



## Historical Occurrence of the Short-tailed Albatross in British Columbia and Washington, 1841–1958

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### Abstract

We collated historical records of Short-tailed Albatross (*Phoebastria albatrus*) in British Columbia and Washington to better describe occurrence prior to 1958. The earliest records were obtained off the outer coasts of Washington and Oregon between 1841 and 1857. Almost annual occurrence in the Juan de Fuca Strait region from 1862 to 1896 was documented through 14 records of 20 individuals with sporadic observer effort. Only 1 record was recorded outside Juan de Fuca Strait at this time, west of Haida Gwaii in 1896. A massive reduction in the global population that once stood at over 1 million individuals occurred in the mid-1890s. From 1897 to 1907, sporadic occurrences likely occurred, based on a 1907 record in the Juan de Fuca Strait region and 1898 and 1904 records in California. The species was apparently absent from British Columbia, Washington, and the rest of the northeastern Pacific from 1907 to 1940, reflecting near extinction between 1920 and the 1950s. From 1940 to 1958, it was not reported in British Columbia and Washington but 4 records were obtained elsewhere in the northeastern Pacific. Beginning in 1958 in British Columbia (but not until 1993 in Washington), the species was again recorded sporadically, following limited recovery at breeding colonies. Since 1994, more observation effort indicated that Short-tailed Albatrosses occurred annually in British Columbia.

### Introduction

The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) recently released an updated assessment and status report on the Short-tailed Albatross (*Phoebastria albatrus*) (COSEWIC 2013). This species (Figure 1) was listed in 2003 as Threatened in Canada, under the Species at Risk Act (COSEWIC 2003), and this status was confirmed in 2013 (COSEWIC 2013). Similarly, the U.S. Fish and Wildlife Service (USFWS 2014) recently released a 5-year review of the Short-tailed Albatross. By 2000, it was listed as endangered in the U.S., although by 1970 it had been listed as endangered in other parts of its range (USFWS 2008, 2014). These sources summarize the current status of this albatross species and the research and conservation attention it has received over the past 50 years.

In the mid- to late 19<sup>th</sup> century, the Short-tailed Albatross was distributed widely over most of the North Pacific Ocean and the world population exceeded 1 million individuals (USFWS 2008). In the 1920s to 1950s, it was on the verge of extinction mainly due to harvesting (for feathers, fertilizer and food) at colonies in southern Japan and Taiwan, especially in the 1880s and 1890s (Hasegawa and DeGange 1982, McDermond and Morgan 1993, USFWS 2008). Breeding no longer occurred at 12 islands where it had been documented (USFWS 2008) but the key breeding



**Figure 1.** Adult Short-tailed Albatross in flight near Torishima, Japan, 3 May 2014. *Photo by H. Hasegawa.*

colony at Torishima survived (Figure 2). In addition, a major volcanic eruption in 1902 at Torishima, fisheries bycatch (especially in longlines near Japan in the late

19<sup>th</sup> and early 20<sup>th</sup> centuries), and other factors took their toll (Hasegawa and DeGange 1982, McDermond and Morgan 1993, USFWS 2008, COSEWIC 2013).



**Figure 2.** Breeding Short-tailed Albatrosses, Torishima, Japan, 24 April 2013. The dark individuals are large chicks. *Photo by H. Hasegawa.*

Since the 1930s, conservation and restoration actions have been implemented at Torishima and throughout the species' marine range to prevent extinction and facilitate partial recovery. The first island to be recolonized was Minami-kojima (Senkaku Islands) in 1971; small numbers also bred at Yomejima (Ogasawara Islands) in 2000, Kita-kojima (Senkaku Islands) in 2002, Mukojima (Ogasawara Islands) in 2012-2013 and Nakado-jima (Ogasawara Islands) in 2014 (USFWS 2008, 2014). The Torishima population has gradually increased from fewer than 100 pairs in 1980 to 609 breeding pairs in 2014 (H. Hasegawa, pers. comm.). The 2014 global population has been estimated at about 4,354 individuals and much of its former marine range has been re-occupied (USFWS 2014). In British Columbia, increased at-sea survey effort since 1994 has documented annual occurrence of Short-tailed Albatrosses in outer waters and numbers recorded by International Pacific Halibut Commission observers (0-5/year) increased 6.5% per annum in 1996–2012 (Kenyon et al. 2009, COSEWIC 2013; K.H. Morgan, pers. comm.).

Historical information on the Short-tailed Albatross was not the focus of recent COSEWIC and USFWS summaries and was not thoroughly considered. These sources relied on brief summaries in readily available literature. In British Columbia, only 4 records were reported between 1889 and 1894, all from the Juan de Fuca Strait (JFS) region (Fannin 1891, 1898; Kermodé 1904, Brooks and Swarth 1925, Taverner 1926, Munro and Cowan 1947). Summaries after 1947 did not uncover additional historical records for British Columbia; instead, they largely repeated earlier literature (Godfrey 1966, Sanger 1972, Campbell et al. 1990). However, records from adjacent waters in the Washington portion of JFS or other records with approximate locations that may have been in British Columbia or Washington on the continental shelf off the entrance to JFS were not addressed. For Washington, Jewett et al. (1953) prepared an important summary of occurrences of this species, including 4 records for the 1841–1857 period on the west coast, 2 records for the 1863–1866 period in the JFS region, and 3 records for the 1889–1896 period in the JFS region. Wahl et al. (2005) clarified a JFS record in 1896 but did not add additional records. Jewett et al. (1953) and Wahl et al. (2005) also did not

address records in adjacent British Columbia.

Regardless of the limited numbers of records used to describe historical occurrence in British Columbia and Washington, this species once appeared to occur widely in the outer waters of British Columbia, as suggested by the large numbers of bones uncovered in middens in Haida Gwaii and on the northwest coast of Vancouver Island (McAllister 1980, Crockford 2003). Short-tailed Albatrosses also were used widely as food by native peoples in California, Oregon, and Alaska, especially in the Aleutian Islands (Gabrielson and Lincoln 1959, Gabrielson and Jewett 1970, Hasegawa and DeGange 1982).

While conducting historical research on breeding seabirds in British Columbia, we uncovered several unpublished records of Short-tailed Albatross in the JFS region and off Haida Gwaii obtained in the late 19<sup>th</sup> and early 20<sup>th</sup> centuries. By integrating these additional historic records with published records and other literature, we clarified the historical occurrence of Short-tailed Albatross in British Columbia and Washington.

## Methods

Historical records were collated from the literature and unpublished materials housed in the British Columbia Archives (Victoria, British Columbia) and the Canadian Museum of Nature Archives (Ottawa, Ontario). Online databases and the Ornithology Information System (ORNIS) also were used to locate museum specimens and museum staff were contacted for additional details. For some of the less well known collectors, we provided information about their lives and collecting activities to aid verification of the details of their records, as well as confirm identifications.

In waters west of the mouth to JFS, we often lacked the exact locations for records and descriptions of them were imprecise or likely inaccurate. Records could have originated in either Canadian or U.S. waters. Whenever distances were described in “miles”, we assumed this meant nautical miles. In 1846, the maritime border between Vancouver Island and Washington was extended through the middle of JFS to the Pacific Ocean (i.e., near Cape Flattery) but it was disputed until 1872. The maritime border west of JFS was defined in 1970 but is still in dispute.

## Results

### Historical records in Juan De Fuca Strait, 1862–1907

(1) **1862:** James E. Hepburn obtained an adult male (UMZC 9/Dio/1/a/4; JEH 1089; Figure 3; see acknowledgements for museum acronyms) that was “taken alive and kept some weeks” (quote from Hepburn’s specimen list and notebook; see below) on 6 May at Victoria, Vancouver Island, then a British colony (1848–1866). Brown (1868) first noted Short-tailed Albatross at Vancouver Island, but did not provide details. Hepburn assisted Brown and likely supplied this information based on this specimen taken at Victoria. Hepburn (1811–1869) was an experienced English naturalist and collector who resided periodically in California and Victoria, British Columbia, from about 1852 to 1869 (Swarth 1926, Jewett et al. 1953). After his death in Victoria in 1869, relatives sent most of his more than 1500 specimens to Cambridge University, United Kingdom (Kinnear 1931), although some specimens reside in North American collections. For some details, we also referred to an incomplete summary of Hepburn’s specimens from British Columbia, Washington and Alaska prepared by F.S. Hall at the University of California, Berkeley in 1933 (BCA MS-1077, A01758).

This summary was cross-referenced with Hepburn’s notebooks housed at the UMCZ.

An unpublished handwritten manuscript prepared by Hepburn also was found in the UMZC archives that provided more information about this record:

*I once bought an adult male in its full white plumage from some Indians at Victoria, who had caught it somewhere in the neighborhood. I kept it for upwards of a month ... It is now in my collection.*

Elsewhere in this manuscript, Hepburn noted that native people occasionally sold Short-tailed Albatrosses on the street in Victoria, usually immature birds, with this one exception.

(2) **1863:** Walker (1863) observed 2 individuals near JFS in May or June, probably juveniles because he argued that they were not Black-footed Albatrosses (*P. nigripes*). He was on board a ship sailing from England to Victoria at the time. Jewett et al. (1953) included this as a Washington record.

(3) **Pre-1866:** 1 juvenile (USNM 40066) and 3 skulls (USNM 6586, 6587, 6588) were obtained in JFS near Neah Bay, Washington Territory, by James G. Swan (Jewett et al. 1953). They likely were taken between



**Figure 3.** Adult Short-tailed Albatross (UMZC 9/Dio/1/a/4) obtained at Victoria, British Columbia, 6 May 1862, the first confirmed record for British Columbia and Canada. Photo by M. Brooke (© University Museum of Zoology, Cambridge, United Kingdom).

1859 and 1866 when Swan lived in Neah Bay (see below) but we used the date “pre-1866” because they were catalogued at the USNM in October 1865 (B. Schmidt, pers. comm.). Why 3 skulls were preserved is not clear but they likely were the remains of birds killed and eaten by the Makah rather than skulls salvaged from decomposed beached birds. The four specimens are lumped into one record because dates and exact locations are lacking.

Swan (1818–1900) was a pioneer and naturalist in Washington Territory. He lived in Shoalwater Bay from 1852 to 1855, Neah Bay 1859–1866 and 1878–1881, and Port Townsend 1866–1878 and 1881–1900. He is well known for his early pioneer life on the outer Washington coast (Swan 1857) and his studies of the Makah people (Swan 1870). In 1854–1855, he met and worked with J.G. Cooper (Swan 1857) who may have trained him to preserve bird specimens. Swan sent at least 19 bird specimens mainly from Neah Bay to the Smithsonian Institution (USNM), but most are not dated.

(4) **1867**: 1 juvenile female (UMZC 9/Dio/1/a/2;JEH 1415) apparently taken by J.E. Hepburn in JFS near Neah Bay, Washington Territory, on 30 October 1867. It appears that Hepburn visited Neah Bay to collect specimens because a series of 11 birds was taken on 22, 23, and 30 October and 2 and 3 November 1867 (BCA MS-1077, A01758). On 30 October, it appears that he had a short trip near shore in JFS off Neah Bay where he collected the albatross and 1 Northern Fulmar (*Fulmarus glacialis*); later that day, he collected 3 Red Crossbills (*Loxia curvirostra*) on land. Hepburn (unpublished manuscript; see above) described this collecting trip:

*These birds are not uncommon in their immature state along the coast of California and Oregon and the west side of Vancouver Island, (which are known by the name of Gony,) although I scarcely ever recollect seeing one in adult plumage. These last probably keep farther out to sea than the young. The immature birds occasionally accompany the steamers than ply along the coast, though rarely for any great distance. I have found them very numerous at the entrance to the Straits of Fuca near Cape Flattery; and one day when I went out in a canoe from Neah Bay, had not*

*a heavy sea rendered me unsteady, I might have shot as many as I required in a couple of hours. They seemed utterly regardless of the canoe, flying about in all directions and even going over it at a height of not more than fifteen or twenty yards if it happened to be in their course. I found them equally fearless at Monterey, where I also procured some specimens. The Indians of Cape Flattery take these birds alive, how I do not know, but I have seen them tied by the leg before the Indian lodges, and have found dead bodies with the wing feathers pulled out, which had evidently not been shot. They also take them when spearing ducks, but do not eat them.*

(5) **1867**: 1 subadult male (UMZC 9/Dio/1/a/3;JEH 1421), “taken alive by Indian” (quote from Hepburn’s specimen list and notebook), obtained by J.E. Hepburn in JFS near Neah Bay, Washington Territory, on 3 November 1867 (also see BCA MS-1077, A01758). This was the only specimen obtained on 3 November and the last collected on Hepburn’s trip to Neah Bay. This record is listed separately from record #4 because the dates differ. Hepburn (unpublished manuscript; see above) noted that some Short-tailed Albatrosses were taken by native people at Neah Bay when spearing Surf Scoters (*Melanitta perspicillata*) and White-winged Scoters (*M. fuscus*). On dark and stormy nights in fall and winter, one man in a canoe would hold a torch while others speared birds attracted to the light. However, it was not clear how this albatross was obtained by native people.

(6) **1882**: 1 adult (KU 71385) obtained at Neah Bay, Washington Territory, by Nathaniel S. Goss on 15 March. Originally mounted, this specimen was later made into a study skin. Goss (1826–1891) was a widely travelled naturalist and collector who assembled a large collection of mounted North American birds (the Goss Ornithological Collection) in Topeka, Kansas. His books on the birds of Kansas are well known (Goss 1883, 1891). He was stationed mainly at Neah Bay and collected extensively from January to June 1882, according to the many specimens listed in ORNIS that now reside in the Kansas University Biodiversity Institute and Natural History Museum (KU), Lawrence, Kansas. He also published articles related to Pelagic Cormorants (*Phalacrocorax pelagicus*) and Black-

legged Kittiwakes (*Rissa tridactyla*) in Washington Territory (Goss 1884, 1885).

(7) **1882**: 1 juvenile (KU 71386) obtained 30 miles (56 km) SW of Cape Flattery by N.S. Goss on 22 May. Originally mounted, the specimen was later made into a study skin. Goss collected 10 seabirds off Cape Flattery on 20–22 May, as follows: (1) 20 and 21 May, SW of Cape Flattery, 100 miles (185 km) off shore, single Fork-tailed Storm-Petrels (*Oceanodroma furcata*) (KU 73049, 73050); and (2) 22 May, SW of Cape Flattery, 30 miles (56 km) off shore, 1 Short-tailed Albatross, 2 Sooty Shearwaters (*Puffinus griseus*; KU 71387, 71388), 2 Short-tailed Shearwaters (*P. tenuirostris*; KU 71391, 71392), 1 Pink-footed Shearwater (*P. creatopus*; KU 71390), and 2 Sabine's Gulls (*Xema sabini*; KU 72090, 72091). Goss (1891) mentioned Sabine's Gulls collected on this trip but not the other species.

(8) **1884**: 1 subadult (UMMZ 238140) from Port Townsend, Washington Territory (collector and exact date unknown), may have been obtained by J.G. Swan, who lived at that time at Port Townsend. If Swan did not collect it, it may have been originally taken near Neah Bay where he had worked in 1878–1881 and brought to Swan.

(9) **1889**: Townsend (1890) reported 1 juvenile (YPM ORN 77015) and 1 subadult (USNM 117696) taken 80 miles (148 km) off Cape Flattery in June. Jewett et al. (1953) included them as Washington records.

(10) **1889**: Munro and Cowan (1947) and Campbell et al. (1990) noted 2 undated, mounted specimens from JFS obtained off Victoria in 1889 that had been displayed in the British Columbia Provincial Museum in Victoria (now the Royal British Columbia Museum; RBCM 1491, 1492). The adult (1491), but not the juvenile (1492; Figure 4), has been detached from its stand (L. Kennes, pers. comm.). Fannin (1891:6) noted that Short-tailed Albatrosses were “Tolerably common both coasts [sic] of Vancouver Island. A few have been taken in the Straits and off the mouth of Victoria harbour” (also see Fannin 1898, Kermodé 1904). John Fannin and Francis Kermodé (directors at the British Columbia Provincial Museum) presumably



**Figure 4.** Juvenile Short-tailed Albatross (RBCM 1492) collected off Victoria, British Columbia, in 1889. Photo by G. Hanke.

referred to these mounts as the birds taken off the mouth of Victoria harbour, whereas others taken “in the Straits” may have been the 2 birds collected by Townsend in 1889 (record #9). Taverner (1926) also reported Short-tailed Albatross “taken near Victoria,” presumably referring to the two mounted specimens. We did not uncover Short-tailed Albatross records in the Strait of Georgia or Haro Strait on the east side of Vancouver Island. Fannin may have considered that Victoria was on the east side of the island, as it is east of Race Rocks, the southernmost point of the island.

(11) **1893**: William T. Spreadborough found a single beached bird at Esquimalt, near Victoria, on 4 June (Macoun 1900, Macoun and Macoun 1909). If the bird was preserved, its whereabouts is unknown.

Spreadborough (1856–1931) was a knowledgeable naturalist who had collected birds widely in British Columbia and across Canada for the Geological Survey of Canada (Taverner 1933). In 1893, 1907 and 1908, he worked on Vancouver Island (Macoun 1900, Macoun and Macoun 1909). In spring 1893, he worked closely with J. Macoun.

(12) **1894:** Kermode (1904:10) augmented Fannin's (1891) account, stating that "In April 1894, I found this species quite common in the Pacific Ocean, near Cape Beale." We have treated this as referring to at least 1 individual. Cape Beale is located at the southern entrance to Barkley Sound on the southwest coast of Vancouver Island, just north of the entrance to JFS.

(13) **1896:** Seale (1898) observed one Short-tailed Albatross 18 miles (33 km) off Cape Flattery on 26 May. Jewett et al. (1953) included this as a Washington record.

(14) **1896:** Edson (1908) reported a specimen (without details) housed at the "Bellingham Normal School" (now Western Washington University) taken on "Cottonwood Island." Jewett et al. (1953) indicated that it was taken at "Cottonwood (Sinclair) Island" just west of Bellingham Bay and just north of the east end of JFS. Wahl et al. (2005) indicated that it was an adult that was collected in 1896, based on a mounted specimen located at Western Washington University. We did not locate this specimen.

(15) **1907:** In a letter to P.A. Taverner dated 26 January 1919 (CMNAC/1996-021), W.T. Spreadborough reported that "When coming from Clayoquot [now Tofino] the end of Oct. 1907 I saw thousands of shearwaters, and one Albatross the only one that I have seen in B.C. it [sic] followed the steam boat for several miles I took it to be the short tailed one [Short-tailed Albatross]." Spreadborough seemed sure of his identification and was known for his photographic memory (Taverner 1933). This location likely was between Tofino and Carmanah Point. Between 4 September and 24 October 1907, Spreadborough collected over 150 birds at "Clayoquot," revealed by an ORNIS search. The steamer *Tees* arrived in Victoria on 31 October 1907 (*Daily Colonist* 1907).

The date of the observation likely was 29 or 30 October. Spreadborough also found the dead bird at Esquimalt in 1893 (record #11), which lends greater credibility to his later sight record considered here. Taverner (1926) did not report this sighting.

### **Historical records off Haida Gwaii, British Columbia**

In the period 1862–1896 when 14 records of Short-tailed Albatrosses were collated for the JFS region, we found only 1 record in northern British Columbia that was not reported in previous summaries. Seale (1898) observed 2 Short-tailed Albatrosses at 51°06'N, 134°16'W, the first on 1 June 1896 and another near the same location on the following day. This location is about 230 km WSW of southern Moresby Island, Haida Gwaii, in waters of the current Canada Exclusive Economic Zone (EEZ), which extends about 370 km offshore. Low observer effort outside the JFS region in 1862–1896 in British Columbia likely accounted for the dearth of records in northern British Columbia.

A hypothetical record from the same general area was obtained on 26 June 1791 about 132 km WSW of southern Moresby Island, Haida Gwaii (near 51°33'N, 133°02'30"W; location recorded on 27 June 1791), when J. Ingraham noted "several large grey albatrosses" (Ingraham ca. 1795:79). Ingraham prepared an undated manuscript after the trip ended in 1793 but he died in 1800. We refer to the approximate year of this manuscript as ca. 1795. Pearse (1968) attributed these albatrosses to the Short-tailed Albatross but other species cannot be excluded. This record also was within Canada EEZ waters and was not mentioned in previous summaries.

### **Discussion**

#### **First Records in British Columbia, Washington, Oregon, California, and Baja California, 1841–1886**

The Short-tailed Albatross was first noted (without details) on the northwest coast of North America in Oregon Territory (also known as Columbia Territory) during the U.S. Exploring Expedition of

1841 (Peale 1948, Cassin 1858; also see Baird et al. 1884). This vague report may have referred to Washington or Oregon. Detailed records came later: (1) a juvenile obtained by J.G. Cooper at Shoalwater Bay on the outer coast of Washington, 1854 or 1855; (2) a juvenile collected by Captain Diggs off the coast of Oregon on 5 April 1856; and (3) a bird in “light-colored plumage” (probably an adult) observed by Cooper off the mouth of the Columbia River in winter, 1856 or 1857 (Baird et al. 1858, Cooper and Suckley 1859). The first record off British Columbia, Canada, and for the JFS region, was obtained by J. Hepburn at Victoria in 1862 (record #1; Figure 4). This unpublished record predates the earliest published record (#10) for British Columbia by 27 years but predates the earliest published record (#2) for JFS only by 1 year (Walker 1863).

The earliest record in California was obtained by J.G. Cooper at Monterey in 1861, where juvenile Short-tailed Albatrosses scavenged scraps of whale blubber near shore (Baird et al. 1884). Cooper also noted and collected some (note: we did not find any of these specimens) at San Diego in winter during whale harvesting (Cooper 1868, Baird et al. 1884), and off the nearby Channel Islands in 1863 (Cooper 1870, Willett 1912, Howell 1917; YPM ORN 106,517). J. Hepburn also collected a juvenile female at Monterey on 11 July 1868 (UMCZ 9/Dio/1/a/1), an early record that was not recorded in the literature. The earliest record in Baja California was 5 birds observed between Guadalupe Island and Ensenada in April 1886 (Bryant 1889). One juvenile also was collected by A.W. Anthony off Bahia Rosario on 23 April 1887 (CM P21881).

### **Annual Occurrence in Juan de Fuca Strait, 1862–1896**

In 1862–1896, 14 records were collated over 34 years in JFS, involving 20 individuals. At least two individuals were reported in each of 1863, 1867, 1882, 1889 and 1896. This species also was recorded in successive years in 1862–1863 and 1893–1894. With sporadic observer effort in the mid- to late 19<sup>th</sup> century, we suggest this pattern of records in the JFS region reflects annual (or nearly annual) occurrence in some numbers, rather than individuals occurring sporadically in some but not other years. For example,

the lack of records between 1867 and 1882 suggests a period with few experienced observers, rather than an absence of Short-tailed Albatross. Occurrences documented along the outer coasts of Oregon and Washington between 1841 and 1857 (see above) further suggest this species occurred annually in the adjacent JFS region in the 1840s and 1850s, and probably earlier. Many documented occurrences in California between the 1860s and mid-1890s also indicated annual occurrence in this adjacent region (Loomis 1896, Willett 1912, Howell 1917, Grinnell and Miller 1944).

Five of 12 (42%) aged individuals were juveniles, 2 (18%) were subadults and 5 (42%) were adults (Table 1). This sample probably does not represent the age structure of the at-sea population in JFS in the mid- to late 19<sup>th</sup> century because of the various (some unusual) methods by which specimens were obtained. Mostly juveniles and subadults have been recorded more recently off British Columbia (COSEWIC 2013; K.H. Morgan, pers. comm.) and the west coast of the U.S. (Guy et al. 2013). Juveniles and subadults together comprise about 65% of the current population at Torishima (H. Hasegawa, pers. comm.). Juvenile Short-tailed Albatrosses also may be mistaken for Black-footed Albatross and some adults for Laysan Albatross (*P. immutabilis*), if not observed closely. Identification issues likely led to under-reporting of Short-tailed Albatrosses in British Columbia and Washington in the past, and also possibly more recently.

Most historical records of Short-tailed Albatrosses were obtained near the entrance to JFS, especially near Neah Bay on the north side of Cape Flattery, Washington, where the main village of the Makah people is located (Swan 1870). This may have partly reflected extensive past use of the Juan de Fuca Canyon region by Short-tailed Albatrosses, as this productive upwelling region occurs on the continental shelf close to Cape Flattery (Burger 2003). However, Short-tailed Albatross also may have been attracted to nearshore areas near Cape Flattery to scavenge whaling scraps, as Baird et al. (1884) noted at Monterey, California in 1861, with some attracted to torches when the Makah hunted scoters with spears (see record #5). The Makah hunted whales, which were beached and butchered (Swan 1870; see Reagan

**Table 1.** Records of Short-tailed Albatross in the Juan de Fuca Strait (JFS) region, 1862–1907.

Rec. No.	Year	Day & Month	BC/ WA	Location	No. of birds & notes	Source
1	1862	6 May	BC	Off Victoria	1 adult	UMZC 9/Dio/1/a/4; BCA MS-1077; Brown (1868); J.E. Hepburn (unpubl. manuscript)
2	1863	May or Jun	BC or WA	Near entrance to JFS	2 observed	Walker (1863)
3	Pre-1866	-	WA	JFS near Neah Bay	1 juvenile; 3 skulls	USNM 6586, 6587, 6588, 40066
4	1867	30 Oct	WA	JFS near Neah Bay	1 juvenile	UMZC 9/Dio/1/a/2; BCA MS-1077; J.E. Hepburn (unpubl. manuscript)
5	1867	3 Nov	WA	JFS near Neah Bay	1 subadult	UMZC 9/Dio/1/a/3; BCA MS-1077; J.E. Hepburn (unpubl. manuscript)
6	1882	15 Mar	WA	Neah Bay	1 adult	KU 71385
7	1882	22 May	BC or WA	SW of Cape Flattery, 30 miles off shore	1 juvenile	KU 71386
8	1884	-	WA	Port Townsend	1 subadult	UMMZ 238140
9	1889	-	BC	Off Victoria	1 adult; 1 juvenile	Fannin (1891); RBCM 1491, 1492
10	1889	Jun	BC or WA	80 miles off Cape Flattery	1 juvenile; 1 subadult	Townsend (1890); YPM ORN 77015; USNM 117696
11	1893	4 Jun	BC	Esquimalt	1 dead on beach	Macoun (1900)
12	1894	Apr	BC	Off Cape Beale	“common” (at least 1 individual)	Kernode (1904)
13	1896	26 May	BC or WA	18 miles off Cape Flattery	1 observed	Seale (1898)
14	1896	-	WA	Cottonwood (Sinclair) Island	1 adult	Edson (1908); Wahl et al. (2005)
15	1907	“end of” Oct	BC	Between Tofino and Carmanah Point	1 observed	CMNAC/1996-021

1925 for a description of whale butchering by the nearby Quilute people). Whale scraps likely floated out to sea where they were scavenged by albatrosses. Use of Makah canoes and guides also appeared to be necessary to collect several if not all specimens in this area (especially records #4, #5, #6 and #7). Besides spear hunting, which according to Hepburn only occurred in the fall and winter at Neah Bay, we are not aware of specific descriptions of how Short-tailed Albatross were captured by the Makah or other native peoples. However, Peale (1858:290) noted that “They are usually silent, but sometimes quarrel about the offal thrown from ships; then they ‘bray’ in much the

same tone as a Jackass. They are easily caught with a hook and line, but owing to their thick plumage, and tenacity of life, it is difficult to kill them with shot.” Swan (1870) describes much use of hooks and lines for fishing and whaling by the Makah, which were likely also used for capturing albatrosses.

Wetmore (1928) also reported Short-tailed Albatross bones collected from middens near Netarts Bay, Oregon, in 1927, which likely reflects capture off the Oregon coast by native peoples (see Figure 5 for examples of Short-tailed Albatross bones excavated from middens in Alaska). Extensive harvesting in outer coastal waters by the Haida people also is evident from



**Figure 5.** Bones of the Short-tailed Albatross excavated from middens in Alaska (USNM, various specimen numbers). *Photo by B. Schmidt.*

bones unearthed in middens in Haida Gwaii and by the Nuu-chah-nulth people on the northwest coast of Vancouver Island (McAllister 1980, Crockford 2003). They also practiced whaling similarly to the Makah. Non-native whaling did not occur in these areas until the early 20<sup>th</sup> century, by which time Short-tailed Albatrosses had disappeared. The single record off Haida Gwaii in 1896 at least documented historical presence off northern British Columbia, prior to the disappearance. Kenyon et al. (2009) documented recent concentrations of observations of Short-tailed Albatrosses off NW and SE Haida Gwaii and off the west coast of Vancouver Island, near the Haida and Nuu-chah-nulth peoples who do not currently practice whaling.

Only 5 (33%) of 15 records (#1, #8, #10, #11, #14) were reported in eastern JFS where more naturalists and collectors were active in the late 19<sup>th</sup> century,

suggesting that Short-tailed Albatrosses occurred less frequently there. Bones were common in middens near Victoria (Crockford 2003), which may reflect trading of albatrosses by the Makah people who were the most active traders across JFS and were later known to trade with the Hudson's Bay Company at Victoria after 1843 (Swan 1870). However, all 5 records from eastern JFS may have been collected after they had followed sailing or whaling ships that headed eastward from western JFS and one record (#1) was an adult captured alive by native people near Victoria.

### **Sporadic occurrence, 1897–1907**

Munro and Cowan (1947) reported the last record in British Columbia in 1894, whereas Jewett et al. (1953) reported the last record in Washington in 1896. Our summary resulted in a series of 14 records in JFS that also ended in 1896. The major decline of Short-tailed Albatross in British Columbia and Washington occurred in the mid-1890s, following the global population crash following about 10 years of harvesting at Torishima (Hasegawa and DeGange 1982). USFWS (2008:3) stated that in 1904, Short-tailed Albatrosses were considered “tolerably common on both coasts of Vancouver Island, ...”, citing Kermode (in Campbell et al. 1990). However, as noted in record #10, Kermode only reported his own observation in 1894 (record #12) to update earlier statements by Fannin first made in 1891. Kermode (1904) did not report observations after 1894. A major decline also occurred in California in the mid-1890s (Grinnell and Miller 1944). Before becoming only sporadic in occurrence, 6 birds were collected, mainly by A.W. Anthony, off San Diego in 1890-1896 (SDNHM 68, 69; CM P21882-P21885). However, by 1898, 1 collected at San Pedro was considered to be of a species “of rather uncommon occurrence” (McLain 1898; CAS ORN 72614).

By the 1890s, observer effort had increased substantially, such that the lack of records in British Columbia and Washington after 1896 reflects few if any birds present in most years. However, based on the single 1907 JFS sight record (#14), the 1898 specimen from California, and a possible 1904 sight record from Point Pinos, California (Beck 1910), we consider that sporadic occurrences in the JFS region

likely continued between 1896 and 1907, although such occurrences were detected only in 1907. A 1909 specimen record at San Nicolas Island, California (Willet 1912) turned out later to be a mis-identified Laysan Albatross (Peters 1938). Continued visitation of the northeastern Pacific Ocean by small numbers of birds would have been expected after 1896 until the 1910s when most colonies likely had been extirpated (Hasegawa and DeGange 1982, USFWS 2008).

### **Absent, 1907-1940**

The lack of records in British Columbia and Washington between 1907 and 1940 paralleled the lack of records elsewhere in the northeastern Pacific during this period. We suggest that this reflects an absence of this species, rather than continued sporadic occurrences that went undetected. In the 1920s to 1950s, the species was nearly extinct. At this time, the population likely consisted mainly of adults that may not have included the northeastern Pacific in their non-breeding season movements. Recent studies have shown that adults tend to remain closer to breeding colonies, mainly in the northwestern Pacific, in the non-breeding season (COSEWIC 2013, USFWS 2014).

### **Absent or not detected, 1940-1958**

Starting in 1940, small numbers of birds were again sighted in the northeastern Pacific, although not in British Columbia until 1958 and Washington until 1970. Four records are known between 1940 and 1956: (1) northern Gulf of Alaska (59°32' - 60°23'N, 139°45' - 146°02'W) — 9 June 1940 (Gabrielson 1944); (2) 70 miles (130 km) off San Francisco, California (about 37°08'N, 124°29'W) — 17 February 1946 (Traylor 1950; but see CBRC 2007); (3) 140 miles (259 km) off Cape Spencer, SE Alaska — 25 November 1947 (Kenyon 1950); and (4) 89 miles (164 km) off Yakobi Island, SE Alaska (57°30'N, 139°14'W) — 14 May 1956 (Sanger 1964). Presence in other parts of the northeastern Pacific, both north and south of British Columbia and Washington, suggests the lack of observations in British Columbia and Washington between 1940 and 1958 reflect either absence or no detection of small numbers of individuals that

occurred sporadically.

The first recent records in British Columbia were obtained in 1958 and 1960 (Lane 1962, Campbell et al. 1990), although the first to be accepted in Washington was not obtained until 1993 (Wahl et al. 2005). A 1970 Washington record (Wahl 1970) was later considered to have been misidentified (Campbell et al. 1990, Wahl et al. 2005). In Oregon, they were first observed in 1961 (Wyatt 1963) but not again until 1978 (Marshall et al. 2003). The first recent accepted record for California was obtained in 1977, although the record for 1946 and 1 record from 1968 were not accepted by the records committee (CBRC 2007).

### **Conclusion**

From the 1840s to 1896, the Short-tailed Albatross apparently occurred annually or nearly annually in British Columbia and Washington. Widespread occurrence prior to the 1840s also is supported by large numbers of bones excavated from middens formed prior to European contact. From 1897 to 1958, near absence or absence in British Columbia and Washington was evident. Current world population size of the Short-tailed Albatross is only a remnant (less than 1%) of the historic size of over 1 million individuals. As this species reoccupies its non-breeding range off British Columbia and Washington, it is not clear if use of this region will return to a level similar to that of the mid to late 19<sup>th</sup> century. While annual or nearly annual occurrence was documented prior to 1896, we cannot determine the number of individuals that visited British Columbia waters in the past, nor what degree they were attracted to the mouth of the JFS in the past by scavenging whale scraps. However, genetic studies might allow determination of colonies of origin from specimens identified in this paper and those from colonies in the late 19<sup>th</sup> century.

Few records of Short-tailed Albatross have been obtained in the JFS region in recent years. Most Short-tailed Albatross now occur during the non-breeding season in the Bering Sea, off the Aleutian Islands and off the Kuril Islands (USFWS 2008, 2014; COSEWIC 2013). Current overall non-breeding distribution in the North Pacific may parallel that of the late 19<sup>th</sup> century, when they also were abundant in the Bering Sea and west of Cook Inlet (Gabrielson and Lincoln 1959).

However, future work is needed to describe continuing re-occupancy of waters off British Columbia and Washington. This summary of historical occurrence in British Columbia and Washington should facilitate comparisons to recent and future occurrence. Our hope is that others will seek additional historical information of Short-tailed Albatrosses throughout their non-breeding and breeding ranges to further clarify past occurrence at sea, at colonies, and in middens. †

### **Acknowledgements**

Museums that housed specimens and documents mentioned in this article, and personnel at each who provided assistance, include: American Museum of Natural History (AMNH), New York, New York — P. Capainolo and P. Sweet; British Columbia Archives (BCA), Victoria, British Columbia — K. Bridge, C. Gilbert, K. Hughes, A. ten Cate, K.-A. Turkington, and F. Verspoor; California Academy of Sciences (CAS ORN), San Francisco, California — M. Flannery; Canadian Museum of Nature Archives (CMNAC), Ottawa, Ontario — C. Dussault and M. Gosselin; Carnegie Museum of Natural History (CM), Pittsburg, Pennsylvania — S. Rogers; Kansas University Biodiversity Institute and Natural History Museum (KU), Lawrence, Kansas — M. Robbins; Museum of Comparative Zoology (MCZ), Harvard University, Cambridge, Massachusetts — J. Trimble; Royal British Columbia Museum (RBCM), Victoria, British Columbia — G. Hanke and L. Kennes; San Diego Natural History Museum (SDNHM), San Diego, California — P. Unitt; University of Michigan Museum of Zoology (UMMZ), Ann Arbor, Michigan — J. Hinshaw; University Museum of Zoology, Cambridge (UMZC), Cambridge, United Kingdom — M. Brooke, A. Charlton and M. Lowe; University of Washington Burke Museum (UWBM), Seattle, Washington — R. Faucett; U.S. National Museum (USNM), Smithsonian Institution, Washington, D.C. — B. Schmidt; and Yale Peabody Museum of Natural History (YPN ORN), New Haven, Connecticut — K. Zyskowski.

The Ornithological Information System (ORNIS) was useful for uncovering several museum specimens. H. Hasegawa kindly provided information about the current status of the Torishima colony and

kindly provided the photographs of Short-tailed Albatrosses and Torishima in Figures 1 and 2. M. Brooke, G. Hanke and B. Schmidt kindly provided photographs of museum specimens in Figures 3, 4 and 5, respectively. K.H. Morgan provided useful comments on a preliminary draft and reviewer A.E. Burger helped us clarify several sections of the paper and suggested several recent references.

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