

RESOURCE SELECTION AND SPACE USE OF THE CRITICALLY ENDANGERED
TUAMOTU KINGFISHER (*TODIRAMPHUS GAMBIERI*)

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ABSTRACT

I investigated the ecological requirements of the critically endangered Tuamotu Kingfisher (*Todiramphus gambieri*), with the intent to provide management recommendations that could help prevent its extinction. The species is confined to the lowland forests on Niau Atoll in French Polynesia, with less than 250 individuals. I conducted a multi-scale resource selection study based on island-wide surveys and radiotelemetry relocation data from 2006-2008. The birds avoided undisturbed vegetation and appeared to rely on coconut plantations managed with prescribed burning for acquiring food resources. Managed plantations provided foraging habitat with open understory and exposed ground where the kingfishers hunted lizards and other prey items. Such conditions might have resembled those of the original forest that no longer occurs on the island. I also tested factors that have the potential to influence space use, and found that variation was driven by the configuration 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 where habitats occur in very linear or distant patches may be unsuitable. I recommended translocation as a potential conservation strategy for Tuamotu Kingfishers, and provided criteria for selecting an island for establishing a rescue population.