

Status and Occurrence of Laysan Albatross (*Phoebastria immutabilis*) in British Columbia.

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Introduction and Distribution

The Laysan Albatross (*Phoebastria immutabilis*) is a spectacular pelagic species that breeds in the Northern Hemisphere on sub-tropical islands (Awkerman *et al.* 2009). The Laysan Albatross's breeding season takes place during the northern winter, and this species spends the non-breeding months of July-November in the North Pacific Ocean (Awkerman *et al.* 2009). Almost all individuals, as much as 99% of the population, breed in the Hawaiian Islands; of Midway, Laysan, Lisianski, Pearl and Hermes Reef, Kure Atoll, French Frigate Shoals, Necker Island, Ni'ihau Island, Kauai, Ka'ula, Nihoa, O'ahu, and Gardner Pinnacles (Awkerman *et al.* 2009). The largest colonies of Laysan Albatross are found on Midway Island with 408,133 breeding pairs and Laysan Island with 140,860 pairs, which represents over 70% of Hawaiian breeders (Naughton *et al.* 2007b). This species has recently established a breeding colony in the Bonin Islands on Ogasawara Island which is located at 27°40'N, 142°07'E (Hasegawa 1978, Hasegawa 1984, Kurata 1978). Recent attempts to nest on O'ahu, Molokai, Ni'ihau, and Moku Manu in the Main Hawaiian Islands resulted in little success (Harrison 1990a), owing in most instances to active human discouragement because of danger to aircraft (Awkerman *et al.* 2009). However, there have been colonies established on Ka'ula, Lehua, O'ahu, and Kaua'i since 1958 (Naughton *et al.* 2007b).

Following the loss of hundreds of thousands of breeders early in the 20th century to feather hunters and military development, the Laysan Albatross has recently colonized new breeding grounds in the main Hawaiian Islands, the Bonin Islands, and Guadalupe Island off the Mexican coast (Awkerman *et al.* 2009). This species is currently listed as Vulnerable by IUCN, and it is estimated there are 590,000 breeding pairs as of 2005 (Naughton *et al.* 2007b).

When at sea, the Laysan Albatross will cover a broad range of the North Pacific, north of the northern equatorial current, and they are recorded between latitudes 8°N and 59°N and longitude 132°E and 105°W with longitude 170°E defined as the westerly limits of the American Ornithological Union region (Thompson 1951, Fisher and Fisher 1972, Pitman 1985). In summer, following the breeding season, the Laysan Albatross penetrates the waters of the Sea of Okhotsk, and is rare to casual throughout the Bering Sea, north to the Pribilof Islands (Shuntov 1968, West 2008) and is an uncommon to fairly common visitor in the pelagic waters of Alaska from the spring to the early winter, from the Gulf of Alaska to the outer Aleutian Islands (Sanger 1974b, Rice 1984, West 2008). There is one documented sighting of a Laysan Albatross in Sea of Okhotsk from the month of December (Shuntov 1974).

Along the west coast of North America south of Alaska, the Laysan Albatross is a rare, but regular species that occurs in deeper pelagic waters from British Columbia to California, but in general distribution, this species has a more northerly and westerly range than the Black-footed Albatross (*Phoebastria nigripes*) (Campbell *et al.* 1990a, Wahl *et al.* 2005, Hamilton *et al.* 2007, Kenyon *et al.* 2009). Another factor that likely dictates the numbers of Laysan Albatrosses found each year in these waters off the west coast is oceanic conditions including salinity (Sanger 1974b). This might explain why, despite increased observer effort from the 1970s – 2000's, this species is not found frequently on pelagic trips from Oregon north to British Columbia (Wahl *et al.* 2005). There has been an increase in the numbers of Laysan Albatrosses off California in recent decades (Wahl *et al.* 2005). This could partially be explained by this species' recent rapid breeding expansion of successful breeding pairs on Isla de Guadalupe, from four pairs in 1984, to 121 birds in 1993 and 193 in 2000-2001 (Gallo-Renoso and Figueroa-Carranza 1996). It is very probable this new population may at least in part explain the frequent occurrence of Laysan Albatrosses off Baja California and California (Wahl *et al.* 2005). There are of course other factors, including large oceanic events such as El Niños, which may also affect the distribution in this region and farther north along the west coast, from Oregon to British Columbia (Wahl *et al.* 2005). The Laysan Albatross has been recorded in California well inland at the Salton Sea during the months of May and June (Patten *et al.* 2003). It has also been recorded as a vagrant twice in Arizona where both records come from near Yuma, just north of the Gulf of California, along the Colorado River (Monson and Phillips 1981, Rosenberg and Stejskal 1988). This species has been recorded as a vagrant in the northern Gulf of California (Newcomer and Silber 1989), and this coincides with northern movement in the eastern Pacific during late April and early May (Sanger 1974b).

The Laysan Albatross has been infrequently recorded in the Southern Hemisphere with records from the Solomon Islands, Australia, New Zealand, and the Indian Ocean (Onley Scofield 2007).

Identification and Similar Species

The identification of the Laysan Albatross is covered in all standard North American field guides. This is a relatively small-sized albatross measuring between 79-81 cm in length, with a wingspan measuring between 195-203 cm, and weighing between 1.9-3.1 kg (Sibley 2000, Onley and Scofield 2007, Dunn and Alderfer 2011). The Laysan Albatross is a very obvious species in the context of pelagic birds encountered off the British Columbia coast. The very rare and much larger Short-tailed Albatross (*Phoebastria albatrus*) shouldn't be confused with the Laysan Albatross (Awkerman *et al.* 2009). The Short-tailed Albatross is very bulky species with the body measuring 91 cm in length, and much broader wings with wingspan measuring 215-230 cm (Sibley 2000, Onley and Scofield 2007, Dunn and Alderfer 2011). This species should not be

confused with the much more likely encountered Black-footed Albatross. The Black-footed Albatross is very similar in size to the Laysan Albatross, measuring 81 cm in length, with a wingspan measuring between 93-216 cm, and weighing 2.8 kg (Sibley 2000, Onley and Scofield 2007, Dunn and Alderfer 2011). It is important to note that hybrid Laysan X Black-footed Albatrosses have been encountered and can occur anywhere in their range (Palmer 1962, Fisher 1972).

Adult Laysan Albatrosses have a white head, neck, and under-parts (Awkerman *et al.* 2009). There is a gray-black patch in front of the eye extending as a thin supraorbital line behind the eye (Onley and Scofield 2007). There is a gray wash on the cheeks (Awkerman *et al.* 2009). The bill is pink with a grey hooked tip (Awkerman *et al.* 2009). The upper wings and back are dark sooty-brown (Onley and Scofield 2007). There is a distinct white U-shaped ventral area between the dark upper rump and tail (Awkerman *et al.* 2009). The dark tail band is visible during flight (Awkerman *et al.* 2009). The under-wings have thick black leading edges and wing tips, and large black patches near the base within the central white areas (Awkerman *et al.* 2009). The legs and webbed feet are flesh pink (Onley and Scofield 2007).

Juvenile birds are very similar to adults, but without the gray wash on the head (Awkerman *et al.* 2009). The bill and flesh on the feet are duller in colour (Awkerman *et al.* 2009).

The Laysan Albatross is easily distinguished from the Black-footed Albatross due to the latter having uniformly sooty plumage (Awkerman *et al.* 2009). The Short-tailed Albatross is much rarer and larger, with a heavier bright pink bill seen at all ages, and adult birds show a yellow wash to the plumage on the back of the head and neck (Harrison 1983). The under-wings on adult Short-tailed Albatross are all white, and the upper wings and the back between the wings show much white (King 1967). Immature birds are all dark and superficially look similar to Black-footed Albatrosses, except for the massive pink bill (Onley and Scofield 2007). This species takes many years to mature and shows many corresponding different plumage stages (Onley and Scofield 2007). For further details on the Short-tailed Albatross keen observers should read Harrison (1983) or Onley and Scofield (2007).

Occurrence and Documentation

In the pelagic waters off British Columbia, Laysan Albatross is a species that is more likely to be encountered the farther offshore one travels from land. Though sometimes found over inshore pelagic waters on occasion, the Laysan Albatross is far more likely to be found from the continental shelf break westward, into truly deep ocean waters (Wahl *et al.* 2005). The Laysan Albatross diet consists mainly of squid (Awkerman *et al.* 2009). Fish eggs constitute the largest fraction of the “fish” part of the diet, followed by Sunfish (*Ranzania laevis*) (Harrison 1990a). It

was interesting that on a pelagic trip to Barkley Canyon, from Ucluelet, on October 1992, a Laysan Albatross was found almost immediately after observers came across a Sunfish that was close to the surface of the ocean (R. Toochin Pers. Obs.). The Laysan Albatross feed by sitting on the water and seizing prey (Awkerman *et al.* 2009). This species will scavenge natural carrion or refuse from ships, but not as extensively as Black-footed Albatrosses (Awkerman *et al.* 2009). The Laysan Albatross have high levels of rhodopsin, the visual pigment that enhances nocturnal vision (Harrison *et al.* 1983) and so were once suspected to feed mainly at night, concordant with the abundance of squid in surface waters at night (Harrison 1990a). More recent data from electronic tags recorded activity during the day that is suggestive of foraging behaviour (Fernandez and Anderson 2000). The Laysan Albatross will often feed in small groups with other albatross, but rarely with other species (Harrison 1990a). This species will forage as far as 2700 km away from the nest during trips that can take up to 17 days, but when tending young nestlings, travel approximately 500-900 km from the breeding grounds which takes approximately 3 days (Fernandez *et al.* 2001). Intestine is long relative to wing length, to accommodate large intermittent meals (Kuroda 1986).

Though not normally seen near shore, this species has been found during huge north-westerly storms close to the west coast of Vancouver Island, including the mouth of the Juan de Fuca Strait (R. Toochin Pers. Obs.). Almost always these birds have been in the company of Black-footed Albatross (R. Toochin Pers. Obs.). During the summer and fall of 2009, a large warm oceanic event pushed many pelagic species into the mouth of the Juan de Fuca Strait because food sources were scarce offshore (R. Toochin Pers. Obs.). As a result, the offshore Seiner Fishing fleet was close to shore and brought with it many Black-footed Albatross, including at least 2 Laysan Albatross, and 1 immature Short-tailed Albatross seen from Botanical Beach, off Port Renfrew on August 12, 2009 (L. Haviland Pers. Comm.). There are 2 records for the Laysan Albatross from the Strait of Georgia, in the waters off Vancouver (Toochin *et al.* 2014). The first record was an adult photographed by Victor Loutit in April 1993, about 10 km west of Pt. Grey following the B.C Ferry that runs from Nanaimo – Horseshoe Bay (V. Loutit Pers. Comm.). This photo was published in Beautiful British Columbia Magazine (Anonymous 1994, Toochin *et al.* 2014c). The second record was a bird seen on July 25, 1993, by G. Snyder, L. and M. Reynolds from a sailing boat, about 10 km west of Pt. Grey, in Georgia Strait, on the Vancouver side (Bain and Holder 1993d, Dorsey 1996b). Both occurred in 1993 during a large El Nino event, and it is possible that these observations involved the same bird. There is also a record of an adult bird found on December 23, 2003, at a crosswalk in Coquitlum after a huge wind storm (Toochin *et al.* 2014c). This bird was taken to a rehabilitation center, before being released off Vancouver Island (L. Thunstrom Pers. Comm.). Though the Laysan Albatross occurs regularly off the continental shelf on the west side of Haida Gwaii (P. Hamel Pers. Comm.), it is not known to

occur in the shallow waters of Hecate Strait, despite frequent scrutiny given by observers on regular ferry crossings (P. Hamel Pers. Comm.).

Outside of volunteering to be an observer on a research vessel, the most likely way to find a Laysan Albatross in British Columbia, is to go on pelagic bird tours to areas such as Tofino Canyon or Barkley Canyon, where deeper water is just within striking distance of tour boats. The Laysan Albatross is regular enough further offshore that frequent trips to the offshore zone should produce this highly sought after species.



Figure 1: Adult Laysan Albatross found during winter pelagic bird surveys in the deep waters of British Columbia during the winter of 1998. Photo © Tom Plath.



Figure 2: Adult Laysan Albatross found in Coquitlum on December 23, 2003. Pictured here in a rehabilitation center and was later released off Vancouver Island. Photo © Liz Thunstrom.

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