

Seabirds



Photo: Jack Jeffery

‘Ā or Red-Footed Booby

Sula sula

SPECIES STATUS:

State recognized as Indigenous
NatureServe Heritage Rank G5 - Secure
North American Waterbird Conservation Plan -
Not at risk
Regional Seabird Conservation Plan - USFWS 2005

SPECIES INFORMATION: The ‘ā or red-footed booby is the smallest booby (Family: Sulidae), and like its Hawaiian congeners has a pantropical distribution. Three ‘ā (red-footed booby) subspecies are recognized, and one (*S. s. rubripes*) is resident in Hawai‘i. Individuals have long pointed wings and a relatively long, wedge-shaped tail. Several color phases exist, ranging from all brown to all white; almost all Hawaiian birds are white. Adult male and females are overall white, except for brownish black primary and secondary wing feathers; females are larger than males. Feet and legs orange to red, bill bluish except for base of lower mandible which is pinkish, and facial skin around bill ranges from pink to red and blue. Flight is characterized by strong flapping interspersed with gliding; may glide for long distances. ‘Ā (red-footed booby) forage alone or in mixed species feeding flocks, generally feeding further from land than congeners. ‘Ā (red-footed booby) capture prey by plunge-diving generally from four to eight meters (13 - 26 feet) over the water. In Hawai‘i, diet is mainly comprised of flyingfish and squid, but also includes mackerel scads, saury, and anchovies. ‘Ā (red-footed booby) breed in colonies ranging from ten to ten thousand pairs and pairs generally retain mates throughout several breeding seasons. Unlike other boobies, ‘ā (red-footed booby) roost and build nests in shrubs or trees. In Hawai‘i, breeding season is synchronous, but can occur throughout the year. Egg laying peaks in February through April and most young have fledged by September. Both parents incubate egg, and brood and feed chick. Adults continue to feed young up to four months after fledging. Birds first breed at three to four years of age and the oldest known individual was 22 years old.

DISTRIBUTION: ‘Ā (red-footed booby) breed throughout the NWHI and at a limited number of sites on MHI including Kilauea Point National Wildlife Refuge on Kaua‘i, the cliffs of Ulupa‘u Head at the Kāne‘ohe Bay Marine Corps Base on O‘ahu, and on offshore islets including Moku Manu and Lehua. Outside of Hawai‘i, ‘ā (red-footed booby) breed on islands in the tropical waters of the Pacific, Indian, and Atlantic oceans, Caribbean Sea, and seas north of Australia. Little is known about the movements of the ‘ā (red-footed booby) outside nesting season, but birds in Hawai‘i appear to disperse eastward and move between islands.

ABUNDANCE: In Hawai‘i, population estimated at between 7,000 and 10,500 breeding pairs. The worldwide population is estimated at less than 300,000 breeding pairs, with the majority residing in the eastern Pacific.

LOCATION AND CONDITION OF KEY HABITAT: Terrestrial: 'Ā (red-footed booby) breed on small islands or islets, both on low-lying coralline sand islands and high volcanic islands. Nest in bushes or trees, including beach magnolia (*Scaevola sericea*) and beach heliotrope (*Tournefortia argentea*). Will occasionally nest on deserted man-made structures, on bare ground, or on low piles of vegetation. Builds nest of twigs, grass, and other vegetation.
Marine: Pelagic.

THREATS:

- **Introduced predators.** Like all seabirds, adults and nests are susceptible to predation by rats (*Rattus* spp.), and feral cats (*Felis silvestris*). All sites in NWHI are free of rats and cats.
- **Invasive species.** 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.

CONSERVATION ACTIONS: The following management goals are important to Pacific seabird conservation: maintain, protect, and enhance habitat; eradicate or control non-natives; minimize bycatch and other negative effects of fishing; improve the effectiveness of oil spill response efforts; identify contaminants and hazardous substances; and minimize the effects of powerlines, towers, wind turbines and lights (USFWS 2005). The goal of these management actions is not only to protect seabird populations and their breeding colonies, but also to re-establish former breeding colonies thereby reducing the risk of extinction. In addition to these efforts, future management specific to Hawaiian populations of 'ā (red-footed booby) should include the following:

- Eradication and control of introduced predators and rabbits (*Oryctolagus cuniculus*) at current and potential breeding colonies (e.g., on Lehua).
- Eradication of invasive species that may alter 'ā (red-footed boobies) nesting habitat (e.g., scale insects).
- Limit human disturbance in colonies.
- Continue protection and management of wildlife sanctuaries and refuges.

MONITORING: Continue surveys of population and distribution in known and likely habitats.

RESEARCH PRIORITIES: Most research priorities for seabirds are related to determining the most appropriate methods for achieving the above goals. Research priorities specific to 'ā (red-footed booby) include the following:

- Long-term banding and demographic studies are needed to determine dispersal patterns and demographic parameters.

References:

Kushlan JA, et al. 2002. Waterbird Conservation for the Americas: The North American waterbird conservation plan, Version 1 Waterbird Conservation for the Americas, Washington, DC. 78pp. Available at: www.waterbirdconservation.org.

NatureServe. 2003. Downloadable animal data sets. NatureServe Central Databases. Available at: <http://www.natureserve.org/getData/vertinvertdata.jsp> (March 10, 2005).

Schreiber EA, Schreiber RW, Schenk GA. 1996. Red-footed booby (*Sula sula*). In The Birds of North America, No. 241 (Poole A, Gill F, editors.). Philadelphia, (PA): The Academy of Natural Sciences; and Washington DC: The American Ornithologists' Union.

U.S. Fish and Wildlife Service. 2005. Regional seabird conservation plan, Pacific Region. U.S. Fish and Wildlife Service, Migratory Birds and Habitat Programs, Pacific Region. Portland, (OR): U.S. Fish and Wildlife Service.