

Status and Occurrence of Murphy's Petrel (*Pterodroma ultima*) in British Columbia.

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Introduction and Distribution

The Murphy's Petrel (*Pterodroma ultima*) is a seldom seen seabird species that is listed by Bird Life International (2016) and IUCN (2016) as Near Threatened. This species breeds on islands of the Tropical Pacific Ocean from the Pitcairn Island group (Henderson Island, Oeno Island, and Ducie Island) (Murphy and Pennoyer 1952); the Tuamotu Island group (Mururoa Island and Fangataufa Island); islets of Rapa (Austral group) (Garnett 1984); and Manui in Gambier group (Thibault 1988); Easter Island and Salas y Gomez, Chile (Flores *et al.* 2014); and possibly on Cook Island (Gill 1996); and the Juan Fernandez Islands (Flood *et al.* 2016). In the Pitcairn Islands, an estimated 2,500 (\pm 500) bred on Henderson, 12,500 (\pm 2,500) on Oeno, and 250,000 (\pm 29,000) on Ducie (Brooke 1995). Following rat eradication on Oeno in 1997, the population there had grown to at least 25,000 pairs in 2013 (IUCN 2016). In the Tuamotu Islands, colonies occur on Mururoa and Fangataufa (Holyoak and Thibault 1984), although these may have disappeared owing to nuclear tests and the recent construction of an airstrip (IUCN 2016). In the Austral Islands, it breeds only on a limited number of islets off Rapa where the population was estimated at 10-100 pairs in 1990 (Thibault and Varney 1991). In the Gambier Islands, proof of breeding was found for the first time on Manui and numbers were estimated at 5-10 pairs (Thibault and Bretagnolle 1999). In the Cook Islands, a specimen was collected probably from Rarotonga or perhaps one of the other southern Cook Islands, between c.1899 and 1904 (Gill 1996). In 2009, 2 pairs were reported nesting on Easter Island (IUCN 2016). This species has been recorded nesting in rocky cliffs during March (Birdlife International 2016). On Henderson Island, the Murphy's Petrel has been recorded nesting in woodland behind beaches or in low fern scrub close to the island's cliffs (Birdlife International 2016). Nesting is seasonal, with egg-laying between late May and early July (Onley and Scofield 2008). There is a 50-day incubation period that is completed in three stints (Brooke 2010). The male takes the first stint, averaging 19.3 days, following a similar stint by the female, and then the male for the second time (Brooke 2010). Egg-hatching normally occurs towards the end of the male's second stint (Brooke 2010). Murphy's Petrels that are off-duty incubating birds can range up to 4500 km from Henderson Island towards the coasts of Peru (Brooke 2010). Breeding sites are completely abandoned during the non-breeding period, after November (Brooke 2010). They feed mainly at sea on cephalopods, fish and small crustaceans (Imber *et al.* 1995). This species is exclusively diurnal on the breeding grounds (Holyoak and Thibault 1984). Dispersal away from breeding islands is poorly understood, but mostly north as far west as northwestern Hawaiian chain. The Murphy's Petrel is a routine visitor from mid-April to early June (Bailey *et al.* 1989), well offshore near the interface between the warm waters of the North Pacific Gyre and the cold waters of the California Current (Hamilton *et al.* 2007). Birds frequently found in deep pelagic

waters as far north as 54° N with records in the Gulf of Alaska (Bartle *et al.* 1993, Onley and Scofield 2007). There are very few fall records of the Murphy's Petrel recorded from the pelagic waters off the west coast of North America (Lehman *et al.* 2016).

Along the west coast of North America, the Murphy's Petrel is an uncommon to sometimes fairly common visitor in the deep pelagic waters well off California and Oregon from repositioning cruises from Cruise Ships between late March and mid-May, with small numbers occurring into early June with much fewer records in the fall (Mlodinow and O'Brien 1996, Lehman *et al.* 2016). Off the coast of Washington State, there have been low numbers recorded, with only 9 accepted records by the Washington Bird Records Committee (WBRC 2016), but this is likely due to the low level of surveys that have been carried out in the outermost deep pelagic water zone (Wahl *et al.* 2005). In British Columbia, the Murphy's Petrel is an uncommon to rare regular species that has been recorded by both deep water research vessels and repositioning cruises from late March into June and July with some fall records within the Exclusive Economic Zone 200 nautical miles (or about 375 km) (Kenyon *et al.* 2009, Lehman *et al.* 2016).

Identification and Similar Species

The identification of the Murphy's Petrel is covered in most standard North American field guides. This is a medium-sized "*Pterodroma*", also called "*Gadfly*" Petrel measuring 40 cm in length, with a wingspan of 97 cm, and weighing 375-435 grams (Onley and Scofield 2008). The Murphy's Petrel is generally a solitary species that does not follow ships (Onley and Scofield 2008). This species has a fast, buoyant flight style, even in calm conditions (Onley and Scofield 2008). The Murphy's Petrel flies with steep, dynamic soaring followed by long glides; in strong winds flight can look more like shearwaters (Onley and Scofield 2008). Structurally, this species is a heavy-bodied, medium-large sized "*Pterodroma Petrel*" with a large head and comparatively a small bill (Onley and Scofield 2008). The wings are relatively narrow and short, especially in comparison to Providence Petrel and Kermadec Petrel (*Pterodroma neglecta*) (Onley and Scofield 2008). This species is similar looking to Providence Petrel, Kermadec Petrel and dark morph Herald Petrel (*Pterodroma heraldica*) and it is recommended that observers read Murphy (1949), Harrison (1983), Harrison (1987), Bailey *et al.* (1989), Zimmer (1992), Spear *et al.* (1992), and Onley and Scofield (2007) to get more in depth identification help on Murphy's Petrel and how to separate it from other similar looking species. In British Columbia, the Murphy's Petrel is the only species of this group that is known and has been documented within the offshore 200 miles Economic Zone (Kenyon *et al.* 2009).

The following identification information is taken from Onley and Scofield (2008) unless otherwise stated.

Murphy's Petrel is uniform gray-brown, with an indistinct M across the upper wings. There is white flecking on the throat, base of the bill, and the forehead, especially when the feathers are worn, but the throat is always whiter than the forehead. The head and nape are slightly darker and in strong light, looks hooded. The back is slightly paler than the wings with a grayish wash when in fresh plumage, becoming browner with wear. The rump and tail are uniformly brownish-gray and is rounded in shape. The underparts are uniform, medium dark-gray. The underwing is generally dark, with white bases on underside of outer flight feathers that are silvery and reflective, but not white like Kermadec Petrel or Herald Petrel. The bill is black and the eyes are dark. The legs and feet are flesh-coloured with black toes and outer webs. Darker feathers of head wear to sooty-brown and the M marking on the back becomes less prominent through feather wear and moult. Flight feathers are moulted following the breeding and migration from the months of September to January.

Younger birds can be recognized by their worn plumage during the early part of the breeding season.

Occurrence and Documentation

The status of the Murphy's Petrel is ever evolving as more observers access the remote deep-water pelagic zone well offshore of the coast of British Columbia in the Exclusive Economic Zone of 200 nautical miles [or about 375 km](Lehman *et al.* 2016). Though this species is not as numerous in British Columbian waters as it is off the coasts of Oregon or California, they are present as an uncommon to rare visitor from late March to until June and July (Kenyon *et al.* 2009, Lehman *et al.* 2016). Fall records are fewer in number and these records are further clouded by the potential occurrence of the very similar Providence Petrel (also called Solander's Petrel) which breeds on Lord Howe Island and Philip Island and ranges into the northwestern Pacific Ocean, but if this species is regular off North American pelagic waters it is still being worked out (Hamilton *et al.* 2007, Clements *et al.* 2017). A case in point is the bird found by Mike Tootchin and was well photographed by Sharon Tootchin 40 miles off Tofino at Clayoquot Canyon on October 6, 2009 (Charlesworth 2010a). The bird was reported at the time as a Murphy's Petrel, and then some experts felt the look of the bird and the timing of the record better fit Providence Petrel, and now opinions are split by some on the identification of this bird (J. Fenneman Pers. Comm.). The identification of the Murphy's Petrel in North American waters was only fairly recently figured out until the late 1980s (Bailey *et al.* 1989, Hamilton *et al.* 2007). The overall similarity to Providence Petrel initially made records hard to identify from California and all along the pelagic zone off the west coast of North America until a beach-washed bird was found on June 15, 1981, south of Newport, Oregon (specimen #USNM 571368) helped to start unravelling the mystery (Marshall *et al.* 2003, Hamilton *et al.* 2007). The identification,

status, and distribution of the Murphy's Petrel in North American pelagic waters was further strengthened by Bailey *et al.* (1989) with detailed information on California's first specimen record taken April 29, 1989 [specimen #CAS 84182] and 98 birds that were recorded from April 29-30, 1989 on a deep pelagic cruise that included 3 colour photographs. As a result of this information the California Bird Records Committee removed the Murphy's Petrel from the state review list shortly afterwards (Hamilton *et al.* 2007). Further high counts of Murphy's Petrels confirm this decision with 100+ birds per day recorded in April/May 1991 (Yee *et al.* 1991) and 62 birds found far off southern California April 17-21, 2003 (McCaskie and Garrett 2003). In Oregon, further beached birds have been found with a live female on Horsfall Beach, in Coos County, but later died March 6, 1987, with the specimen located at the Los Angeles Natural History Museum as [#LACM 103774] and 1 female found dead on beach two miles south of Cape Blanco, in Curry County, on March 27, 1988, with the specimen located at the Los Angeles Natural History Museum as [#LACM 106131] as well further records found well offshore helped establish firmly that Murphy's Petrels were in fact occurring regularly off the coast of Oregon (OFO 2016). The Murphy's Petrel was removed from the review list by the Oregon Bird Records Committee in April 2011 (OFO 2016). The Washington Bird Records Committee is currently still reviewing all Murphy's Petrel records, but as more repositioning cruises are able to access the deep pelagic zone off the State, it might be only a matter of time before it is removed from review as well (Mlodinow and Bartels 2016). With very few exceptions, almost all provincial records of Murphy's Petrel have come from research vessels or repositioning cruises that can access the farthest reaches of the Exclusive Economic Zone of 200 nautical miles (Lehman *et al.* 2016). This fact is reflected in Kenyon *et al.* (2009) where maps showing transect dots of where Murphy's Petrels were detected in all four seasons. Where birds were found within the 200 nautical mile Exclusive Economic Zone, they are well offshore over the 2500m water depth contour or even further west into the deep water pelagic zone (Kenyon *et al.* 2009). This preference for deep water is also backed up by Lehman *et al.* (2006). However, on 2 known occasions this species has been seen from shore. The first known record of a Murphy's Petrel seen from shore in British Columbia involved 3 separate birds that were seen flying across the mouth of the Juan de Fuca and up the coastline of Vancouver Island very close to the shores of Botanical Beach in 40-46 Knot northwesterly winds by Rick Toochin and Louis Haviland on March 7, 2009 (Toochin *et al.* 2014). Each bird was well observed in telescopes in excellent light and the style of flight and plumage markings were noted, including also seeing at the same time Northern Fulmars (*Fulmarus glacialis*) and dark shearwaters most likely Short-tailed Shearwaters (*Ardenna tenuirostris*) (R. Toochin Pers. Com.). The second close to land sighting of Murphy's Petrel in British Columbia involved a single bird seen at point blank range from the Skidegate to Alliford Bay Ferry crossing in Haida Gwaii by Peter Hamel on November 16, 2016 (P. Hamel Pers. Comm.). The bird cruised right over the boat affording incredible views of both plumage and flight style (P. Hamel Pers. Comm.). Prior to this sighting, there were southeasterly

winds blowing 25-30 Knots and heavy rains and it is likely the bird was pushed into these waters as a result of the intense weather (P. Hamel Pers. Comm.). The bird originated from the west which is a direct path to the open North Pacific Ocean on the west side of the islands and continued flying up the north side of the channel out towards Hecate Strait (P. Hamel Pers. Comm.).

The Murphy's Petrel is a species that required great effort to see in British Columbia and currently the only way to have the possibility of finding this species in provincial waters is to take repositioning trips aboard Cruise Ships. This species is likely a casual species, but is not reported often due to remote and difficult access to where they are likely to be encountered.



Figure 1: Murphy's Petrel photographed in the deep pelagic waters off the Brooks Peninsula of British Columbia on May 10, 2017. Photo © Bruce Rideout.



Figure 2: Murphy's Petrel photographed in the deep pelagic waters off the Brooks Peninsula of British Columbia on May 10, 2017. Photo © Bruce Rideout.



Figure 3: Murphy's Petrel photographed in the deep pelagic waters off the Brooks Peninsula of British Columbia on May 10, 2017. Photo © Bruce Rideout.

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