

Hurricane Dorian was also a catastrophe for the Bahamas' unique birds

September 18 2019, by Diana Bell



Credit: AI-generated image ([disclaimer](#))

Hurricane Dorian was the [second most powerful Atlantic hurricane on record](#) and the fifth to reach the highest hurricane category (five) in the past four years. After it first made landfall, it hovered over the northern Bahamas for more than 50 hours.

The human death toll is currently around 50 but [more than 1,000 people are still missing](#) and at least [70,000](#) have been left homeless. Many residents have lost everything, including their tourism industry, and are in desperate need of [humanitarian assistance](#).

At a time of such immense human tragedy, it may seem too soon to mourn the loss of wildlife. But, as a conservation biologist who specializes in island ecology, I am also worried about the Bahamas's unique birdlife—several species may have have been severely harmed or even lost, literally overnight.

Just this time last year, my UEA master's students, Matthew Gardner and David Pereira, spent several months researching birds on Grand Bahama island and were able to announce the [rediscovery of a species](#) that had not been seen since Hurricane Matthew in 2016: the Bahama nuthatch (*Sitta insularis*). One of several [bird species](#) endemic to these [islands](#)—that is, it lives nowhere else—the nuthatch is a tiny bird that nests in tree cavities.

The nuthatch was [already suffering](#) from [habitat fragmentation](#), invasive predators such as snakes and cats and the local extinction of a native woodpecker species, the West Indian woodpecker, in the 1990s. This woodpecker had previously created tree holes subsequently used by the nuthatch, which likes to nest in small cavities.

Matthew, David and others from the University of the Bahamas played a recording of the nuthatch's call in order to attract and observe it—they found the bird was alive after all. However, we feared numbers may be as low as just one or two individuals.

Sadly, the species is unlikely to have survived Dorian.

In fact, Dorian may have not only sealed the fate of the nuthatch but also

severely impacted other birds endemic to these islands, particularly the Bahama warbler and the Abaco parrot. Also known as the [Bahama Amazon parrot](#), this subspecies uniquely nests in limestone cavities on the ground which are likely to have been flooded by the storm surge.

Other birds we're worried about include the Bahama yellow throat, Olive-capped warbler, the Bahama woodstar hummingbird and the Bahama swallow.

Nowhere to hide

Scientists don't know exactly how different birds try to escape the [strong winds](#) and heavy rainfall associated with hurricanes. It's not the easiest thing to study in nature, for obvious reasons. We do know that previous storms have blown species like the swallow and woodstar as far as Florida or even [Pennsylvania](#), so it's possible that some individuals particularly the swallows may have escaped by flying to other islands ahead of the [hurricane](#). But for most birds, the best chance of survival would have been to seek shelter in the pine forest.

Once covering much of the islands, this native ecosystem had evolved alongside Atlantic hurricanes and should in theory provide native birds with protection from a major storm. However, throughout the 20th century much of the Bahama pine forest was lost to industrial logging or urban development, and what remains is [highly fragmented](#). More recently, major hurricanes have caused direct wind damage and storm surges that have sent salt water far inland, killing trees.

For the birds, all this is a disaster. Not only has much of their [native habitat](#) disappeared, but going down from trees to hide in ground cover would not be an option if the ground was flooded by the torrential rain.

All this is compounded by a further environmental impact of Dorian: an

oil spill from a large storage facility on Grand Bahama island which is reported to have been holding [1.8m barrels](#) at the time. That, along with the fact a hurricane usually dumps lots of plastic into the ocean, means even surviving birds may struggle to find feed and fresh water.



The Bahama warbler. Credit: David Pereira / UEA, Author provided

Island species are under threat

Globally, as many as [182 bird species](#) are thought to have become

extinct over the past five centuries. Of these, an astonishing 92% have been island species. We can blame most of these historical extinctions on habitat destruction and introduced species such as rats and cats. But in future, endangered [birds](#) on oceanic islands must also contend with stronger and more frequent hurricanes driven by climate change.

The lesson from Dorian is that we must conserve and restore as much native plant habitat as possible. On islands like the Bahamas, native plants often themselves now endangered, provide crucial habitats for threatened [species](#), and conserve freshwater and soils thus protecting against erosion and landslides.

The Caribbean has a wealth of endemic plants and animals, many of which are threatened by human activities. It has therefore been recognized as a global [biodiversity hotspot](#).

It's hard to say for certain what climate change and more frequent strong hurricanes will mean for this biodiversity, but the avifauna and habitat surveys conducted by Matthew and David in 2018 provide a crucial baseline for us to determine the ecological impact of Dorian on the Bahamas. What has just happened may represent the irreplaceable loss of a small but nonetheless precious part of the planet's biological heritage.

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