

Back to the drawing board for conservationists battling against infectious parrot disease

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Parakeets at a feeding station. Credit: Deborah Fogell

A study into the effectiveness of disinfecting birds' nests, carried out by the University of Kent, has led to a breakthrough in the understanding of

biosecurity measures for the endangered echo parakeet in Mauritius. The research team found that annual disinfection of parakeet nest sites prior to the breeding season, intended to reduce the spread of infectious disease in endangered parrot species, didn't have the impact conservationists expected leading to recommendation for a different approach.

The research team found that annual disinfection of parakeet nest sites prior to the breeding season, intended to reduce the spread of infectious disease in endangered parrot [species](#), didn't have the impact conservationists expected or indeed, had hoped for, leading to recommendation for a different approach.

Psittacine Beak and Feather Disease (Pbfd), is a globally emerging infectious disease affecting parrot species, and researchers were looking at methods to reduce infection rates in the endangered birds.

The research team found 83% of the fledglings in untreated nests survived compared to 79% in the treated nests. The long-term study of echo parakeets in Mauritius assessed how effective the disinfection measures were in reducing the probability of a [nest](#) becoming infected with Pbfd.

Project lead Deborah Fogell, a Ph.D. student from the Durrell Institute of Conservation and Ecology (DICE) in Kent's School of Anthropology and Conservation (SAC) and ZSL's (Zoological Society of London) Institute of Zoology said:

"The desperate need of conservationists to respond to infectious disease outbreaks in [wildlife populations](#), especially those that are small or recovering, often means field protocols need to be implemented before critical evaluation. Our research findings will help us improve biosecurity measures implemented in Mauritius in order to better

support fledging success".



Field staff accessing a parakeet nest site. Credit: Deborah Fogell

Conservationists have battled against Emerging Infectious Diseases (EIDs), which are drivers of global extinction of threatened species. The research team at DICE, a leading research institute which provides training in [wildlife conservation](#), assessed the efficiency of biosecurity protocols in managing PBF. Psittaciformes (parrots) are one of the most vulnerable avian orders, with over a quarter of all extant species recognised as in need of [conservation](#) action and 75% of species in population decline.

Deborah Fogell and her colleagues recommend that it is essential to continue to evaluate population management techniques to ensure they are achieving the desired outcomes. The research illustrates that conservation activities should be carefully considered through targeted monitoring via further research and development, with conclusions prioritising conservation objectives.

'Hygiene and biosecurity protocols reduce infection prevalence but do not improve fledging success in an endangered parrot' by Deborah Fogell, Jim Groombridge, and Simon Tollington, DICE, University of Kent, Stefano Canessa, Ghent University, Sion Henshaw, Nicolas Zuel and Carl G Jones, Mauritian Wildlife Foundation, Andrew Greenwood, International Zoo Veterinary Group and John G Ewen, Institute of Zoology, is published in *Scientific Reports*.

More information: Hygiene and biosecurity protocols reduce infection prevalence but do not improve fledging success in an endangered parrot , *Scientific Reports* (2019). [DOI:](#)

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