

Bird Skeleton Making Guide

XR Skeletons Rebellion

As the Climate & Ecological crisis deepens around the world our beautiful feathered friends are dwindling in numbers. Join us in making a skeleton model of an endangered bird, using (mainly) recycled materials from your lock-down household. Exploring the anatomy of a creature and how it is structured can bring us closer to understanding the life around us we are losing, and closer to ourselves. It is a journey which invites focus and accuracy, connection and reflection. The birds which we create can hang from our living room ceilings or be turned into animated puppets to bring out when we next fly together in the street.

[bird-skeleton-1.jpg](#)
Image skeleton 01 type unknown

[bird-skeleton-2.jpg](#)
Image skeleton 02 type unknown

1. Why a bird skeleton?

Shared joy & happiness, fun, beautiful singly and as a group.

Memento Mori appropriate to our current coronavirus situation.

This activity can be done by anyone with no previous experience, it helps to keep the mind calm and focused, gives an uplifting visual image, a symbol of liberation and raises awareness of particular Red list bird species. These are lots of important messages plus beautiful images for social media shares.

In the future: audiovisual immersive performances using shadows of skeletons.

2. Who can do it?

Anyone! It takes some time and patience but is rewarding, if you've never made objects before and are clumsy or if you're a pro-sculptor.

You can choose to make a full bird skeleton or a paper one. For example, there's [a little paper crow](#).

This excellent link from Dorling Kindersling [‘Inside a Bird’](#) shows simply what a bird skeleton looks like.

[Wood grouse skeleton](#)

3. Which bird species

We have listed endangered species at the end of this document. Species need to be easily identifiable and have clearly distinguishing features, eg particular types of beaks and feet. For example: Puffin, White-Tailed Eagle

4. How big and how detailed?

Life size models have the best visual impact & fits the skeleton group ethos. Technically it's easier to make medium and larger birds, ranging from Puffins (wingspan up to 63cm & body size 30cm including feathers) to Wandering albatross (wingspan up to 3.5m and body size up to 135cm including feathers)

It needs to work at a distance and cast an interesting shadow

Ribs, breast bone, vertebrae need to be stylised because the bones are so fiddly

Skull, legs & claws: realistic and detailed. Eye catching and very recognisable in images

Wings: I think that bones alone are probably ok, no need for feathers. Wing bones likely to bend and break if flying, especially at flapping-rod contact points - will need internal structure - wire?

Top part of the mandible (beak) is attached to the skull, which makes it easier to construct strongly - only the bottom mandible moves (same as people etc). Unusually some birds eg cormorants are the other way around so it's easier for them to catch fish.

5. What to make it with

Cheap, easily accessible materials found in your home.

Materials List >

- Newspaper
- Loo roll of course!
- Wire
- Glue / paper mache glue
- White paint (acrylic works well or xx)
- Wire coat hangers or similar strength eg garden wire
- Main skelly v strong, use coat hangers
- Milk/oatley carton lid hole perfect for eyes of fish skeleton also maybe also birds
- Stick with masking tape, sticky tape, modelling paper
- Rolled paper tech (see skelly fb page)
- Constructions must dry fully before any paint applied

Must be waterproof - varnished in the end.

Recycled stuff needs to be primed so the paint won't flake off.

6. Flapping/ talking / calling / singing?

It would be great if they fly: simple rod-puppet technology to flap wings? Just flapping the model up and down might be ok for little kiddies' basic paper cut out birds.

Advanced models could **talk** perhaps - how big does a skull need to be to house servos etc to move the bottom part of a beak up and down for mobile controlled conversations.

Musician Sam Lee made this [soundtrack](#) of birdsong with the RSPB. We could make a sound track like at Chris Packham's dawn chorus on everyone's phone used outside Downing St at the demo a couple of years ago. Best if species specific more interesting, research would engage people. eg alarm calls, contact calls, songs

Lists of Bird Species

RSPB species at risk - list of Birds of Conservation Concern 4 (BoCC 4)

accessed online accessed online 29 march 2020

UK species non-birders are likely to have heard of:

- White-tailed eagle
- Hen harrier
- Lapwing
- Curlew
- Puffin (quite small)
- Turtle dove also on IUCN red list (too small))
- Cuckoo
- Starling (too small?)
- Nightingale (too small?)
- Skylark (too small?)

List of Vulnerable birds from wiki

accessed online 28 mar 2020

Types of larger species non-birders are likely to have heard of:

- Wandering albatross
- Black crowned crane
- Great bustard
- Salmon-crested cockatoo
- Hyacinth macaw

- African grey parrot (too small?)
- Ascension frigatebird
- Shoebill
- Dalmatian pelican
- Great spotted kiwi
- Great hornbill
- Beaudouin's snake eagle
- Snowy owl
- White-tailed hummingbird (probably too small to make)
- Channel-billed toucan
- Andean flamingo

Background information

Birds of Conservation Concern 4 has placed more species onto the Red list than ever before.

- Three species have moved to the list of former breeders.
- The wryneck is the first once-widespread species to have been lost as a breeding bird from the UK in nearly 200 years.
- Farmland birds are still a major concern. Twelve farmland species remain on the Red list and some, such as the turtle dove, are continuing to decline alarmingly.
- There are more birds of woodland on the Red list than of any other habitat. The woodcock, nightingale and pied flycatcher are the latest additions.
- The largest growth in the Red list was in upland species, with five new species including the curlew and dotterel.
- There is cause for concern for our breeding seabirds with the addition of puffin, kittiwake and shag to the Red list. In global terms they are amongst the UK's most important birdlife.
- The number of long-distance migrants on the Red list, particularly those that winter in sub-Saharan Africa and more specifically in the humid tropics, continues to grow. Whinchat and pied flycatcher joined the cuckoo and wood warbler on the Red list.
- Climate change may be having a negative impact upon some of our Red-listed birds, disrupting marine food chains for seabirds, moving the suitable climate space for northern breeders out of the UK, and affecting migrants throughout their flyways.
- There is some cause for hope, as the review demonstrates that conservation can work if properly targeted and funded. Two species, the bittern and nightjar, have moved from Red to Amber thanks to the creation and management of suitable habitat, stimulated by species action plans.

- A net increase in the Green list of 14 species is also good news, a consequence of the eight species moving to Amber or Red being outnumbered by 22 species moving from Amber to Green. Nine of the moves to Green were due to changes in the assessment process, but 13 were genuine improvements in status.

The full details of this assessment can be found in Eaton MA, Aebischer NJ, Brown AF, Hearn RD, Lock L, Musgrove AJ, Noble DG, Stroud DA and Gregory RD (2015) Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and Isle of Man. British Birds 108, 708–746. Available online [here](#)

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