

Catastrophic mass extinction of birds in Pacific Islands followed arrival of first people, research shows

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Credit: Zoological Society of London

Research carried out by the Zoological Society of London (ZSL) and collaborators reveals that the last region on earth to be colonised by humans was home to more than 1,000 species of birds that went extinct soon after people reached their island homes.

The paper was published today (25th) in the journal *Proceedings of the National Academy of Sciences*.

Almost 4,000 years ago, tropical Pacific Islands were an untouched paradise, but the arrival of the first people in places like Hawaii and Fiji caused irreversible damage to these natural havens, due to overhunting and deforestation. As a result, birds disappeared. But understanding the scale and extent of these extinctions has been hampered by uncertainties in the [fossil record](#).

Professor Tim Blackburn, Director of ZSL's Institute of Zoology says: "We studied fossils from 41 tropical Pacific islands and using new techniques we were able to gauge how many extra species of bird disappeared without leaving any trace."

They found that 160 species of non-passerine land birds (non-perching birds which generally have feet designed for specific functions, for example webbed for swimming) went extinct without a trace after the first humans arrived on these islands alone.

"If we take into account all the other islands in the tropical Pacific, as well as seabirds and songbirds, the total [extinction](#) toll is likely to have been around 1,300 bird species," Professor Blackburn added.

Species lost include several species of moa-nalos, large flightless waterfowl from Hawai'i, and the New Caledonian *Sylviornis*, a relative of the game birds (pheasants, grouse, etc) but which weighed in at around 30kg, three times as heavy as a swan.

Certain islands and bird species were particularly vulnerable to hunting and habitat destruction. Small, dry islands lost more species because they were more easily deforested and had fewer places for birds to hide from hunters. [Flightless birds](#) were over 30 times more likely to become

extinct that those that could fly.

Bird extinctions in the [tropical Pacific](#) did not stop with these losses. Forty more species disappeared after Europeans arrived, and many more species are still threatened with extinction today.

More information: "Magnitude and variation of prehistoric bird extinctions in the Pacific," by Richard Duncan, Alison Boyer, and Tim Blackburn, *PNAS*, 2013.

Provided by Zoological Society of London

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