

## Seabirds



Photo: DOFAW

# 'Ou or Bulwer's Petrel

*Bulweria bulwerii*

### SPECIES STATUS:

State recognized as Indigenous  
NatureServe Heritage Rank G4 - Apparently secure  
North American Waterbird Conservation Plan - Moderate concern  
Regional Seabird Conservation Plan - USFWS 2005

**SPECIES INFORMATION:** The 'ou or Bulwer's petrel is a highly pelagic, nocturnal gadfly petrel (Family: Procellariidae) with a pantropical distribution. Individuals have long pointed wings, a long pointed tail, a black bill and pale short legs. Adult males and females are overall sooty brown, with a pale bar across the proximal half of upper wings. Flight is buoyant and erratic; individuals fly low over the water using short wing beats followed by glides. 'Ou (Bulwer's petrel) forage alone. Foraging behavior is poorly known as is diet. Likely takes prey at surface by dipping on the wing or seizing while sitting on the water. Diet includes fish and squid, but also crustaceans and sea-striders. 'Ou (Bulwer's petrel) form long-term pair bonds and breed in large colonies. Limited data suggests they return to their natal colonies to breed and pairs return to the same nest site year after year. Nest is placed in a variety of hollows or crevices. Nests have a strong musky odor and may be nothing more than the cavity floor or may be lined with feathers, vegetation, or rubble. In Hawai'i, eggs are laid from mid May to mid June and most nestlings fledge by early October. Both parents incubate the egg, and brood and feed the chick. Age at first breeding is six years, and the oldest known individual was 24 years old.

**DISTRIBUTION:** 'Ou (Bulwer's petrel) breed throughout the NWHI and on offshore islets of the MHI, including Hulu, Kaeoi, Kāohikaipu, Kapapa, Ka'ula, Lehua, Mānana, Moke'ehia, Mōkōlea Rock, Moku Lua, Moku Manu, Mokuho'oniki, Molokini, and Popoi'a. Outside of Hawai'i, 'ou (Bulwer's petrel) breed on a limited number of islands in the North Atlantic, North and South Pacific, and Indian Ocean. Non-breeding season range is poorly known, but have been observed dispersing to the southeast after breeding.

**ABUNDANCE:** In Hawai'i, population estimated at between 75,000 and 103,000 breeding pairs on the NWHI and between 500 and 1,000 pairs on MHI. Largest colony on Nihoa (75,000 to 100,000 pairs); which supports the world's largest known breeding colony. Smaller colonies are found on Laysan (1,000 - 2,000 pairs), French Frigate Shoals (200 - 500 pairs), and Necker (250 - 500 pairs). Prior to the introduction of rats (*Rattus* spp.) to Midway, 'ou (Bulwer's petrel) were abundant. The worldwide population is unknown.

**LOCATION AND CONDITION OF KEY HABITAT:** **Terrestrial:** 'Ou (Bulwer's petrel) breed on rocky islets and atolls, nesting in rock crevices, rock or coral rubble, under vegetation, and man-made nest structures. **Marine:** Pelagic.

## THREATS:

- Introduced predators. Like all seabirds, adults and nests susceptible to predation by rats and feral cats (*Felis silvestris*). All sites in NWHI are free of rats and cats. Recent eradication of rats from Midway and Kure should allow re-establishment of breeding colonies.
- Invasive species. Introduced big-headed ants (*Pheidole megacephala*) have been observed killing piping chicks.
- Catastrophic events. Given that a large portion of the world's population breeds on Nihoa, a single catastrophic event (e.g., hurricane) could decimate the species.

**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 'ou (Bulwer's petrel) should include the following:

- Eradication and control of introduced predators at current and potential breeding colonies.
- Facilitate the re-colonization of islands in MHI to reduce the species' vulnerability to catastrophes.
- Continued protection and management of existing 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 'ou (Bulwer's petrel) include the following:

- Baseline research on this species is needed as most aspects of its biology are poorly known.

## References:

Hawai'i Natural Heritage Program [Hawai'i Biodiversity and Mapping Program]. 2004. Natural diversity database. University of Hawai'i, Center for Conservation Research and Training. Honolulu, HI.

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).

Megyesi JL, O'Daniel DL. 1997. Bulwer's petrel (*Bulweria bulwerii*). In The Birds of North America, No. 281 (Poole A, Gill F, editors.). Philadelphia, (PA): The Academy of Natural Sciences; and Washington DC: The American Ornithologists' Union.

NatureServe. 2003. Downloadable animal data sets. NatureServe Central Databases. Available at: <http://www.natureserve.org/getData/vertinvertdata.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.