



Photo: David Leonard, USFWS

Seabirds

Mōlī or Laysan Albatross

Phoebastria immutabilis

SPECIES STATUS:

State recognized as Indigenous
Bird of Conservation Concern
at the Regional Level

NatureServe Heritage Rank G3 - Vulnerable

North American Waterbird Conservation Plan - High concern

IUCN Red List Ranking - Vulnerable

Regional Seabird Conservation Plan - USFWS 2005

SPECIES INFORMATION: The mōlī or Laysan albatross is a large, abundant seabird (Family: Diomedidae) whose breeding range is centered in Hawai'i. Adult males and females are mostly white except for black wings and tail; upperwings entirely dark, underwings mostly white with variable amounts of black especially along leading and trailing edges. Bill pink with gray, hooked tip; legs and feet light pink. Like all albatross, mōlī (Laysan albatross) are accomplished fliers using dynamic soaring to cover great distances. Mainly feeds at night and often far from breeding colony (e.g., 1,770 kilometers [1,100 miles]). Mōlī (Laysan albatross) often feed with conspecifics, but rarely with other species, and similar to other albatross, seizes prey from the surface while sitting on the water. Scavenges from carrion and follows fishing boats, but not as frequently as ka'upu or black-footed albatross (*P. nigripes*). In Hawai'i, diet consists primarily of squid, as well as deep-water crustaceans, fish and flyingfish eggs. Like most seabirds, mōlī (Laysan albatross) breed in colonies, have long-term pair bonds and high site fidelity, lay only one egg per season, and both parents participate in all aspects of raising young. Pairs engage in long, noisy, ritualized courtship dances. Typically select nest site closer to vegetation than ka'upu (black-footed albatross), and nest varies from a scrape to a ring-like structure comprised of sand, vegetation, and debris. In Hawai'i eggs are laid between November and December and chicks fledge in July, no post-fledgling care provided by parents. Young birds do not return to land until their third year after fledging. These birds do not breed, but dance, build nests, and prospect for mates. Birds first breed between eight and nine years of age, and the oldest known individual was 51 years old.

DISTRIBUTION: Mōlī (Laysan albatross) breed throughout the NWHI and on the MHI of Kaua'i and O'ahu and Lehua Island off of Ni'ihau. Outside of Hawai'i, mōlī (Laysan albatross) breed on islands off of Japan and Mexico. Outside the breeding season, mōlī (Laysan albatross) disperse widely throughout the North Pacific.

ABUNDANCE: In Hawaiian Archipelago, population is estimated at greater than 590,000 pairs with largest colonies occurring on Midway Atoll (441,000 pairs) and Laysan (145,000 pairs).

Total population of all MHI colonies is less than 100 pairs. Worldwide population is estimated at 630,000 breeding pairs.

LOCATION AND CONDITION OF KEY HABITAT: Terrestrial: Mōli (Laysan albatross) may prefer to breed on low coral and sand islands, but also breed on high volcanic islands. On the former sites they breed on flat open areas; on the latter, including such islands as Nihoa and Lehua, nest on steep rocky areas. A majority of the world's mōli (Laysan albatross) breed within the Hawaiian Islands National Wildlife Refuge and on Midway Atoll National Wildlife Refuge. Two of the largest breeding colonies on the MHI occur in the Kīlauea Point National Wildlife Refuge on Kaua'i and the Ka'ena Point Natural Area Reserve on O'ahu. Predators are controlled at both these sites. Attempts to breed are discouraged (e.g., eggs are removed) at several military bases in the MHI in an effort to reduce collisions with aircraft. **Marine:** Pelagic.

THREATS:

- **Humans.** Historically, wanton killing for feathers (i.e., millinery trade) greatly reduced populations. Populations extirpated from Johnston, Wake, and Marcus islands by Japanese feather hunters at the turn of the last century are only recently being re-colonized. Untold numbers were killed as a result of military activities in the Pacific during World War II. Between 1954 and 1964, 54,000 albatross were killed on Midway to reduce the risk of collisions with aircraft. In 1909, 300,000 birds were killed on Laysan Island. Prior to banning drift net fisheries in 1993, thousands were killed annually. In the 1990s, longline fisheries killed thousands annually.
- **Introduced predators.** Like all seabirds, adults and nests are susceptible to mammal predation by pigs (*Sus scrofa*), rats (*Rattus* spp.), feral cats (*Felis silvestris*), and the small Indian mongoose (*Herpestes auropunctatus*).
- **Introduced invasive species.** Non-native plants, specifically golden crown-beard (*Verbesina encelioides*), degrades nesting habitat and may limit nesting density, reduce productivity, and provide habitat for mosquitoes (*Culex* spp.) that carry avian pox. Introduced big-headed ants (*Pheidole megacephala*) at Kure may facilitate the destruction of native vegetation by a non-native scale insect.
- **Contaminants.** At Midway, lead contaminated soil is ingested by chicks and affects survival rates.
- **Marine pollution.** Similar to other albatross, ingestion of plastic debris and oil likely a threat.
- **Collisions.** At Midway, albatross collide with buildings, lights, antenna wires, and other man-made structures. In 1964 alone, 3,000 albatross were killed by colliding with communication antennas on Midway.

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 mōli (Laysan albatross) populations should include the following:

- Continue predator and ungulate control efforts at MHI colonies.

- Continue efforts to control non-native vegetation at Midway, Pearl and Hermes, and Kure Atoll.
- Remove lead contaminated soils from Midway.
- Eradicate mosquitoes from Midway.
- Continue protection and management of wildlife sanctuaries and refuges.

MONITORING: Continue annual censuses of breeding colonies and design and implement a population monitoring program that will allow the estimation of age-specific survival rates.

RESEARCH PRIORITIES: Most research priorities for seabirds are related to determining the most appropriate methods for achieving the above goals. Research priorities specific to mōli (Laysan albatross) include the following:

- Analyze and report on demographic data based on 50 years of USFWS banding data.
- Design a sampling program to estimate breeding populations at Midway.
- Support efforts to estimate annual mortality from U.S. and foreign fisheries and use demographic models to determine the effect of this mortality on population.
- Continue research and development of techniques and gear that will minimize mortality and continue to explore alternatives to mitigate mortality (i.e., take) of mōli (Laysan albatross) by fishing industry.

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