

# How a team of biologists is taking on an infestation and saving a species from extinction

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Eggs hatching. Larvae burrowing under the skin and feeding on surrounding tissue. It's like a scene from a horror movie. Only this isn't a movie—it's happening in real life to an extremely endangered bird species, the Ridgway's hawk. The culprit is a botfly in the genus *Philornis* that is so aggressive it's eating hawk nestlings from the inside out.

Native to the Dominican Republic, around 300 Ridgway's hawks remain in the wild and researchers have been working diligently to save them. Botfly infestations are jeopardizing conservation efforts of not only Ridgway's hawks, but potentially other island raptors as well.

The story, though, is taking a turn for the better, thanks to Morris Animal Foundation-funded researchers at The Peregrine Fund. Dr. David Anderson and his team found a way to take on the *Philornis* botfly—and they're winning. The biologists are taking the fight to the botfly, scaling trees to reach Ridgway's [hawk](#) nests high in the canopy to apply an insecticide product. The findings and successes of their work recently were published in *Animal Conservation*.

"Peregrine Fund biologists found that botflies in the genus *Philornis* were practically wiping out all the hawk's nestlings," said Dr. David Anderson, Program Director at The Peregrine Fund. "We devised a solution—spraying nestlings with the chemical fipronil, the same

chemical we use on our pets to get rid of fleas and ticks—and it seemed to work."

Initial results were promising but led to more questions. The team wanted to know exactly how much of an effect fipronil was having on the botflies, how many more birds survive if treated, and what impact their strategy would have on the hawk population overall.

"Fortunately, we found a great partner in Morris Animal Foundation, who saw the importance of this work," said Dr. Anderson. "After two years of study we can say that when we use the fipronil treatment on Ridgway's hawks, over 170 percent more nestlings survive than would without the treatment. That's huge. We have reversed the decline of a hawk that was nearing extinction."

As a bonus, this treatment could be used to help save other island birds in decline due to aggressive botfly infestations. There are endemic birds—that occur only in one place and nowhere else—living on islands in the Caribbean with declining populations and nobody knows why.

"One reason we are doing our research and sharing it, is to get other scientists asking if botflies might be affecting some declining species that they are studying," said Dr. Anderson. "If it is happening to Ridgway's hawks, maybe it is happening to other [bird species](#), too."

"When we think about saving endangered species, many think of habitat conservation as the first line of defense," said Dr. Kelly Diehl, Interim Vice President of Scientific Programs at Morris Animal Foundation. "Another important piece of the puzzle is animal health, and we are proud to work with partners like The Peregrine Fund to put this puzzle piece in place and help save [critically endangered species](#) around the world, like the Ridgway's hawk."

**More information:** C. D. Hayes et al, Native parasitic nest fly impacts reproductive success of an island-endemic host, *Animal Conservation* (2018). [DOI: 10.1111/acv.12449](https://doi.org/10.1111/acv.12449)

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