

## Red-tailed Tropicbird

*Phaethon rubricauda roseotincta*

Hawaiian: Koae ula

Family: Phaethontidae

### Identification

Red-tailed Tropicbirds are showy, stout birds related to boobies and frigatebirds. They are predominantly white with a satin sheen typically suffused with varying degrees of pale pink. A black crescent extends around the front of the eye ending in a short, black eyeline. They have black flanks, and black shafts of outer primaries and both sexes have a long, narrow, tail feathers with red shafts. Red tails have a serrated, slightly decurved bill that is deep red in color. Their small feet and short legs are a light blue-gray except for the distal half of their feet which are black. Sexes are identical except males tend to be larger than females. Juveniles are white with black bars and spot-like markings over their entire plumage except throat, belly, and inner primaries. Immature birds do not have an elongated tail and their bill is a gray-black.

Red-tailed Tropicbirds are larger and stouter than White-tailed Tropicbirds (*P. lepturus*) Also, White-tails are more graceful in flight, have a yellow bill, a black streak along the upper wings, and white, elongated central rectrices. Juveniles are difficult to distinguish. Upperparts of immature White-tails appear distinctly barred at any distance while Red-tails appear to be a uniform pale gray when viewed from afar.

### Survival and Lifespan

The oldest recorded bird was 26 years old, but older birds are likely. On Johnston Atoll 45% of the population is over 5 years of age, 9.5% is 10 and over and 47% of fledged chicks return to breed.

### Distribution

#### **Breeding (Oct - Jun)**

Red-tailed Tropicbirds breed on all the Northwest Hawaiian Islands and at a limited number of sites throughout the main Hawaiian Islands. They nest at coastal sites around Kauai including Kilauea Point NWR, at Mokapuu Point and Manana on Oahu, Puu Koae off Kahoolawe, Lehua and Kaula off Niihau. Outside of Hawaii, Red-tails breed on oceanic islands in the Indian and Pacific oceans.

#### **Marine**

Outside the breeding season, adults are solitary and pelagic, and their range is poorly known. They appear to remain in tropical or subtropical waters across the central and south Pacific.

### Breeding Ecology

This species nests colonially on oceanic islands, making its nest scrape in the shade of a dense shrub or tree (commonly naupaka, *Scaevola sericea* or Tree Heliotrope, *Tournefortia argentea*). In some areas Red-tails will also nest in limestone cavities or on cliff faces. At the beginning of the breeding season, pairs engage in complex aerial displays. Many adults appear to fall out of the sky as they drop down to the edge of a bush and push through dense vegetation to access their nest. In Hawaii, peak egg laying occurs from April through June, but is possible throughout the year. A single egg is laid per season, and both parents incubate the egg (for 39 -51 days), and brood and feed the chick. Unusual for the Pelecaniformes, Red-tail chicks are downy when they hatch. Fledging occurs between 72 - 123 days and no post-fledgling care is provided. Red-tailed Tropicbirds return to nest at 2 - 4 years of age.

### Feeding and Prey

- Feeding guild – PELECANIFORMES
- Food capture – Red-tailed Tropicbirds capture their food by plunge-diving; typically disappearing underwater for a few seconds and perhaps going several meters deep. When a

fish is spotted, they hover over it, pull in their wings slightly, and dive. Rarely, they will capture flyingfish on the wing.

- Foraging Distribution – Red-tails feed offshore, typically out of site of land. It is likely that they feed at upwellings and the divergence of the north end of the equatorial countercurrent (ECC) through the equatorial Pacific in addition to the downwelling at the south end of the ECC. However, there is limited at-sea data available.
- Microhabitat for foraging – Red-tailed Tropicbirds feed solitarily. They are rarely found foraging over schools of predatory tuna that drive small fish to the surface as many other Hawaiian seabirds.
- Diet – In Hawaii, diet samples consisted of 82% fish by volume (24 species) and 18% squid (2 families). Flying fish were most common (54.4%) followed by ommastrephid squid (36.6%) jacks (21.5%) and dolphinfish (14.8%). Truncated sunfish and balloonfish were also found in smaller numbers. For their size, they take remarkable large fish; up to 15 - 18% of their body weight.

### **Threats and Status**

In Hawaii, the population is estimated at 9,000 - 12,000 breeding pairs, with the largest populations occurring on Midway and Laysan. The worldwide population is estimated at 17,000 - 21,000 breeding pairs, with the majority residing in the Pacific Ocean.

Main threats to the species include:

- Predation – Like all seabirds, adults and nests are susceptible to predation by introduced mammals. Before Polynesian Rats (*Rattus exulans*) were eradicated from Kure, they accounted for 54% - 65% egg loss and 65-100% chick loss. Although all major predators have been removed from the Northwest Hawaiian Islands, birds nesting on the main islands must contend with rats (*Rattus* spp.), cats (*Felis sylvestris*), mongoose (*Herpestes auropunctatus*), and dogs (*Canis familiaris*).
- Invasive species – Invasive plants (such as Golden-crown Beard, *Verbesina encelioides*) outcompete native shrubs and trees that Red-tails require for nesting. Also, introduced Big-headed Ants (*Pheidole megacephala*) at Kure may facilitate the destruction of native vegetation by a non-native scale insect, thus reducing nesting habitat.

### **Selected Readings**

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