

BIRDS AT RISK in the Pacific

by Rod Hay, DSIR ecologist



The Rarotonga starling, a species endemic to the island, is restricted to unmodified forest.

Photo: Rod Hay

Scattered over a vast area of ocean, the islands of the Pacific present a special conservation challenge. There is, on average, one endangered bird species for every 90,000 inhabitants, a figure higher than for any other region of the globe. This illustrates both the size of the problem and the lack of resources available to solve it.

In order to understand the distribution and composition of Pacific birds it is necessary to know a little of the origins of the islands themselves. They can be classified into four main types whose age, size and isolation all affect their biological diversity.

Fragments of continental land-masses (e.g., New Caledonia and parts of Palau) on which may survive relicts of an ancient avifauna isolated since the fragmentation of the southern super-continent, Gondwanaland. Because of their age, these islands tend to have a wider array of rock and soil types than the other types. This may be reflected in a high biological diversity. New Caledonia, for example, has an extremely large number of plant species.

Volcanic islands. These range from young active volcanoes without a highly

developed vegetation (e.g., Matthew and Hunter Islands, southeast of New Caledonia), through older and well-forested but sometimes still active volcanoes (e.g., Savaii, Western Samoa), to eroded volcanic remnants (e.g., Rarotonga, Cook Islands). The plains and valleys of these older volcanic islands are generally characterised by high soil fertility.

Atolls. Very low-lying islands of coral growing on the submerged stump of an old volcano. Atoll soil is generally poorly formed and of low fertility. Because of their uniformly low altitude and small size, they provide a low diversity of habitats and are more susceptible to the effects of catastrophes such as hurricanes. Without refuges, bird species are more likely to be completely eliminated during such events. Typically formed as rings of islets enclosing shallow lagoons, atolls are distributed across the Pacific in the zone where water temperature allows for sufficient coral growth. The many atolls of the Tuamotu archipelago, the Marshall Islands and Tuvalu are typical.

Raised atolls. In certain areas, tectonic processes lift the sea floor and expose



The Rarotonga flycatcher, or kakirori, is one of the rarest birds in the world, with only between 20-30 birds remaining. Photo: Rod Hay