

LAYSAN ALBATROSS

Phoebastria immutabilis

Other: *Moli*

monotypic

breeding visitor, indigenous

Virtually all (99%) of the world's Laysan Albatrosses breed in large colonies in the *Northwestern Hawaiian Islands* (Rice and Kenyon 1962, USFWS 2005b). Much smaller and or more tenuous colonies exist in the *Southeastern Hawaiian Islands*, islands near Japan and Mexico (AOU 1998), Wake Atoll (Jones 1995, Rauzon et al. 2008), and formerly on Johnston Atoll (Amerson and Shelton 1976), and a population of about 1 million birds formerly bred on Marcus Island but were extirpated near the turn of the century (Rice and Kenyon 1962). Although undoubtedly seen by naturalists and ornithologists during 18th and 19th century ocean crossings, Laysan Albatross was not described until Palmer's first visit to its island namesake in 1892 (Rothschild 1893a), testimony to the lack of at-sea collecting during this period. Isenbeck (*in von Kittlitz* 1834) had earlier noted two species of albatross on Laysan in 1828 but thought the white one might be a Wandering Albatross (*Diomedea exulans*). It was placed with the other albatrosses in the genus *Diomedea* until 1997 (AOU 1997). Adults arrive in late Oct-Nov, fledge chicks in Jun-Jul, and spend the rest of the year in the central North Pacific (rarely S to 15° N; King 1967, Sanger 1974a, Hyrenbach et al. 2002), being completely absent from colony sites and Hawaiian waters in late Jul-mid Oct. Evidence from satellite tracking suggests that individuals from Northwestern and Southeastern islands may forage in different parts of the Pacific (Young et al. in press). Bailey (1952, 1956) and Whittow (1993a) provide comprehensive reports on the life history of the Laysan Albatross, and Blackman (1944), Fisher (1948a), and McKee and Pyle (2002) discuss aberrant plumages in Laysan Albatross (e.g., [HRBP](#) 0015-0016, 0171-0173, 5024-5025) and hybridization of [Black-footed](#) and Laysan albatross in Hawaii. There are at least 9 specimens of hybrids (2 at BPBM and 7 at USNM) collected in the Northwestern Hawaiian Islands. Photographs of hybrids appear in *E* 41:81 ([HRBP](#) 0139), *E* 43:2 ([HRBP](#) 0174-175), Bailey (1952, 1956), McKee and Pyle (2002; [HRBP](#) 1394-1395 of a breeding individual), and elsewhere.

The total breeding population of Laysan Albatross in the Northwestern Islands was approximately 1.2 million (600,000 breeding pairs) in the late 2000s (Fefer et al. 1987, Harrison 1990, McDermond and Morgan 1993, Rauzon 2001, USFWS 2005b, Naughton et al. 2007, Flint 2008; [Table](#)), which extrapolated to an estimated total of 3-4 million birds when non-breeders are factored in. The largest breeding colony by far was at *Midway* where nine atoll-wide censuses of nests by USFWS in 1992-2008 ranged from a low of 284,600 in 2001 to a high of 487,527 in 2006 (Flint 2008) and a mean of about 400,000 (total population exceeding 2 million); no censuses were completed in 1999 and 2000 when lack of food resources may have reduced the breeding population to half of normal size (Pyle 2000). As with the [Black-footed Albatross](#), populations were decimated at the turn of the 19th century when over 500,000 individuals were killed by Japanese plume hunters (Bryan 1906, 1911; Hadden 1941, Munro 1944, Rice and Kenyon 1962, Rauzon 2001; *E* 3:12-13, 16), and 1000's more during well-publicized efforts by the U.S. Navy to eradicate populations around the runways (Kenyon et al. 1958, Rice 1959,

Robbins 1966), but they recovered from populations estimated at 2,800 pairs in 1923 (Rice and Kenyon 1962), to 55,000 pairs in 1946 (Fisher and Baldwin 1946, *E* 6:12), to 70-100,000 pairs during the late 1950s and early 1960s (Rice and Kenyon 1962, Robbins 1966), to 400,000 pairs during the 2000s (see above).

The next largest population occurs on *Laysan*, where USFWS censuses from 1992-2007 ranged from 44,186 during the poor reproductive 2000 season and 103,689 in 2002, to 199,724 in 1997; the mean for these counts was about 150,000 (Flint 2008). This compared with estimates of 90,000 on Laysan in 1911 and 52,000 in Jun-Jul 1951 (Dill and Bryan 1912, *E* 12:18). In *French Frigate*, censuses from 1980-2007 showed a generally increasing trend, ranging from lows of 973 in 1980 and 1088 during the poor 2000 season to a high of 3899 in 2007 (Flint 2008, Keller et al. in press). On *Kure* numbers of chicks censused in June increased from 2924 in 2000 to 10,957 in 2006 (VanderWerf and David 2000, Vanderlip 2005, 2007) indicating an increasing breeding population of an extrapolated (assuming 75% success) total of 14,609 pairs by 2006; numbers in 2007 were not censused but seemed comparable (Vanderlip 2007). Population estimates from other Northwestern Islands from 1982-2006 (Naughton et al. 2007, Flint 2008) ranged from none on *Nihoa* (where breeding of up to 5 pairs has been observed in the past) to 26,500 on *Pearl and Hermes* (Table). Populations generally have increased throughout the 1900s and 2000s, despite harassment and disturbance from Naval activities on Midway and substantial mortality in the longline fisheries of Alaska through the 1990s (McDermond and Morgan 1993, Cousins and Cooper 2001, USFWS 2005b). Information on the history of the species and data on breeding phenology for each Northwestern Island, compiled as part of the POBSP, can be found in the Atoll Research Bulletins for each breeding locality (see [Seabird Page](#)).

One notable record is that of a female Laysan Albatross banded on Midway by Chandler Robbins in 1956 when it was incubating an egg, and recaptured on Midway by the same ornithologist 46 years later when it was tending a nest (*NAB* 56:237) and it was still present in 2009 at a minimum age of 57 years. Old worn bands had been replaced with new ones several times during the interim period. Given the chance at which such a bird could be documented and the number of birds in the breeding population it is likely that some of the birds there in the late 2000s had witnessed the Battle of Midway in 1942.

In the *Southeastern Hawaiian Islands* about 650 pairs of Laysan Albatrosses were breeding on Ni'ihau, Kaua'i, and O'ahu at the end of the 2000s, and occasional birds had been observed landing on most of the other islands (Table). On *Ni'ihau* occasional breeding was reported on by Munro (1944) and Fisher (1951). During aerial surveys in the 1980s, Harrison (1990) indicated that 150-200 pairs bred on Ni'ihau and a count of 190 pairs in 2002 was obtained by the USFWS (Flint 2008). On Kaula Rock SW of Ni'ihau 20-50 pairs bred prior to the mid 1980s (Fefer et al. 1987, Harrison 1990) and a count of 63 eggs was made there in mid-Nov 1998 (Flint 2008). On Lehua Islet just N of Ni'ihau, up to 50 adults and 9-28 chicks were observed in 2002-2005 (VanderWerf et al. 2007), and 63 pairs were noted for 2006 (Flint 2008).

Subfossil bones of Laysan Albatrosses found in deposits on *Kaua'i* (Olson and James 1982b) suggest that these birds may have been breeding there when Polynesians first settled the island. More recently, two appeared on the ground at Makahuena Point near Koloa in March 1945 and returned 31 March 1946 (*E* 5:70, 6:80-81). At the Pacific Missile Range Facility (PMRF), Barking Sands, 4-10 were reported annually from at

least the winter of 1967-68. Eggs were first documented in 1977-78 (*cf.* [HRBP 0029](#)), and adults increased to 25 and 30 in the next two winters (Byrd and Telfer 1979, 1980a). In the following winters 20 or more Laysan Albatrosses were present and eggs were laid each year, but in the 1980s reproductive success at the colony was reduced or negated primarily because of dog attacks, human disturbance, and inexperience of the young adults who were likely involved in initial breeding attempts (Byrd and Telfer 1980a, Moriarty et al. 1986). On 21-22 Feb 1984 dogs killed 30 adults and courting individuals (*AB*:38:359) representing nearly 75% of the colony (Telfer 1984). Increasing conflict with range activities has resulted in harassment and control of the albatross colony by installation personnel. In 2005-2008 up to 36 viable eggs and chicks (of about 75 attempts per year total) were trans-located from PMRF per year and swapped with infertile eggs at the Kilauea Point colony (see below), resulting in many successfully fledged chicks. At Kilauea Point NWR, Laysan Albatrosses began landing during the winter of 1974-75. A nest was discovered in February 1977 on nearby Crater Hill (Zeillemaker and Ralph 1977), and by 1979 three chicks had fledged successfully (Byrd and Telfer 1979, 1980a; Byrd and Zeillemaker 1981, Moriarty et al. 1986; *AB* 33:898). Despite increasing numbers of adults present each year ([Graph](#)), reproductive success languished in the 1980s for many of the same reasons cited above for the Barking Sands colony. Experimental fencing erected at Kilauea Point resulted in 14 fledged chicks in 1990 (*AB* 44:333), and continued increases in population and success ([Graph](#)), to 95 eggs and 50 fledged chicks at the Kilauea Point colony and 200 eggs and 101 fledged chicks overall at Kilauea Point and surrounding properties in 2008.

A Laysan Albatross chick discovered on Mokumanu Islet in Feb-May 1947 (Fisher 1948b, *E* 7:72-73) and an abandoned egg found there the following year (Richardson and Fisher 1950) represents the first known breeding on *O'ahu*. One on nearby Mokapu Peninsula 14 Dec 1947 was the last observation from O'ahu until 1978, when an adult was found dead on the highway near Waikane on 30 Mar, and 2 alighted briefly on the golf course at Kahuku 1 Apr (*E* 39:61). Thereafter, Laysan Albatrosses were reported annually in winter and spring along the north coast of O'ahu; by 1985 pre-breeding individuals were congregating at Kaena Point, Kuaokala GMA, and Dillingham Airfield along the nw. coast, Kahuku Point, and Mokapu Peninsula, and perhaps Mokulaeia Islet, and egg-laying was recorded at all of these sites (Young et al. 2009; *AB* 39:352). Feared interference with aircraft operations at Dillingham Airfield and KMCAS at Mokapu Peninsula led to programs of harassment control, fencing, and egg and adult removal and relocation during the 1980-2000s (Murphy 1991, Young et al. 2009). At Kahuku Point, a half-grown chick with 3 adults was found 7 Mar 1996 but dogs subsequently killed the chicks and at least five adults. At Kaena Point nesting began in 1990-1991 and the first chick was fledged in 1992 (*HFW* 7[1]:10; *AB* 46:1181). Breeding at Kaena and nearby Kuaokala GMA has continued annually and the number of eggs laid and chicks fledged had increased to 60-70 and 20-40, respectively, by the end of the 2000s (Young et al. 2009). In Mar 2009 the fenced-in colony of 20-30 adults and 15 half-grown chicks at the Kuaokala GMA completely vanished in what could only be a human-caused event; a DOFAW investigation failed to turn up the perpetrators.

During 1990-2003 the seabird rehabilitation center at Sea Life Park in Waimanalo received 50 Laysan Albatross, most successfully released. A project during 1993-2000 at tiny Kaohikaipu islet 600 m off Makapu'u Point used decoys and sound recordings to

attract Laysan Albatrosses in hopes of starting a nesting colony (*E* 56:4). Occasional birds landed on the islet each year for brief periods but none remained to breed. By the mid-1990s the Kaohikaipu project was disbanded.

The other Southeastern Islands (except Kaho'olawe) each have one or more records of Laysan Albatrosses on land but no substantiated evidence of breeding. On *Moloka'i* a pair (one of which may have been on a nest) was observed on a cliff top just south of 'Ilio Point 22 Mar 1986, and one was photographed on the N tip of Kalaupapa Peninsula 12 Feb 1988 ([HRBP](#) 0740). On *Lana'i* a dead Laysan Albatross was found on Hauola Beach 12 Mar 1980 (BPBM 157352); on *Maui* one was picked up in a yard in Kihei 7 Mar 1996 and banded and released, two were observed circling low over coastal Waianapanapa State Park 16 Mar 1985, and two were flying over Ho'okipa Beach SP 10 Feb 2004; and on *Hawai'i*, single Laysan Albatrosses have been reported on land near Keahole 16-18 Apr 1981 ([HRBP](#) 0144-0146; *E* 42:29-30) and 8 Feb 1984, Loko Waka Pond near Hilo 11 Feb 1983 ([HRBP](#) 0331), Upolu Point 13 Apr 1984, and Keokea Beach Park 5 May 1985. Much earlier, in the summer of 1876, Theodore Bailleu collected a specimen of a Laysan Albatross on Hawai'i Island that went to the Paris Museum (Wilson and Evans 1899:217) but he missed the opportunity to name the new species, which did not occur until 1893 (Rothschild). Flying birds are seen occasionally away from colony areas in Nov-Mar from the shores of all the Southeastern Islands including *Kaho'olawe* (Morin *et al.* 1998).

At sea, Laysan Albatrosses are seen uncommonly during the breeding season and in northern Hawaiian waters but not during times of colony absence or in waters south of Hawai'i I. During monthly surveys near the Southeastern Islands in Mar 1964-Jun 1965, King (1970) recorded only 29 individuals, one in Nov and the remainder in Feb-Apr. Only three of these were south of 20° N. During daily surveys of all Hawaiian waters in Aug-Nov 2002, Rowlett (2002) recorded only one bird, on 28 Nov, his last day in Hawaiian waters. Spear *et al.* (1999) recorded none during surveys S to SE of Hawai'i I. in spring and fall, 1984-1991.

[Acronyms and Abbreviations](#)

[Literature cited](#)

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