
Photo: USFWS

ʻĀ or Brown Booby

Sula leucogaster

SPECIES STATUS:
State recognized as Indigenous
NatureServe Heritage Rank G5 – Secure
North American Waterbird Conservation Plan – Moderate concern
Regional Seabird Conservation Plan - USFWS 2005

SPECIES INFORMATION: The ʻā or brown booby is a large, striking seabird (Family: Sulidae) with a pantropical distribution. Four ʻā (brown booby) subspecies are recognized, and one (*S. l. plotus*) is resident in Hawaiʻi. Individuals have long pointed wings and a relatively short, wedge-shaped tail. Adult males and females are overall dark brown, with white belly and underwings with a sharp demarcation across lower breast between the white of belly and brown of neck. Large bill and legs and feet are yellow in females and grayish-green in males; females are larger than males. Flight is characterized by strong flapping interspersed with gliding. Will forage alone, but most often forages in large, mixed species flocks associated with schools of large predatory fishes which drive prey species to the surface. ʻĀ (brown booby) generally forages in nearshore waters and captures prey by plunge-diving from one to 15 meters (3 – 50 feet) above the water, often remaining underwater for 25 to 40 seconds. In Hawaiʻi, diet is comprised of flying fish, squid, mackerel scad, juvenile goatfish, and anchovy. Nest in small colonies of tens to hundreds of pairs and most return to natal colony to breed. ʻĀ (brown booby) is the only ground nesting booby that builds a nest, and its construction is an important part of courtship. Nests are constructed from whatever is available including branches, seabird bones, and human debris. Unlike most seabirds, ʻā (brown booby) typically lays two eggs per breeding season. The eggs hatch asynchronously, and the first chick to hatch usually pushes the other sibling out of the nest. In Hawaiʻi, peak egg laying occurs between March and May and chicks fledge by September. Both parents incubate eggs and brood and feed chicks. Adults continue to feed young up to 37 weeks after fledging. Birds first breed at four to five years of age and the oldest known individual was 26 years old.

DISTRIBUTION: ʻĀ (brown booby) breed throughout the NWHI and in MHI on offshore islets (e.g., Moku Manu, Lehua), and possibly on the island of Oʻahu on the cliffs of Ulupaʻu Head at the Kāneʻohe Bay Marine Corps Base. Outside of Hawaiʻi, ʻā (brown booby) breed on islands in the tropical waters of the Pacific, Indian, and Atlantic oceans, the Caribbean and Red seas, and seas north of Australia. Little is known about movements and distribution outside the breeding season.

ABUNDANCE: In Hawaiʻi, population estimated at 1,400 breeding pairs with the largest population occurring on Lehua. Worldwide population estimate for *S. l. plotus* is 50,000 to 70,000 breeding pairs.

LOCATION AND CONDITION OF KEY HABITAT: Terrestrial: ʻĀ (brown booby) breed on small islands or islets, both on low-lying coralline sand islands and high volcanic islands, nesting on open ground or on cliff ledges. **Marine:** Nearshore waters.

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.
- Human disturbance. Newly formed pairs are often very susceptible to human disturbance.
- Overfishing. Because ʻā (brown booby) rely on predatory fish to drive prey to the surface, overfishing may eventually affect Hawaiian populations.

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 contaminates 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 ʻā (brown booby) should include the following:

- Eradication and control of introduced predators at current and potential breeding colonies.
- 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 ʻā (brown booby) include the following:

- Long-term banding and demographic studies are needed to determine dispersal patterns and demographic parameters.
- Model interactions and importance of predatory fish, seabirds, and their prey to determine the long-term effects of overfishing on ʻā (brown booby) populations.

References:

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Schreiber EA, Norton RL. 2002. Brown booby (*Sula leucogaster*). *In* The Birds of North America, No. 649 (Poole A, Gill F, editors.). Philadelphia, (PA): The Academy of Natural Sciences; and Washington DC: The American Ornithologists' Union.

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