

Status and Occurrence of Mottled Petrel (*Pterodroma inexpectata*) in British Columbia.
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Introduction and Distribution

The Mottled Petrel (*Pterodroma inexpectata*) is a medium-sized seabird that breeds during the austral summer (boreal winter) on islands around New Zealand; off Fiordland, Solander Island, islands in Foveaux Strait, islands around Stewart Island (including Big South Cape group), Titi Island, Codfish Island, and islets in Port Pegasus, with small numbers on Snares Island (Ainley and Manolis 1979, Hamilton *et al.* 2007, Onley and Scofield 2009). On the mainland, a small number remain on an island in Lake Hauroko, Southland (Hamilton *et al.* 2007, Onley and Scofield 2007). Mottled Petrels forage far during the breeding season from late October to June, and will feed in Antarctic waters just north of the pack ice from 95°E to 140°W to 75°30 S (Ainley and Manolis 1979). The majority of the population may disperse to the Indo-Pacific Antarctic ice as far east as Prydz Bay in the late summer to begin molt (Onley and Scofield 2007). Breeding birds can make a trip of 2,200 - 4,000 km between the nesting grounds and feeding grounds (Warham *et al.* 1977). Mottled Petrels are not present at their breeding locations from early June to September and start heading toward the northern hemisphere (Warham *et al.* 1977). The Mottled Petrel is a trans-equatorial migrant during the austral winter, in the non-breeding season, spending the boreal summer in the northern Pacific Ocean and the Gulf of Alaska, generally along the central subarctic front, and as far north as southeastern Bering Sea region (Hamilton *et al.* 2007, Onley and Scofield 2007). The migration route appears to be diagonal from New Zealand and the Gulf of Alaska (Ainley and Manolis 1979), and there appears to be no evidence of a circular route clockwise around the Pacific that was proposed in Palmer (1962).

Along the west coast of North America, the Mottled Petrel is a regular species that is normally found well offshore in deep pelagic waters. In Alaska, the Mottled Petrel is an uncommon summer visitant well offshore in southwestern and southeastern, and south coastal regions (West 2008). This species is rare in summer in the southern and eastern Bering Sea, southwest of the Pribilof Islands (West 2008). The Mottled Petrel is a very rare summer visitant nearer shore in southwestern, south coastal, southeastern regions of the state (West 2008). It is rare in Aleutian Islands off Amukta and Buldir Passes, but may be common south of the central and western Aleutian Islands from west of Attu, east to Amchitka in the summer months (West 2008).

In British Columbia, the Mottled Petrel is a regular occurring species, normally found well offshore in the deep pelagic zone within the 200 mile economic zone of Canadian Waters between the months of November and April (Hamilton *et al.* 2007, Kenyon *et al.* 2009). Due to

the rough seas and remoteness of this region, most records have come from large research vessels since they are able to access these waters (Lehman 2016).

Wahl *et al.* (2005) clearly states that Mottled Petrels are more regular in Washington State waters than current records indicate. As of 2016, there are 25 accepted records of the Mottled Petrel by the Washington Bird Records Committee with all records to be reviewed (Wahl *et al.* 2005, WRBC 2016). Most records have occurred far offshore in the deep pelagic zone or as skin specimens found washed up on beaches (Wahl *et al.* 2005, WRBC 2016).

The Mottled Petrel is a rare and irregularly occurring species that is normally found in the deep pelagic zone off Oregon (Dunn and Alderfer 2011). This species was removed from Oregon Records Committee species review list in April 2006 and there are 16 accepted records for the state (OFO 2016).

In California, the Mottled Petrel is a rare and irregular species with four-fifths of the state's records coming from the waters off Marin County northward with only a couple of records from Ventura County southward (Hamilton *et al.* 2007). It is likely that this species is more regular along deep-water zone in the late fall, through the winter as is the case along the entire west coast of North America (Hamilton *et al.* 2007). There are 79 accepted records of the Mottled Petrel for California by the California Bird Records Committee with all records having been reviewed until 2008 (Hamilton *et al.* 2007, Tietz and McCaskie 2017)

This species is regular over deep water around the Galapagos Islands (Hamilton *et al.* 2007). It has been recorded in the eastern tropical Pacific Ocean, Chile (south to Drake Passage and Tierra del Fuego), with recent sightings southeast of the Falkland Islands (Onley and Scofield 2007). The Mottled Petrel is an accidental visitor in the waters off southeastern Australia (Onley and Scofield 2007). There is an incredible preserved skin specimen from Livingston County, New York which was taken sometime in April, 1880, which at that time represented the first record for North America (Brewster 1881).

Identification and Similar Species

The identification of the Mottled Petrel is covered in most North American field guides. This species belongs to the "*Pterodroma*" family of gadfly petrels often referred to as "*Cookilaria petrels*" (Onley and Scofield 2009). Species of this group are found well offshore in deep pelagic waters making them well sought after by keen observers (Lehman 2016). The Mottled Petrel is a medium-sized "*Pterodroma Petrel*" measuring 36 cm in length, with a wingspan of 81 cm, and weighs 320 grams (Sibley 2000, Dunn and Alderfer 2011). This makes this species a bit bigger than Cook's Petrel (*Pterodroma cookii*) which measures 27 cm in length, with a wingspan of 66

cm, and weighs 190 grams (Sibley 2000, Dunn and Alderfer 2011). The Mottled Petrel has a distinctive dark belly patch and on the underwings strong black carpal bars which are visible at a distance (Onley and Scofield 2009). Like other "*Pterodroma*" Petrels, birds in flight can be wild and impetuous, swinging high over the ocean in vigorous, bounding arcs (Harrison 1983). This species does not usually attend trawlers or follow ships (Harrison 1983). For a more in-depth summary on identification, pitfalls in identification and similar looking species, it is highly recommended that keen observers read Roberson and Bailey (1991), Spear *et al.* (1992), and Onley and Scofield (2007).

The following description criteria for identifying the Mottled Petrel are taken from Onley and Scofield (2007) unless otherwise stated.

In flight, the Mottled Petrel has a very robust body yet comparatively short-winged and short-tailed. The flight style is less erratic and acrobatic than other smaller "*Cookilaria*" Petrels. Though the style of flight is more direct, this species does fly with high arcs over the ocean and has more direct flight style.

In plumage characteristics the Mottled Petrel is not typical-looking when compared to other species of "*Cookilaria*" Petrels. One important difference is the dusky patch on the belly, and upper breast which sometimes appears almost sepia-coloured. The dark patch may wear off during the breeding season, especially from the upper breast, but this patch is never lost completely. However this field mark can be surprisingly difficult to see, even at close range (Brazil 2009). The underwing has a narrow dark margin to the trailing edge and tip with a wide boomerang-shaped mark from the carpal onto the inner wing. There is a small white patch on the forehead with a variable amount of dusky flecking and a short indistinct supercilium. There is a dark mark principally behind the eye; rest of the face and chin is white. The crown and nape are slate-grey, merging into a paler, medium-grey mantle. All feathers of upperparts are scalloped with white fringes when the feathers are fresh. On the upperwing is a broad black M that is both across the wings and back.

Fresh plumage juveniles and immatures have more conspicuous white edges to the grey feathers than found on adults with less white mottling around the face and a more variable dark patch on the upperparts.

When birds moult and wear the grey feathers down to a grey-brown the head colour becomes similar looking to the rest of the body. Some flight feathers are moulted in Antarctic waters immediately following the breeding season. Then moult is suspended until the completion of the northward migration into the Pacific Ocean.

Occurrence and Documentation

In British Columbia, the Mottled Petrel is a regular species that is found well offshore in the deep-water pelagic zone (Kenyon *et al.* 2009). This species is not often reported in the waters of British Columbia due to remoteness and difficulty that observers have in accessing where they occur frequently (T. Plath Pers. Comm.). Deep ocean surveys conducted by the Canadian Wildlife Service written up in Kenyon *et al.* (2009) show this species regularly occurs from late October through early May. It is clear that Mottled Petrels are likely under-represented in records due to the lack of deep-water pelagic trips to this region at this time (T. Plath Pers. Comm.). In Lehman (2016), it appears that recent cruise ship repositioning trips carried out from 1995 -2016 have yielded some records, but limited in number as these trips are not often run peak time to find Mottled Petrels (November and December) during which time the author's believe this species is probably rare to regular. From 1995 to 2011 trips during optimal months to find Mottled Petrels were very rare and infrequent (Lehman 2016). Recent repositioning cruises since 2012 have accessed the deep pelagic region between March and April and October to mid-December producing more records of Mottled Petrel than had previously been recorded (Lehman 2016). It is likely that future trips at the correct time of year will produce more records of Mottled Petrel along or at the 200-mile economic zone in British Columbian waters (T. Plath Pers. Comm.).

Of note is an historic record of 540 birds seen roughly 61 NM off Vancouver Island on April 28, 1972 (Bourne and Dixon 1975). This species, like other deep ocean pelagic species can appear near shore during times of rough weather (Wahl *et al.* 2005). Such examples include 2 birds, likely adults, well seen from shore while conducting a seabird survey in 35-40 Knot winds near the mouth of the Strait of Juan de Fuca, March 31, 2009 (Toochin *et al.* 2014). Another recent example is from the same general region, but just up the coast at Swiftsure Banks, as close as 4.3 NM off Carmanah Point, February 21, 2012 (R. Merrill Pers. Comm.). Another record from the Puget Sound area involved multiple observers seeing a single bird from Point No Point, Kitsap County, November 27, 2009 (Merrill and Bartels 2015).

Kenyon *et al.* (2009) showed how seasonal surveys reflect the movements of Mottled Petrel detections in and out of British Columbian pelagic waters. The data clearly shows that Mottled Petrels were found well off Haida Gwaii in pelagic waters within the 200 mile economic zone of British Columbia during Spring surveys (March 16 through June 15) and Summer surveys (June 16 through September 15) (Kenyon *et al.* 2009). Not surprisingly the Mottled Petrel was only recorded well outside the 200 mile economic zone of Canadian Waters during Fall Surveys (September 16 through December 15). The greatest detection of Mottled Petrel that was within the 200 mile economic zone in Canadian waters was during Winter surveys (December 16 through March 15). Probably the best region to find Mottled Petrels is along the continental

shelf just off the west side of Haida Gwaii in the winter months (Kenyon *et al.* 2009). Unfortunately this region is known for having incredibly dangerous weather and large seas making it very hard for observers to access (P. Hamel Pers. Comm.). What is clear is that despite being a regular-occurring species in the deep pelagic waters off the coast of British Columbia, the Mottled Petrel will continue to be one of the most sought after species by keen observers due to the difficulties in accessing them.



Figure 1: Mottled Petrel found well off the coast of Oregon on December 1, 2017.
Photo © Bruce Rideout.



Figure 2: Mottled Petrel found well off the coast of Oregon on December 1, 2017.
Photo © Bruce Rideout.

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