
Monitoring one of the world's largest breeding populations of frigatebirds

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Abstract

Seabird colonies enrich shallow waters surrounding the islands they inhabit through the deposition of nutrient-rich guano, which in turn supports complex marine ecosystems. Frigatebirds rely almost exclusively on islands for breeding, and like other seabirds, they face a multitude of anthropogenic threats both on land and at sea, which have led to severe declines in some parts of their range. UNESCO World Heritage Site Aldabra Atoll is home to the largest breeding frigatebird colony in the Indian Ocean, if not the world. As a mixed colony of two species – greater and lesser frigatebirds – the combined breeding population is estimated to number at least 11,000 pairs. The sensitivity of Aldabra frigatebirds to disturbance, combined with their biennial breeding pattern, makes it difficult to accurately monitor their breeding population, and population surveys were inconsistent before 2010. However, due to its significance, annual trends in Aldabra's breeding population are now being monitored with an annual count of all active nests that was instigated in 2011. Since 2017, the breeding cycle of each species has also been closely monitored to document differences between the two species and to make comparisons with past surveys. Annual nest counts so far suggest that breeding populations of both species are stable and have not changed significantly since the 1960s. However, breeding cycle monitoring shows that the timing of lesser frigatebird breeding differs markedly from greater frigatebirds and also to that recorded in the 1960s and 1970s. For both species, breeding cycle monitoring provides context to the annual nest counts, allowing better interpretation of the results. Given the importance of islands for frigatebirds, and of seabird colonies for coral reefs, continued monitoring of the major breeding colony on Aldabra, a fully protected atoll, could eventually provide an indication of the health of Aldabra's marine ecosystem and also of frigatebird populations in the Indian Ocean.

Keywords: Aldabra Atoll, breeding colony, conservation management, Fregata, seabird

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