Model** - This model is specifically for use with Parrots. See the “P” icon in the lower right corner? This corresponds with characters in the Pose folders. All MAT/MOR files with the “P” icon use this model.
- **Conforming Parts** (All Conforming Crests have alphanumeric icons in the lower right corners such as “C07” or “C17”. 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” you must also set it’s counterpart in the head part of the Conforming Crest. So Now let’s look at what’s included in Conforming Parts:

- **<C07> Conforming Crest 7.** For use with the ‘Alala. There is a Stretch morph in the head section that mirrors the base model’s Stretch morph.
- **<C17> Conforming Crest 17.** For use with the Banded Wattle-Eye. This Crest adds a membrane and rises above the eyes of the bird. There is a Stretch morph in the head section that mirrors the base model’s Stretch morph.

Conforming Crest Quick Reference

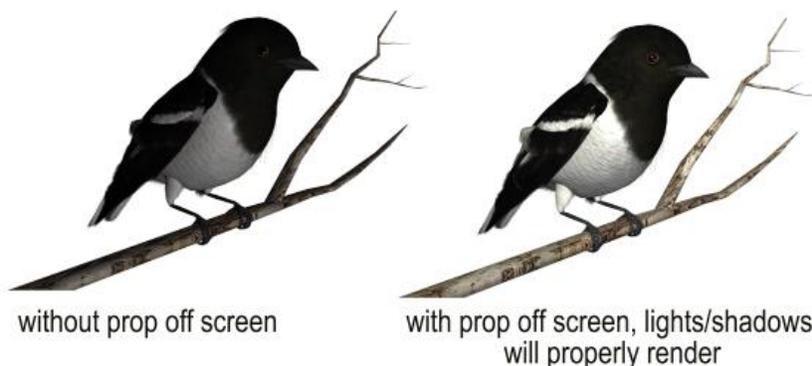
Load Model(s)	To Create... (apply MAT/MOR files)
	<ul style="list-style-type: none"> • O'o nuku'umu (Black Mamo) • Robust Silvereye • Po'o'uli (Black-faced Honeycreeper) • 'Akepa • Black-eared Miner • Kirtland's Warbler • Azores Bullfinch • Black Hooded Red Siskin • White-browed Bushchat • Cerulean Warbler • Yellow-breasted Bunting
	<ul style="list-style-type: none"> • 'Alala (Hawaiian Crow)
	<ul style="list-style-type: none"> • Banded Wattle-eye
	<ul style="list-style-type: none"> • Bonin Wood Pigeon
	<ul style="list-style-type: none"> • Cuban Red Macaw • Coxen's Fig Parrot • Kakapo

Creating a Songbird ReMix Bird

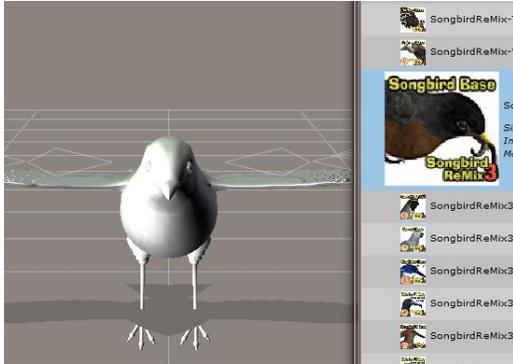
1. Choose what you want to load. For this example, we'll create a Warbler species.
2. Load Poser or DAZ Studio and select **FIGURES** and the Songbird ReMix folder. DAZ Studio users will select the "Poser Formats" → "My Library" → "FIGURES" → "Songbird ReMix".
3. Because all of the Warbler use the "Songbird" 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 Warbler 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 Warbler. It will automatically apply the correct DAZ Studio material settings if you are using DAZ Studio.

Scaling and Square Shadows in Poser

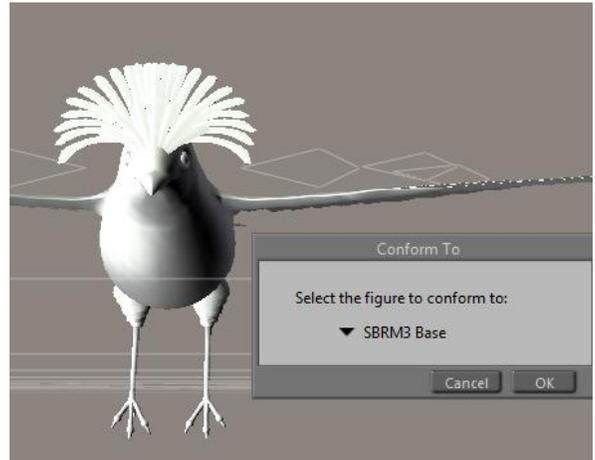
All the birds in this package have to scaled proportionally to DAZ 3D's Victoria and Michael models. The smallest of the included birds **MAY** render with a Square shadow or improper lighting. This is a bug in Poser. Poser can't figure out how to render a shadow for something really small, so it creates 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.



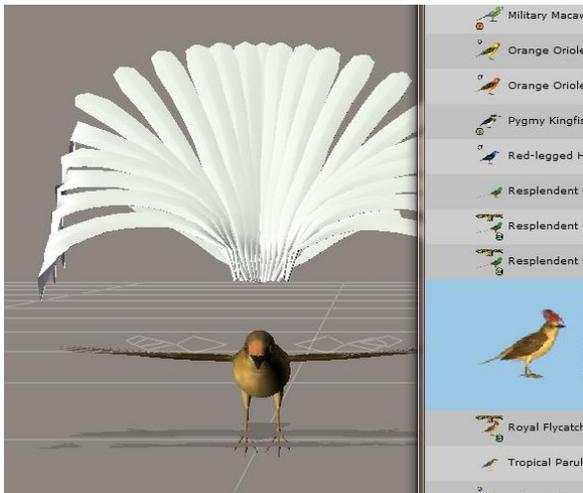
How to build a Songbird ReMix Character with a Conforming Crest in Poser



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...

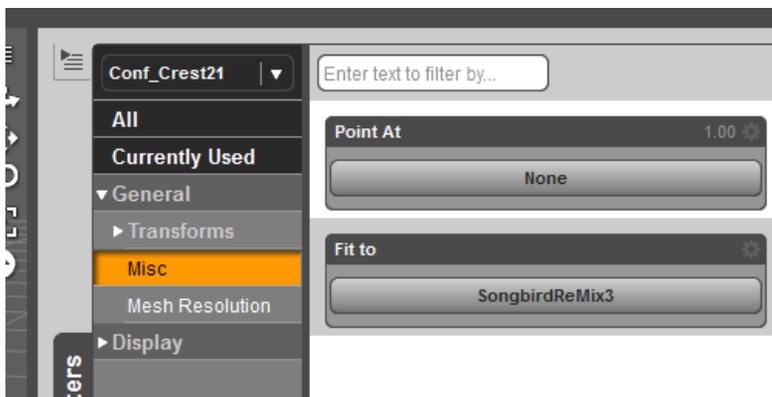
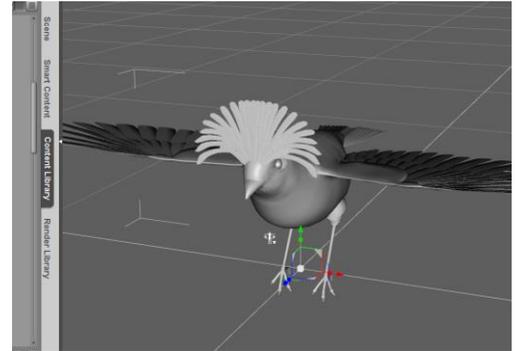


[Songbird ReMix.com](http://SongbirdReMix.com)

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.

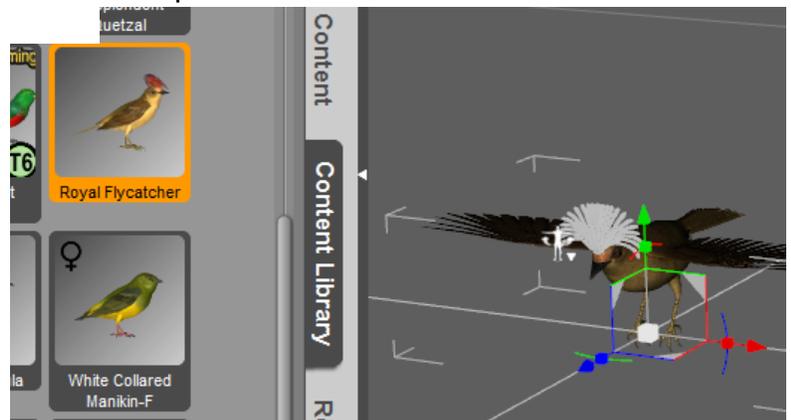
Now, using the “FIT TO” command in the Parameters Tab, Select the Songbird ReMix Model. Go back to the **Scene** Tab and select the Songbird ReMix Model.



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.



More **Threatened, Endangered, Extinct**

Field Guide

EXTINCT/PRESUMED EXTINCT

O'o nuku'umu (Black Mamo)
Robust Silvereye
Bonin Wood Pigeon
Cuban Red Macaw
Po'o'uli (Black-faced Honeycreeper)

EXTINCT IN THE WILD

'Alala (Hawaiian Crow)

CRITICALLY ENDANGERED/ENDANGERED

Coxen's Fig Parrot
Kakapo
'Akepa
Black-eared Miner
Banded Wattle-eye
Azores Bullfinch
Black Hooded Red Siskin

THREATENED/ NEAR-THREATENED

Kirtland's Warbler

VULNERABLE

White-browed Bushchat
Cerulean Warbler
Yellow-breasted Bunting

Common Name: O'o nuku'umu (Black Mamo)

Scientific Name: *Drepanis funerea*

Size: 8 inches (20 cm)

Habitat: Oceania; Hawaiian Islands (Moloka'i, Hawai'i and fossils found Mau'i). Found in forest understory.

Status: **Extinct.** **Global Population:** 0. its' extinction was probably largely caused by the destruction of its understory habitat by introduced cattle and deer, and predation of its nests by introduced rats and mongooses.



Diet: Flower Nectar (primarily arboreal lobelia and Ohi'a-lehua) and some insects. They spend only a few seconds over each flower, darting their tongues very rapidly in and out.

Nesting: Both sexes were alike although the

beak of the male is perhaps longer and the female may be generally smaller.

Cool Facts: R.C.L. Perkins first discovered this beautiful jet-black bird in 1893 in Pelekunu Valley on Moloka'i. The last sightings of the bird were in 1907, but they were seen further to the east on the island. A survey on Moloka'i in 1936 for it failed to find any specimens. Perkins believed that in most respects, including the voice, this species closely resembled the Hawaii mamo, *Drepanis pacifica*. Black mamos were so tame that their discoverer was able to watch them at very close quarters as they worked their way from one large flower to another.

The last Black Mamos were observed in 1907 by a collector, Alanson Bryan, who had shot three birds. Tim Flannery quoted him as having written, "To my joy I found the mangled remains hanging in the tree in a thick bunch of leaves, six feet or more beyond where it had been sitting."

Common Name: Robust Silvereye
Scientific Name: *Zosterops strenuus*

Size: 4½ to 6 inches (10-15 cm)

Habitat: Oceania; Australia. Lord Howe Island. Found in woodland areas and forest edges.

Status: **Extinct.** **Global Population:** 0. Extinct due to the release of an invasive non-native species, the black rat (*Rattus rattus*) on the island, which fed on eggs and nestlings.



Diet: Silvereyes are highly flexible foragers. Foliage gleaning is the most common mode of foraging, but they also hawk, snap prey from a substrate (even small insects caught in spiders' webs), probe small clefts in clumps of leaves, bark, buds, flowers, and nests of other birds by forcefully opening the bill to widen the clefts in search of arthropod prey, and scavenge on the ground.

Flocking in winter helps to

locate sources of food in woodlands as well as to detect predators. They collect nectar with a brush-tipped tongue, peck succulent fruit, and swallow berries. They are known to disperse figs and other seeds of trees and shrubs.

Breeding: The nest is cup-shaped and mostly made of plant fibers. It is usually slung in a slender fork under cover of vegetation at any height.

Cool Facts: Silver or White-Eyes get their names from rings of white feathers around their eyes.

The Robust Silvereye was a common bird to Lord Howe Island until 1918. In that year, a shipwreck occurred on the island releasing the non-native black rat onto the island. Within three years, the Robust Silvereye went extinct due to nest predation.

John Gould, the famed Australian ornithologist wrote of the Silvereyes in 1865 'The present new species is the largest member yet discovered of a group of birds comprising numerous species'.

Common Name: Bonin Wood Pigeon
Scientific Name: *Columba versicolor*

Size: 17 1/2 -18 inches (45 cm)

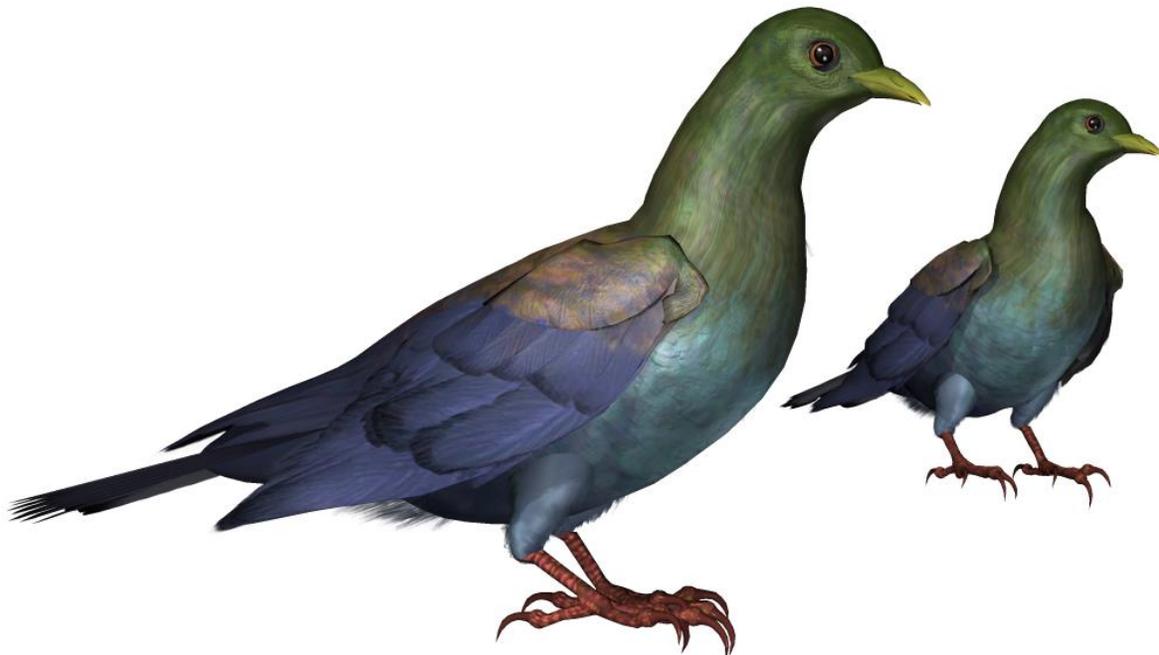
Habitat: Asia; Japan. Endemic to Nakodo-jima and Chichi-jima in the Ogasawara Islands off the coast of Japan. Lived in conifer forests.

Status: **Extinct.** **Global Population:** 0. Its extinction was caused by deforestation, hunting and predation by introduced rats and cats. The last known specimen of a Bonin Wood-pigeon was taken in 1889.

Diet: Fruits, seeds and buds.

Nesting: Unknown

Cool Facts: The Bonin wood-pigeon is recorded from just two islands in the Ogasawara Group-Peel Island, where it was discovered by naturalists travelling with Captain Beechey on the Blossom in 1827, and Nakondo-shima, where the last specimen was taken in 1889. Friedrich von Kittlitz also collected it on Peel in 1828. The last animal seen was a male obtained by a Mr Holst, who was collecting for the British ornithologist Henry Seebohm. It was a large and beautiful pigeon, and may have always been rather uncommon. Almost nothing is known of its natural history, although Errol Fuller, a researcher on obscure and extinct birds, considers that it fed on fruits, seeds and buds. Three specimens exist, in museums in Russia, Germany and Britain.



Common Name: Cuban Red Macaw
Scientific Name: *Ara tricolor*



Size: 45 inches (45-50 cm)

Habitat: North America; Cuba and the Isla de la Juventud.

Status: **Extinct. Global**

Population: 0. The Cuban Red Macaw was fairly common around 1800. During the early 19th century, the human population in its home range increased dramatically, leading to widespread deforestation. The bird was also hunted for food, and nests were plundered or disturbed to acquire young birds to keep as pets. Until 1849, the species seems to have been able to hold its own at least in remote areas, but subsequently, the population crashed never to recover. Unconfirmed records suggest that birds persisted there until 1885.

Diet: Fruits and seed

Nesting: Monogamous and mate for life; 1-2 eggs.

Cool Facts: A pair of Cuban Red Macaws was kept in the royal menagerie of Schönbrunn Castle, Vienna, from 1760.

Macaws are known to eat clay, which is believed to work as an antidote to the poisonous seeds they eat. The chemicals in the clay mix with the poison allowing it to pass through the bird's digestive system without harming the bird.

On the basis of old descriptions, it has been proposed to treat the parrots from the latter island as a separate subspecies, since their bill is somewhat smaller and the bare parts of the face have a slightly different coloration. The latter feature is of little use, since the color of the cheeks of a parrot may change with its moods. A macaw which becomes aggressive or excited will start to 'blush'.

The last record of the Cuban Macaw was of a specimen shot on Cuba in 1864 at La Vega, in the neighborhood of Zapata Swamp. The species may have survived for another 20 years or so. Only 19 specimens of the Hispaniolan Macaw remain. They are in museums in New York, Washington, Havana, Tring, Paris and Vienna. The provenance of the Leiden specimen is unknown. It is simply labelled 'Cuba'.

International trade in Macaws is illegal under the CITES agreement. Only captive born birds may be sold as pets.



Common Name: Po'o-uli (Black-faced Honeycreeper)

Scientific Name: *Melamprosops phaeosoma*

Size: 5 ½ inches (14 cm)

Habitat: Oceania; Hawaiian Islands North-eastern slopes of Haleakala on the island of Mau'i. Found in the 'Ohi'a-lehua forests.

Status: **Presumed Extinct.** **Global Population:** 2? At the printing of this manual, it is believed that there are two males left. The last remaining female



died in late 2004. In 1973, the estimated population was felt to be less than 200 birds. The dramatic population decline has been attributed to a number of factors, including habitat loss; mosquito-borne diseases; predation by pigs, rats, domestic cats, and mongooses; and a decline in the native tree snails that the Po'o-uli relies on for food.

Diet: Snails, insects, and spiders.

Nesting: Nests are built of twigs and mosses and were located in leafy branches of Ohi'a-lehua trees. 1-2 eggs are laid.

Cool Facts: Po'o-uli loosely translated means "Dark Head" or "Bandit Mask".

A desperate attempt to save a species: "In 2002, a female was captured and taken to a male's home range in an attempt to get them to breed. The female, however, had flown back to her own nest, which was a mile and a half away, by the next day. There was also a ten-day expedition which was scheduled to begin on April 27, 2004. The goal of this was to capture all three birds, and bring them to a bird conservation center on the island in the hope they would produce offspring.

On September 9, 2004, a male Po'o-uli was captured and taken to the Maui Bird Conservation Center in Olinda, in an attempt to captively breed the bird. However, biologists could not find a mate for the male before it died of avian malaria on November 28, 2004. Biologists are now searching for the two remaining birds, which have not been seen for over a year and are probably dead too. Tissue samples have been taken from the male for possible future cloning, but as neither birds of the opposite sex are now available nor natural behavior can be imprinted on possible cloned individuals (assuming that cloning of birds will actually be established as a working technique, which currently is not the case), this does not seem probable. As such efforts would likely compete with conservation funding of extant bird species, it may not even be desirable as a cloning attempt would both be highly likely to fail and at the same time jeopardize the survival of other highly threatened species. (VanderWerf et al. (2006)).

"The rapidity with which the wildflowers are decreasing is most damning. If we do not begin to preserve them, the time will come when they will become extinct and live only in history.

-Theodore Payne, 1916

Common Name: 'Alala (Hawaiian Crow)
Scientific Name: *Corvus tropicus*

Size: 19-20 inches (48-50 cm)

Habitat: Oceania; Hawaiian Islands. Last found on the island of Hawai'i in open montane forests. Fossil evidence shows that the crow was once found in abundance throughout the islands.

Status: **Extinct in the wild.** **Global Population:** 77 mature individuals. The reason of its decline and extinction in the wild is unknown, although avian malaria passed by the non-endemic mosquito is believed to be a contributing factor.

Diet: A varied diet, including carrion, eggs and nestlings, other small creatures, fruits, and even human food and scraps.

Nesting: Nests are always found in trees with both males and females participating in nest construction. Females generally lay five eggs; the eggs may be incubated by either parent, with the other bird usually sitting quietly near its brooding mate.



Cool Facts: The 'Alala is similar to the mainland crows except it has more rounded wings and a much thicker bill. Its plumage is a soft, brownish-black with long, bristly throat feathers. Its legs and bill are jet black.

The last two known wild individuals of this species disappeared in 2002. There are some individuals in captive breeding facilities, but attempts to reintroduce captive-bred birds into the wild have been hampered by predation by the Hawaiian hawk or 'lo (which is also endangered). While some scientists believe that the small number of remaining individuals may be too small to offer a diverse gene pool, the San Diego Zoological Society's breeding program produced 11 new fledglings in 2010 giving this species hope to survive.

Common Name: Coxen's Fig Parrot

Scientific Name: *Cyclopsitta diophthalma coxeni*

Size: 6 inches (15 cm)

Habitat: Oceania; Australia. East of the Great Dividing Range between Port Maquarie in New South Wales and near Gladstone in Queensland. However, within this small range it is fragmented into even smaller populations. They are found in lowland coastal rainforests (which have mostly been cleared), and in a

range of remnant vegetation types - as long as they contain fruiting fig trees.



Status: Critically endangered .

Global

Population: >100 Mature individuals. Endangered due to habitat destruction and fragmentation.

Diet: Seeds of near ripe or ripe fruits of native figs, and/or insect larvae.

Nesting: Nests

are excavated from the dead limbs of tall trees in, or close to rainforests. Nest construction is thought to begin in August and breeding occurs from October to December or January. The normal clutch size is probably two.

Cool Facts: Coxen's fig-parrot is one of Australia's rarest and least known birds. It has been recorded on just over 200 occasions since Gould described it in 1867. Confirmed or credible sighting reports continue to be made in both range states, including about 30 records in north-east New South Wales since 1970 and twice this number in south-east Queensland over the last decade alone.

Coxen's fig-parrot is cryptic and extremely difficult to see in its habitat and may therefore be more common than the number of sightings suggest.

Common Name: Kakapo

Scientific Name: *Strigops habroptilus*

Size: 23-25 inches (59-64 cm)

Habitat: Oceania; New Zealand. Once widespread within the North, South and Stewart Islands, but is now extinct throughout this former range. Between 1980 and 1997, all kakapo remaining on Stewart Island were transported to offshore, predator-free islands in order to protect them from introduced mammalian carnivores. The species now occurs on Codfish and Chalky Islands.

Status: Critically Endangered. **Global Population:** 124 mature individuals. In early history, the Māori hunted kakapo for their feathers and meat and the Polynesian dog and rat (introduced by the Māori) also preyed upon the species. When the Europeans began to settle in the 1800s, the range of the kakapo had already dramatically declined, and the situation became critical as Europeans set about clearing forests, hunting and releasing mammalian predators such as domestic cats and dogs. The kakapo is particularly vulnerable to predation by mammals due to its strong scent, habit of freezing when threatened, its ground nesting behavior, and flightlessness. The latter, together with very slow breeding



strategies are key elements in the demise of many endangered and extinct New Zealand species. Also, the introduced possums and deer compete with the kakapo for food sources. Removal of predators, supplying additional nutrients, monitoring nests with video, and radio collaring the remaining kakapo are measures being taken to ensure the kakapo's survival.

By 2005, the kakapo population stood at 86, of which 52 were breeding adults (21 females and 31 males) and 34 were juveniles, and a productive breeding year in 2009 saw the total population increase to 124 birds.

Diet: Variety of fruits, seeds, roots, stems, leaves, nectar and fungi

Nesting: The Kakapo is the only parrot to have a lek mating system; early in the breeding season (December through April), males gather on display grounds where a number of bowl shaped depressions are dug out in the ground. Having competed for access to the best locations, a male settles into a bowl and then begins to 'boom' to attract females. This strange, very low frequency call can be heard up to 5 km away, and obtains its resonance via inflatable throat air sacs; lek-displaying males also make a metallic, high pitched 'ching' call. After mating, females incubate the eggs and rear the chicks alone. Two to three eggs are usually produced and the chicks hatch after 30 days. Sexual maturity is not reached until 9 - 10 years of age; furthermore, breeding is erratic and slow, occurring every 2 - 5 years and is dictated by the infrequent availability of super-abundant food supplies. One such event is the 'mast fruiting' of the 'rimu' tree (*Dacrydium cupressinum*), which only occurs every 2 - 5 years.



Cool Facts: Kakapo is also known as the “owl parrot” and is nocturnal. It is a classic example of evolution on an isolated island; and has a number of characteristic features that make this species unique. It is the only member of the

subfamily Strigopinae and although it has fully developed wings, it is the only flightless parrot in the world. The reason why this parrot is flightless is because there is no sternal keel for attachment of the wing muscles. It is also the largest parrot known and is possibly the longest-lived. The oldest known bird was elderly when found in 1975 and still lives. Its eating habits are unique. The parrots chew the leaves and stems of plants, extracting the juice, and leave behind fibrous, chewed balls dangling from the plants that often bleach white in the sun.

The Kakapo has a rich tradition of Māori folklore and beliefs associated with it as a species. Their irregular breeding cycle was noted to be associated with heavy fruiting seasons of particular plant species, which led the Māori to credit the bird with the ability to foretell the future. Used to substantiate this claim were reported observations of these birds dropping the berries of the Hinau and Tawa trees (when they were in season) into secluded pools of water to preserve them as a food supply for the summer ahead; the Māori practice of immersing food in water for the same purpose is believed to originate from these observations.

As the Kakapo were generally considered to be good nourishment, they were once hunted for this purpose during the time they were still widespread. In breeding years, the loud booming calls of the males at their mating arenas made it easy for Māori hunting parties to track them down, while they were also hunted while feeding or when having dust baths in dry weather. The birds were caught, generally at night, using snares, pitfall traps, or by groups of domesticated Polynesian dogs which accompanied the hunting parties—sometimes the hunters would use fire sticks of various sorts to dazzle the birds in the darkness, stopping them in their tracks and making capture easier. Also taken by the Māori were the bird's eggs, which they described to be "whitish but not pure white".

As well as eating the birds they killed, Māori used their skins—with the feathers still attached—to create cloaks and capes. To the Māori, these clothing items were very valuable, and the few still in existence today are considered taonga (treasures). Kakapo feathers were also used to decorate the heads of taiaha (spear-like weapons), but were removed before actual use in combat

Despite all, the Kakapo was also regarded as an affectionate pet by the Māori. This was corroborated by European settlers in New Zealand in the 19th century, among them George Edward Grey, who once wrote in a letter to an associate that his pet Kakapo's behavior towards him and his friends was "more like that of a dog than a bird.

Each of the remaining Kakapo has been named.

Common Name: 'Akepa

Scientific Name: *Loxops coccineus coccineus*

Size: 4 inches (10 cm)

Habitat: Oceania; Hawaiian Islands. Found on the island of Hawai'i, Mau'i and Kaua'i. Fossil evidence shows it was once found in O'ahu as well. Found most commonly in 'Ohi'a-lehua and Koa-'Ohi'a forests above 3,000 feet.



Status: Endangered. **Global Population:** 14,000 mature individuals. The 'Akepa was common in the 1800s on Mau'i and Kaua'i, but the largest population today remains on the Big Island (estimated at 14,000). The smallest population today is on Maui with an estimated number of 230. It is estimated that 5,100 individuals of this species live on Kaua'i today. O'ahu 'Akepa were documented to be rare even in the 1800s and are believed to be extinct today, with the last possible sighting in 1976. Aggressive non-native plants and animals and loss of habitat are threats to the survival of the 'Akepa.

Diet: Primarily of insects and spiders; some nectar from 'ohi'a blossoms.

Nesting: 'Akepas on Hawai'i nest only in cavities in large, old-growth 'Ohi'a and Koa trees. Since no Hawaiian birds are known to excavate tree cavities, 'Akepas are dependent on naturally occurring cavities for nesting sites. Females are solely responsible for nest construction, which is unusual among the insectivorous and nectarivorous members of the Hawaiian honeycreepers group.

Typical clutches have only one or two eggs, which results in an unusually low annual reproductive output for a small songbird. Another interesting aspect of 'Akepas' breeding behavior is that males perform large, lek-like group displays, despite the fact that 'Akepas are monogamous birds that form long-term pair bonds. Since this species is an obligate tree cavity nester, the logging of old, mature trees has eliminated potential nesting sites and decreased available foraging habitat.

Cool Facts: Akepa in Hawaiian means nimble or quick. `Akepa is also known as `Akakane, and the Maui `Akepa as `Akepeu`ie. They use their bills to pry open `ohi`a buds, small seed pods, and galls in search of food. They have been known to drink nectar from `ohi`a and other flowers. Their "kee-wit" calls are quiet and their songs are a short, warbling trill.

The Mau'i and Hawai'i `Akepa were listed as an endangered species on October 13, 1970. A large population of 'Akepas on Hawaii is protected at the Hakalau Forest NWR, which was created in 1985 to protect native Hawaiian forest birds and their habitats. A threatened population of these birds is protected by the Pu'u Wa'awa'a State Wildlife Preserve on northern Hualalai. 'Akepas also receive lesser protection at the Ka'u Forest Reserve, Kulani Prison, and Kilauea-Keauhou forests. Current conservation efforts on Hawaii include the introduction of artificial nest cavities at Hakalau Forest NWR. While only one artificial cavity (out of 69) has been used by 'Akepas, that one cavity was used successfully by a pair two years in a row.

While the reasons for the decline of 'Akepas on Mau'i are not understood, conservation efforts on that island have included the virtual elimination of feral pigs from important natural areas, as well as attempts to control rat populations. Despite these efforts, Mau'i 'Akepas have continued to decline, and may well be extinct.

A true conservationist is a man who knows that the world is not given by his fathers, but borrowed from his children.

- John James Audubon

Common Name: Black-eared Miner
Scientific Name: *Manorina melanotis*

Size: 9-10 ¼ inches (23-26 cm)

Habitat: Oceania; Australia. Murray Mallee region of South Australia, Victoria and New South Wales. It requires large blocks of long, unburnt and uncleared (older than 50 years), 5-8 meter tall mallee type forest, with an understory of small bushes, shrubs and chenopods. Its distribution in Victoria is positively correlated with stable dune fields with a relatively high loam level, amount of decorticating bark (from which it obtains much of its insect food), tree density, stem density, canopy cover and litter cover.

Status: Endangered. **Global Population:** 250-999 mature individuals. Endangered due to habitat destruction and alteration. This species has a very small population; numbers have declined and several locations have been lost. If present intensive conservation efforts are unable to stop the extirpation of the



tiny subpopulations, then the species will be uplisted to Critically Endangered. However, if the early success of conservation actions is confirmed, the status of the species may improve.

Diet: Invertebrates and lerp.

Nesting: Monogamous and pairs appear to remain together for life, only re-pairing upon the loss of a mate. Breeding males within a colony are close relatives, whereas females, the dispersing sex, are not. Nests have been found in all months. Nests are usually built in mallee eucalypts, either in upright forks, amongst small twigs and foliage, or on epicormic shoots, between 1.5-4.5m above ground.

Cool Facts: For years there has been controversy over the taxonomic status of the Black-eared Miner. Various authors have considered it a species, a subspecies or morphological variant of the Yellow-throated Miner and a subspecies of the Western Australian 'Dusky Miner'. There are morphological and behavioral differences between Black-eared and Yellow-throated Miners and evidence for marked ecological separation exists. DNA evidence finally brought the Black-eared Miner in to its own.

Black-eared Miners can interbreed with Yellow-throated Miners, resulting in fertile hybrids that display a range of intermediate plumages.

Like other Miners, the Black-eared is social and nest and roosts in small colonies.

What we are doing to the forests of the world is but a mirror reflection of what we are doing to ourselves and to one another.

- Gandhi

Common Name: Banded Wattle-Eye
Scientific Name: *Platysteira laticincta*

Size: 5 inches (13 cm)

Habitat: Africa. Bamenda Highlands of western Cameroon. Found in montane forest, dominated by species such as Podocarpus, Schefflera and Prunus, where it inhabits thick forest understory and seems to favor streams or dry stream courses.



Status: Endangered. **Global Population:** 2,500-9,999 mature individuals. Endangered because its montane forest habitat is under great pressure from human use (forest clearance for agriculture, grazing, firewood and timber) and, as a result, its range is very small, severely fragmented and undergoing a continuing decline. Forest-fires in the dry season are the most serious threat, particularly as the species inhabits thick undergrowth and nests close to the ground.

Diet: Insects caught in flight.

Nesting: It breeds in the early dry season, January-March, with nest-building starting in November. Nests built close to the ground.

Cool Facts: The Banded Wattle-bird is only likely to survive if the Kilum-Ijim forest, the largest remaining forest area in the region, is preserved. More sustainable farming techniques are being used to take pressure off the remaining forest. The condition of the Kilum-Ijim forest and its endemic birds is monitored, as well as the overall extent of forest cover in the Bamenda Highlands. Community based conservation activities were extended to other forest fragments in the Bamenda Highlands in 2000.

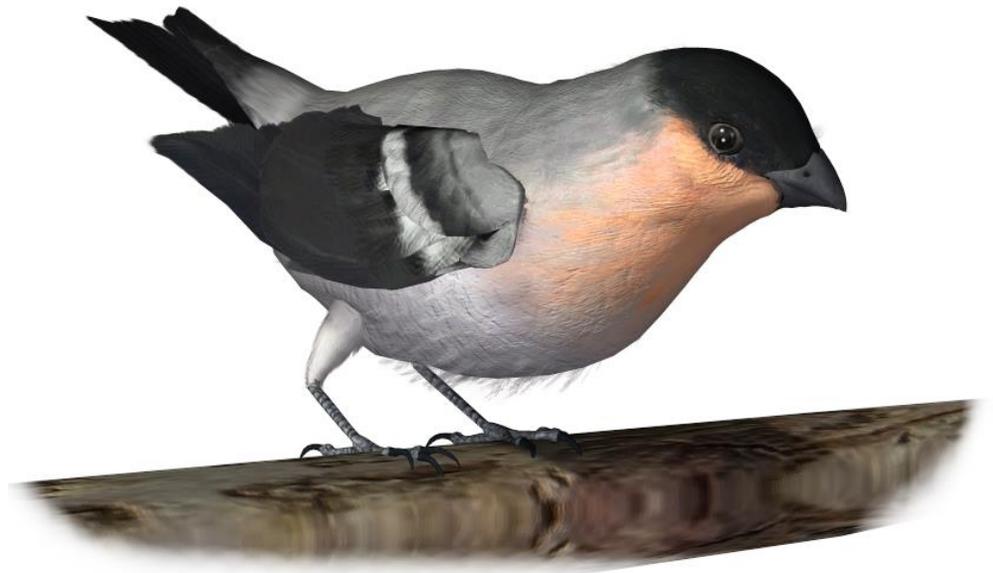
Common Name: Azores Bullfinch
Scientific Name: *Pyrrhula murina*

Size: 6 ½-7 inches (17 cm)

Habitat: Portugal. Eastern São Miguel in the Azores. Found in native vegetation less than two meters high and also in forest margins.

Status:

Endangered. Global Population: 1,300 mature individuals. Its historical decline and current extremely small range are probably explained by widespread loss of native forest and invasion by exotic vegetation, which have largely overrun the remaining patches of natural vegetation within the species' breeding range. Food shortages are potentially a problem throughout the year, but most severe in late winter. Random environmental and demographic factors can affect such small populations and inbreeding may reduce reproductive output. Predation by feral cats and rats are potential threats.



Diet: Seed. This species appears entirely dependent on native trees for food.

Nesting: Birds breed from mid-June to late August, apparently in *C. japonica* trees.

Cool Facts: In 2007, this was Europe's rarest songbird, which had been in decline since the early 1990s, with fewer than 300 individuals left. Conservation efforts have brought this species back from the brink of extinction to a population of 1,300 birds in 2011.

Common Name: Black Hooded Red Siskin
Scientific Name: *Carduelis cucullata*

Size: 4 inches (10 cm)

Habitat: South America. Northern Colombia and northern Venezuela. Found in open country, forest edges and grassland with trees or shrubs

Status: Endangered. **Global Population:** 2,500-9,999 Mature individuals. Endangered due to massive, illegal trapping for the cage bird trade. This is an



attractive finch with a pleasant song, and its unique coloration for a small finch (most are predominantly yellow) has led to it being used for interbreeding with domesticated Canaries to produce varieties with red in the plumage. The Red Siskin has been protected by the Venezuelan government since the 1940's, the Convention on International Trade in Endangered Species (CITES) since 1975, and has been listed as an endangered species by the U.S. Fish and Wildlife Service since 1976. The United States Fish and Wildlife Service considers any captive bred Siskins (including offspring or any hybridized young) as being protected under the endangered species act. In the US it is unlawful to buy or sell these birds within or across state lines without a captive-bred wildlife endangered specie permit issued by the U.S. Fish & Wildlife. Individual states may require state endangered species or other permits as well.

Diet: Seed.

Nesting: 3-4 greenish white eggs are laid in a grassy cup nest in a tree. The female does all the work. The male may remain with the female through incubation and hatching.

Cool Facts: Red Siskins are highly gregarious. When they were more numerous they formed semi-nomadic flocks.

The male has a beautiful visual deep rich vermilion (red) plumage on its breast, belly and under-tail coverts, red also appears on the rump, an upper-tail coverts, wing bars, and appears on the back of the neck which blends to gray on the back. The head, chin, throat, flight feathers, and tail are black. White appears around the vent, under-wing-coverts, and legs. The adult female holds all similar markings as the male with the exception of the black hood. The red coloring on the female only appears on the upper portion of the breast, and appears on the wing bars, rump, and sometimes the under-tail coverts.

Only after the last tree has been cut down. Only after the last river has been poisoned. Only after the last fish has been caught. Only then will you find that money cannot be eaten."

- Cree Indian Prophecy

Common Name: Kirtland's Warbler
Scientific Name: *Dendroica kirtlandii*

Size: 6 inches (14-15 cm)

Habitat: North America. Summer Range: Breeds **only** in northern part of Lower Peninsula of Michigan. Winter Range: Winters in Bahama Islands.

Status: Near Threatened. **Global Population:** 2,500 mature individuals. Lack of suitable breeding habitat has been a major threat to Kirtland's Warblers. They rely upon dense, young jack pine habitat; for when the trees reach seven meters, the birds no longer use them. Brown-headed Cowbirds have also been a serious threat to Kirtland's Warbler. Prior to current control measures, more than half the



nests were being parasitized. Habitat fragmentation, recreational cabins, and predators including domestic cats are also threats. Populations appear to be increasing due to conservation programs.

Diet: Insects and small fruits.

Nesting: Nests are well hidden under pines in dense ground cover. Cups are made of grasses and roots and lined with grass, moss, and hair. 3 to 6 buff colored eggs are laid. They nest from May through June and sometimes double-brood, though survival rates for double-brooded young is low. The female Kirtland's Warbler is more selective than the male in her choice of habitat, and

the best areas attract more females than males. The last residents of a tract that is getting too old are always unmated males.

Cool Facts: Apart from the Bachman's Warbler, which is probably extinct, the Kirtland's Warbler is the rarest warbler in North America. In the breeding season, these birds are limited to the jack pine forest habitat of north-central Michigan. This bird may well have gone extinct if it had not been for intensive habitat management and cowbird control measures. Land management measures, such as controlled burns, have been taken to ensure as much breeding habitat as possible. Cowbird trapping has reduced parasitism rates from 70 percent to three percent, tripling the rate of warbler reproductive success.

The Kirtland's Warbler requires areas with small jack pines for nesting. The jack pine requires fire to open its cones and spread its seeds. The warbler first appears in an area about six years after a fire when the new growth is dense and is about 1.5 to 2.0 meters high. After about 15 years, when the trees are 3.0 to 5.0 meters high, the warbler leaves the area.

"So far our government has done nothing effective with its forests, though the best in the world, but is like a rich and foolish spendthrift who has inherited a magnificent estate in perfect order, and then has left his fields and meadows, forests and parks, to be sold and plundered and wasted at will..."

-John Muir, "Our National Parks"

Common Name: White-browed Bushchat
Scientific Name: *Saxicola macrorhyncha*

Size: 6 ½ -7 inches (17 cm)

Habitat: Asia; India and Pakistan. Generally occurs in subtropical thorn-scrub and sandy semi-desert. It inhabits dry, sandy semi-deserts and desert plains with low herbs and scattered shrubs, where groundcover ranges between 25% and 50%.

Status: Vulnerable. **Global Population:** 2,500-9,999 mature individuals with a declining trend. The key threat is agricultural intensification and encroachment, primarily through the introduction of irrigation schemes to semi-arid areas and their subsequent conversion into croplands.

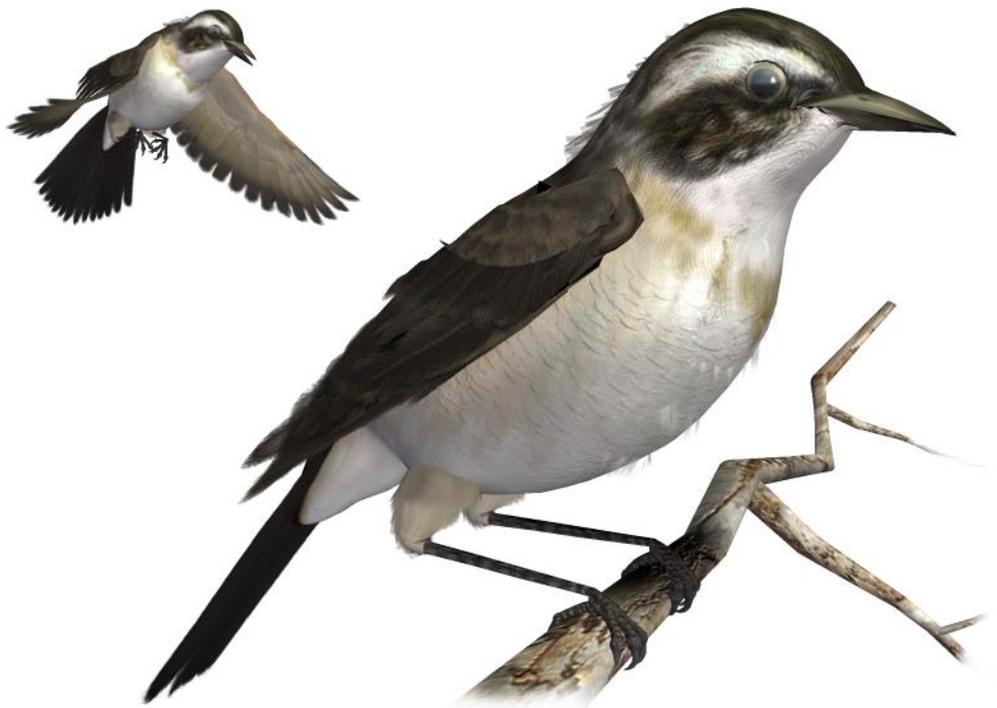
Overgrazing by livestock may also reduce the extent of suitable habitat.

These trends are expected to continue with the development of the Rajasthan Canal and widespread application of modern agricultural techniques.

Diet: Insects; mostly comprising beetles, ants or flying insects

Nesting: Nothing is known about breeding habits.

Cool Facts: This bird is also known as Stoliczka's Bushchat. Breeding males are dark above with mostly blackish mask and wings, broad white supercilium and band along inner wing coverts and mostly white primary coverts. Non-breeding male has broad buffish fringing above and buffish-fringed remiges with less white. Female resembles non-breeding male but lacks dark mask and white on tail. Wings duller. Juvenile is darker brown above than female, with buff streaks and spots and whitish below, indistinctly brown mottled throat and breast.



Common Name: Cerulean Warbler
Scientific Name: *Dendroica cerulea*

Size: 4 inches (11 cm)

Habitat: North and South America. Summer Range: Breeds locally from central Minnesota to central New York, southward to Arkansas and North Carolina. Winter Range: Mountains of northern South America. Found in tall deciduous trees and open understory, such as wet bottomlands and dry slopes.

Status: Vulnerable. **Global Population:** 560,000 mature individuals and



declining. Formerly one of the most abundant breeding warblers in Ohio and the Mississippi River Valleys, its population plummeted in the 1900's. Cerulean Warbler is one of the species of highest concern in the eastern United States because of a small total population size and significant declines throughout its range. The main threat is from habitat degradation and forest fragmentation as the human population increases and land uses change. Breeding habitat is degraded when mature deciduous forests, especially riparian forests, are lost and remaining forests are fragmented and isolated. Also, less deciduous forests reach maturity because of shorter rotation periods and even-aged management and key tree species are lost because of disease. Winter habitat is being destroyed for the production of coffee beans and coca as the demand for coffee and illegal cocaine-based drugs grows.

Diet: Insects; some seed and plant material in winter.

Nesting: 3-4 gray to greenish-white eggs are laid. Nests are an open cup shape of bark fibers, grass stems, and hair bound together with spider web, placed on a lateral limb of a deciduous tree in mid to upper canopy. Usually concealed from above by leaves or twigs on the nest branch.

Cool Facts: The female Cerulean Warbler has an unusual way of leaving a nest after sitting on it a while. Some people call it "bungee-jumping." She drops from the side of the nest, keeping her wings folded to her sides, and opens her wings to fly only when she is well below the nest.

It nests and forages higher in the canopy than most other warblers. When re-nesting after a failed first nest, the female often uses spider web from the old nest to start construction on the new nest. Fresh lining is gathered for the new nest, but spider web may be too valuable and time-consuming to waste.

On the wintering grounds in South America the Cerulean Warbler usually is found in mixed-species foraging flocks, associating with tropical tanagers and other resident species.

"The outcries we hear against forest reservations come mostly from thieves who are wealthy and steal timber by wholesale."

-John Muir, "Our National Parks"

Common Name: Yellow-breasted Bunting
Scientific Name: *Emberiza aureola*

Size: 5 ½ inches (14 cm)

Habitat: Eurasia. Summer Range: Finland and Russia. Winter Range: Southern China and India. Breeds in wet meadows with tall vegetation and scattered scrub, riverside thickets, and secondary scrub. Winters in large flocks in cultivated areas, rice fields, reed beds, and grasslands.

Status: Vulnerable. **Global Population:** 120,000 - 1,000,000 Mature individuals and declining. Threatened due habitat destruction and human disturbances to nesting areas.

Diet: Seeds and some insects.

Nesting: 4-6 eggs are laid in a ground nest.

Cool Facts: The European stronghold for this species has always been on the shores of Liminka Bay near Oulu in Finland but even here the population has crashed to less than 10 pairs in 1995, of which two pairs could be found near the World Wildlife Fund Information Centre. Further singing males are usually found in small numbers at scattered sites in southeast Finland. They may arrive as late as mid-June and depart again from late July onwards. The major population nests in Siberia.



What makes a bird endangered?

While it's easy to understand why a bird like the Kakapo is endangered with 86 birds left on the planet, some other species may be harder to figure. So why is a bird such as the 'Akepa from Hawai'i (estimated population 6,000) more endangered than the Yellow-breasted Bunting (estimated population 2,300+)? The reason is that the number of birds, while an important factor, is only part of the consideration in endangerment. The easiest way to explain the criteria is to review the R-E-D system. R-E-D stands for RARITY - ENDANGERMENT - DIVERSITY. The total number of birds would relate to rarity. The perils facing the birds would be endangerment. Diversity relates to how far the species extend over physical terrain. For instance, a species limited to a single island would be more at risk than a species spread over a continent.

So let's take the case of the 'Akepa and Yellow-breasted Bunting and apply the R-E-D system. Rarity: The Bunting population is less than the 'Akepas. Chalk one up for the Buntings. Endangerment: The 'Akepa require old growth Koa forests that are almost extinct from the Hawaiian Islands. Also the 'Akepa has little to no immunity to avian malaria. The Buntings have issues with nesting and human populations which are much less immediate threats than the 'Akepa so the 'Akepa wins the "E" round. Diversity: The 'Akepa are on a secluded part of an island within an specific elevation. The Buntings are throughout North-eastern Europe and Asia. Diversity is clearly an issue with the 'Akepa. Chalk one up for the 'Akepa. While the Bunting won the "R" round, the 'Akepas decisively won the "E" and "D" rounds and that's why the 'Akepas are considered Endangered while having greater numbers.

Reasons why Species today are going extinct

It is said that within 100 years, half of all species of life on earth will be extinct. Many industrialized governments tell us its' natural selection. Is it? Let's look at the birds depicted in this volume and reasons why they went extinct or are at risk.

"Its extinction was probably largely caused by the destruction of its understory habitat by introduced cattle and deer, and predation of its nests by introduced rats and mongooses."

"Endangered by massive illegal trapping for the cage bird trade."

"Vulnerable due to habitat destruction and human disturbances to nesting areas."

“Endangered due to habitat destruction and alteration. “

“Its extinction was caused by deforestation, hunting and predation by introduced rats and cats.”

Hmmm... starting to notice a trend? Human involvement appears to have a whole lot to do with that “natural selection” argument offered. Okay, fine... so we are causing some species to go extinct. What difference does that make? Well, apart from the obvious moral and quality of life issues, loss of species can harm us and our existence in ways we’re only starting to understand. The birds, as well as bees and butterflies of our planet are important pollinators. Without pollinators, crops may flower but won’t fruit, hence no food makes it to the supermarket making higher prices and less food available. Hmmm, that could be problem, couldn’t it?

Woodpeckers around the globe are in serious decline. So what happens when there are no more woodpeckers to keep beetles and other wood eaters from decimating our forests? When forests go into decline it causes not only lumber shortages but higher forest fire risks. Forests provide shelter and habitat to a number of other creatures. Without the symbiotic bond, both suffer and populations decline more quickly. Even for the less eco friendly, the decline in forests can be troubling. For hunters, poor forest health means less game. For business, it means less product from trees; less timber, less paper, even less maple syrup. For all of us, since scientists consider the forests of the world the earth’s lungs, less forests means less ozone.

Flycatchers spend their days eating mosquitoes and biting insects. Let them go extinct and suddenly, beside more welts on your skin, there’s a big increase in disease; not just for humans but for all creatures, accelerating the extinction patterns.

These three examples are trends we know about... what about all the hundreds of connections we don’t know exist? If we break too many of these, are we tipping the scales towards our own extinction?

Audubon recently reported that based on the last 40 years of data, even common species will not be so common tomorrow. Since 1967 the average population of common birds in the United States have fallen 70% from 17.6 million to 5.35 million individuals. Certain areas, such as California, are showing declines as much as 95% in some species. So the threat of extinction isn’t limited to obscure and rare species in someone else’s yard-- it’s the jay in your yard, the hummingbird working your flowers, the finches chattering in your tree... and their survival is your responsibility.

Making Easy Choices

Do great art. This one's real easy. The primary idea behind the "Threatened, Endangered, Extinct" theme is that artist will be able to create imagery using the included bird species and help spread awareness. You have some tools with the "More Threatened, Endangered, Extinct" Songbird ReMix package. Use them and make a difference. Post your artwork featuring the endangered birds and tell your audience of their plights. Use the text in the Field Guide or write your own. I guarantee you someone will be moved, and perhaps, moved enough to also make a difference.

Heal the earth one garden at a time. One of the primary causes for endangerment and extinction is habitat loss. While few of us can purchase tracts of land to protect and save habitat, almost everyone can garden. Here's your opportunity to give back to the planet. If you have planting space, whether it be acres or a couple pots on your balcony, use it and plant **native plants**. You know, the ones that actually belong there. If you're not aware of what's native to your area, contact your local native plant society or do internet searches. Native plants and the birds, insects and other wildlife have ancient relationships. Once you start planting the right plants, the wildlife will rekindle these relationships. From my own experience, our bird count when from 40 different species a year to over 100 within a three year period. The types of butterflies tripled and the native mammals and insects I didn't even know existed in our area now are frequent visitors.

I go to nature to be soothed and healed, and to have my senses put in order.

-John Burroughs

Provide water sources on your property. Whether it's a bird bath, a mister, a pond or stream, a water source is probably the most important feature you can put on your property for birds. Feeder, nesting boxes, or secluded cover (trees, shrubs, thickets) are also important. Don't rake away all the leaves. Natural mulch is important to the health of native plants. For many birds, mulch is their forage area. The National Wildlife Federation (<http://www.nwf.org/backyard/>) and Audubon (http://www.audubon.org/bird/at_home/) have home wildlife habitat programs. If you have native plants, shelter, food sources and water for wildlife you can be certified as a NWF "Backyard Wildlife Habitat" and for a small fee even get a placard to display out in your yard or on your fence saying so. If

neighbors pass by and look at your garden, wondering why it looks a little different (native plants), tell them why. That too, has the snowball effect.

Shop and live green. This is easy to do. If you drink coffee, buy shade grown coffee. Buy organically grown products. Yes, there a little more expensive, but they're generally better for you. If your city has a recycling service, use it. Also, many power companies offer "green power" options, sign up and if they don't have one, ask why. Use water, power and gas more wisely. Get energy saving bulbs and water saving toilets and showerheads.

When car shopping, consider less polluting vehicles or hybrids. Drive less by planning and grouping your stops ahead of time.

If you dabble in the stock market, consider a "green" mutual fund and if you own stock, demand at shareholder' meetings that the company become more eco-friendly. If a company is known to exploit the environment, don't buy their products and let them know why you're not. Write them. Call them. Email them. Believe it or not, they are concerned about losing your business which hurts their bottom line.

Pets... Before everyone starts with the hate mail—I do not hate cats. The average well-fed outdoor housecat kills over a dozen songbirds a year. The housecat being well fed, cared for, with a safe place to sleep has a much clearer advantage than real predators (such as coyotes or hawks). While housecats are predators, they are not endemic (meaning they are foreign to the ecosystem). Let me put it another way... what if lions or cougars were let loose in a shopping mall? Would that be "*nature taking its' course*"? No, big cats are not endemic to shopping malls or cities; they're dangerous and don't belong there. They belong in their natural habitat or locked up in a zoo. So why are domestic cats treated differently? **Simply said, cats are a domestic pet that belongs indoors.** If you want to give that tired "roam free" argument, get a Cougar or similar cat, then I'll listen... but my guess is the cougar will be more interested in the people within the house than a songbird outside.

Be aware what goes on in your community. Of all the government layers, the local levels are the most accessible to you. Hearings regarding important decisions in your community happen all the time. Attend some, and make a difference. I attended a hearing regarding the re-landscaping of a local park. Now they're going to be planting native plants in the park. My wife, neighbors and I commented on a housing project asking for radical zoning changes on an area, which is currently wilderness. Now the city has to consider whether it wants to rubber stamp the developer's vision or face the wrath of the community. Let your community leaders know you want "smart growth" and expect them to obey their own zoning laws. Building should occur in places where it's appropriate to build, not because it's the place where maximum profit can be achieved.

Building in inappropriate places is happening everywhere around the world. People develop areas that are prone to flooding, fire and mudslide, then are shocked when disaster strikes. They build houses on the wilderness edges, then complain about the displaced coyotes and mountain lions attacking their children and pets. They plow over the last refuges that birds have and then complain when they share our outdoor dining facilities or poop on their cars.

The real problem is us; the human race. We're supposedly the smart ones on the planet, yet we level and pollute our surroundings, then overpopulate it with reckless abandonment and don't expect consequences. At the rate we're going, we will soon find our planet on the endangered species list, thanks entirely to ourselves.

*“In nature, there are neither rewards nor punishments;
there are consequences.”*

– Robert Ingersoll

Vote Smart. When deciding whom to vote for, don't trust the mailers or the candidate's lip service. Just because they may title initiatives "Clean Air" or "Healthy Forests" doesn't make it so. Check their records. How did they really vote? The internet is great for that. The League of Women Voters (www.lwv.org) even has environmental score cards. The National Audubon Society (<http://www.audubon.org/campaign>) has an "Advisory" newsletter it emails out that states what going on in the Capital and even provides links to your elected officials along with editable form letters to express your concerns.

Even more important is phone calls and letters to your elected officials expressing how important environmental issues are to you. Consider this, PR firms, lobbyists and others make **daily contact** with your representatives "helping" to explain the "needs" of their constituents. I'm sure your representatives hearing this day in and day out might start to believe that's what you want. Call them and set them straight.

Yes, you can make a difference, if you want to...

Tougher Choices: Look in the Mirror

So far I've given easy things to do; ones that require little to no sacrifice. But now let's go a step further and really look in the mirror. Walk down a path alone. Stop, turn around and see how many footprints you left. Do you tread heavily on

this path or do you do try to walk in harmony with your surroundings? Do you give at least as much as you take?

Here's another statistic using the United States. 80% of the population strongly supports protecting the environment. However, when this protection comes with a price tag, such as higher taxes or land use restrictions, the support drops well under 50%, showing the problem is not just governments and their policies, but the public as well.

"Somebody else will do it." "There are lots of organizations that help out with that." "Isn't that what we pay taxes for?" "Why doesn't somebody do something about this?" "How can they allow this to happen?" "Don't they have a conscience?"

Who are we really referring to when we blame "**they**"?

Take a look in the mirror. "**They**" is "**us**". Take responsibility and start to make changes. You'll find your neighbors, family and friends will be more likely to also change habits and take responsibility from your example.

No, I'm not saying everyone should get their taxes raised—but why not pay your fair share? For \$5 to \$20, you (and everyone in your car) can visit one of the US National Parks. That \$5 to \$20 is not for a day, but a **full week**. The US government has kept these prices low so that people of modest means can enjoy the natural beauty. Almost every visitor center has a donation box—a day at Disneyland or out at the movies would have cost you considerably more—pay your fair share.

As far as organizations helping out—yes, there are a lot of organizations that try to help the environments and there are a few of them that make a difference despite their meager resources. But remember this, there are more organizations bent on exploiting our planet's natural resources until these resources have been squeezed of their last penny of profit. Their financial resources dwarf the "tree huggers" financial abilities and their tactics are often without conscience whereas an environmental group has to play by the rules and is scrutinized making sure it fights its' battles fairly.

Frustrate a developer... Of course, not everyone can do this but 6-7 years ago, two vacant weed lots near our house came up for sale. We (my wife and I) offered an amount that cut deep enough into the developers' profit margins that they backed away from bidding on it. We then turned the property in a native garden with the intention of never building on the property. We felt it was our turn to give back to the planet. The developer approached us a year later, insisting that I sell one of the lots to him because it didn't make any sense not to develop it. Standing there arguing with him in our native garden, I realized that greed blinds so many people. He could not see that the property had been developed

(into a beautiful native garden) nor could he see the wealth of natural beauty and life that surrounded him.

Population—a sticky issue.... Of course, there's argument that the planet isn't over-populated—but then again there's argument that Global-warming isn't happening, the dinosaurs are simply a fairy tale and smoking is good for you. Consider this, it is predicted that within a decade there will not be not enough fresh water for the world population. Food is already in short supply in some portions of the world. **The human population is the single largest factor in the depletion and destruction of our planet's resources and the sooner we face up to it, the better.**

Recently I went to a family event celebrating my Grandfather's birthday. At dinner, to my astonishment, I noted that there were over 100 relatives in the room—his six kids—their children and their children's children—and that was just my Mother's side of the family. Both sides added up to over 150 people from two sets of grandparents. I love my family but I was troubled. I sat quietly thinking about all the resources, all the acres of additional land that had to be cleared, the species to be killed to accommodate my family and their needs. Do we have the right to reproduce like rabbits?

When family members asked my wife and I when we would be adding to the family tree, I dodged the question, but the truth is 'never". We decided some time ago that our family had long ago used up its replacement quota and we'd make a conscious effort not too add to an over-populated planet.

So what I am really saying here? Is there a real solution to the population issue. There is, and an easy one at that. If three or four generations of the world population were to stick to the replacement quota rule (2 kids or less), our world population problem would start to solve itself.

"Everybody needs beauty as well as bread, places to play and pray in, where Nature may heal and cheer and give strength to body and soul alike."

-John Muir, "The Yosemite"

Make responsible choices. Advertisers thrive on you making as many irresponsible and impulsive choices as possible. Look in the mirror, be honest with yourself. Do you really need that huge SUV or 4,000 square foot home?

Think of the resources and money you would save by living more modestly and environmentally friendly. Look at your footsteps.

Work and Play responsibly. Is it really faster to leaf blow your yard than using a rake? I can rake our yard just as fast as a “Mow and Blow” gardener can without the pollution, dust and noise and actually get some exercise and quality time in the garden. Plus, my yard waste ends up as mulch in the garden or is properly thrown in the green recycle barrel and not simply blown into the street and my adjacent neighbors’ yard.

Off-roading has become increasingly popular, whether it’s in a 4x4 truck, a snowmobile, a bike or on a motorized watertoy. What are the repercussions of this? Pollution, damaging fragile eco-systems (by crushing plants, leaking oil, disturbing areas with noise). Did you know that the wilderness that you’ve been playing in may mean the possible extinction of a species?

In the American Southwest, the trashing of the stream areas which happen to be the nesting and forage areas of the Least Bell’s Vireo and Southern Willow Flycatcher are partially responsible for their endangerment. If you must play with your off-road toys, do it in areas designated for them and stay on the trails.

Want fun and adventure without destroying wildlife? Get out of the SUV or off your bike, use your legs and hike. Do it with your cellphone turned off, your iPod and laptop left at home. Let birdsong and the rustle of leaves in the trees be your music for a couple hours. Leave your work and troubles at home and go to a place where you can’t find a trace of any man-made. Sit down, relax and wait for a half-hour. You’ll see the natural world come alive around you. And if you listen and watch closely, you’ll find the thrill of all things man-made begins pale to the beauty and wonders of the natural world.

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....my betatesters (Bea, Gary, Jan, Kelvin, Nancy, Rhonda and Sandra)

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.

- **"The Sibley Guide to Birds"** by David Allen Sibley.
- **"The Reed Field Guide to New Zealand Birds"** by Geoff Moon
- **"The Birds of Hawaii & the Tropic Pacific"** by Douglas Pratt, Phillip L. Bruner and Delwyn G. Berrett.
- **"What bird is That?"** by Neville W. Cayley

Field Guide Sources:

Cornell Lab of Ornithology (<http://www.birds.cornell.edu>)

National Audubon Society Watchlist (<http://www.audubon.org>)

US Fish and Wildlife Pacific Islands (<http://www.fws.gov/pacificislands>)

Wikipedia (<http://www.wikipedia.com>)

BirdGuides.com (<http://www.birdguides.com>)

Recommended reading:

[Our Last Effort to Save the Po'o-uli](#)

[The Kakapo Recovery Center](#)

[Coxen's Fig-parrot Recovery Plan 2001-2005](#)

[National recovery plan for the Black-eared Miner](#)

[Cerulean Warbler Atlas Project for Private Lands](#)

[Lord Howe Island](#)

[IUCN RED List](#)

[Audubon Wake Up Call: What you can do](#)

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