

Public Abstract

First Name:Gabrielle

Middle Name:Lys

Last Name:Coulombe

Adviser's First Name:Dylan

Adviser's Last Name:Kesler

Co-Adviser's First Name:

Co-Adviser's Last Name:

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Title:Resource selection and space use of the critically endangered Tuamotu Kingfisher

The Tuamotu Kingfisher (*Todiramphus gambieri*) resides in French Polynesia and is one of the world's most endangered birds, with less than 250 individuals in existence. The species was extirpated from one island following human colonization, and is now confined to a small island where its natural habitat was converted to coconut plantations. I investigated the bird's ecological requirements, with the intent to provide management recommendations that could help prevent its extinction. I conducted island-wide surveys and tracked birds to identify important resources for survival and reproduction. Surprisingly, the kingfishers avoided undisturbed vegetation and appeared to rely on coconut plantations managed with fire for acquiring food resources. Managed plantations provided foraging habitat with open understory and visible ground where the birds hunted lizards and other prey items. Those conditions might have resembled those of the original native forest that no longer occurs on the island. Further, the kingfishers successfully bred in the coconut plantations. I also found that territory size and shape were primarily influenced by the spatial arrangement of foraging habitat. The birds appeared to have a maximum territory length that was likely limited by their ability to effectively defend territory boundaries, guard the nest, and provision nestlings. Thus, regions with low densities of foraging habitat may be unsuitable because birds would require larger areas to acquire sufficient resources. I recommended translocation as a potential conservation strategy for Tuamotu Kingfishers, and provided a series of criteria for selecting an island for establishing a rescue population of the birds.