



Photo: Forest and Kim Starr, USFWS

## Seabirds

# Noio Kōhā or Brown Noddy

*Anous stolidus*

### SPECIES STATUS:

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

**SPECIES INFORMATION:** The noio kōhā or brown noddy is a medium-sized, abundant tern (Family: Laridae) with a pantropical distribution, and is very similar to noio (black noddy) in appearance and behavior. Five subspecies of noio kōhā (brown noddy) are recognized, and one (*A. s. pileatus*) is resident in Hawai'i. Individuals have slender wings and a wedge-shaped tail. Adult males and females are dark brown with a white cap and have a black bill, legs, and feet; males are larger than females. Flight is swift with rapid wing beats and usually direct and low over the ocean, this species almost never soars high. Often forages in large, mixed species flocks associated with schools of large predatory fishes which drive prey species to the surface. Noio kōhā (brown noddy) generally forage in nearshore waters and mainly feed by dipping the surface from the wing or by making shallow dives. In Hawai'i, diet is comprised mostly of fish, but squid are also taken. Breed in large, dense colonies and nest on the ground, on cliffs or in trees. In Hawai'i, breeding is synchronous with peaks occurring in the spring and summer. Pairs stay together throughout the year, but there is little information on the length of pair bonds. Both parents incubate the single egg, and brood and feed chick. Birds first breed at three to seven years of age, and the oldest known individual was 25 years old.

**DISTRIBUTION:** Noio kōhā (brown noddy) breed throughout the Hawaiian Archipelago, including all islands of NWHI and the offshore islets of MHI. Outside of Hawai'i, noio kōhā (brown noddy) breed on island in the tropical Atlantic and Pacific oceans. Noio kōhā (brown noddy) typically remain near (within 100 kilometers [62 miles]) their breeding colonies year-round.

**ABUNDANCE:** In Hawai'i, population estimated at 112,000 breeding pairs with the largest populations occurring on Nihoa (35,000 pairs) and Ka'ula (35,000 pairs). Worldwide population is estimated 500,000 to 1,000,000 breeding pairs.

**LOCATION AND CONDITION OF KEY HABITAT:** **Terrestrial:** Noio kōhā (brown noddy) breed on small islands or islets, both on low-lying coralline sand islands and high volcanic islands and use a wide variety of nesting locations, including the ground, trees, shrubs, cliffs and human-made structures. In Hawai'i, nests are predominantly located on open ground or under vegetation, or on human-made structures. **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.
- Native predators. 'Iwa or great frigatebirds (*Fregata minor*), 'auku'u or black-crowned night herons (*Nycticorax nycticorax*), and Laysan (*Telespiza cantans*) and Nihoa (*T. ultima*) finches will depredate eggs and chicks, especially when adults are flushed from nests by human disturbance.
- Overfishing. Because noio kōhā (brown noddy) 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 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 noio kōhā (brown noddy) should include the following:

- Eradication and control of introduced predators at current and potential breeding 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 noio kōhā (brown noddy) include the following:

- Conduct long-term banding and demographic studies to determine dispersal dynamics and demographic parameters.
- Model interactions and importance of predatory fish, seabirds, and their prey to determine the long-term effects of overfishing on noio kōhā (brown noddy) populations.

## References:

Chardine JW, Morris RD. 1996. Brown noddy (*Anous stolidus*). In *The Birds of North America*, No. 220 (Poole A, Gill F, editors.). Philadelphia, (PA): The Academy of Natural Sciences; and Washington DC: The American Ornithologists' Union.

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](http://www.waterbirdconservation.org).

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

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.