



Additional Notes on the Earliest Breeding Records of Black Oystercatcher and Pigeon Guillemot in British Columbia and Washington, 1792-1867

Harry R. Carter^{1,4}, *Douglas G.D. Russell*², and *Spencer G. Sealy*³

¹*Carter Biological Consulting, 1015 Hampshire Road,
Victoria, British Columbia, Canada V8S 4S8*

²*Bird Group, Department of Life Sciences, Natural History Museum, Akeman Street,
Tring, Hertfordshire, United Kingdom HP23 6AP*

³*Department of Biological Sciences, University of Manitoba,
Winnipeg, Manitoba, Canada R3T 2N2*

⁴*Harry Carter died in Victoria on 30 April 2017. His contributions to knowledge of the historical status of seabirds and far-reaching current studies will be felt by all. Readers are referred to a tribute to Harry's formative years as a seabird biologist, which will be published in the upcoming catalogue of seabird colonies in British Columbia in Volume 13 of Wildlife Afield*

Abstract

Earliest breeding records of Black Oystercatcher (*Haematopus bachmani*) and Pigeon Guillemot (*Cepphus columba*) in British Columbia, 1792-1867, were re-examined to: (1) correct some records and include several records uncovered since a recent summary and (2) more clearly distinguish records in the western San Juan Islands prior to 1872 (British Columbia records) from those in the central and eastern San Juan Islands prior to 1872 (Washington records). Black Oystercatchers were first recorded breeding in British Columbia in 1858 (Waldron Island and "Haro Channel", likely Mandarte Island), 1860-1862 ("Vancouver Island"), 1862 (Mandarte Island and San Juan Island), 1864 (Mandarte Island), and

1867 (White Rock and "Bird Rock near Saanich"). In Washington, Black Oystercatcher breeding was noted in 1792 (Smith Island), 1841 (Juan de Fuca Strait), 1858 ("Rosario Strait", probably Bird Rocks or Williamson Rocks), 1861 and 1862 (Bird Rocks) and 1862 (Williamson Rocks). Pigeon Guillemots also were first recorded breeding in British Columbia in 1858 (Waldron Island), then 1862 and 1864 (Mandarte Island). In Washington, Pigeon Guillemot breeding was noted in 1792 (Cutts Island), 1855 (islands at mouth of Hood Canal, probably Colvos Islands, and Whidbey Island area), 1858 ("Rosario Strait", probably Bird Rocks or Williamson Rocks), 1861 and 1862 (Williamson Rocks), and 1862 (Bird Rocks).

INTRODUCTION

Carter and Sealy (2011a) summarized the earliest known British Columbia breeding records of Black Oystercatcher (*Haematopus bachmani*), 1862-1895, and Pigeon Guillemot (*Cephus columba*), 1858-1896. Subsequent investigation, however, uncovered additional early records and relevant information for 1792 to 1867, which we present in this paper. We include: (1) omissions of several early records for both species, including the earliest documented breeding record of the Black Oystercatcher in British Columbia, in 1858; (2) corrections of several early records that arose from confusion among eggs catalogued as single lots; (3) background information (especially for key collectors, David Lyall and James Hepburn) and other literature pertinent to some records; (4) more precise clarification for the exclusion of certain British Columbia records of both species from the central and eastern San Juan Islands, which are some of the earliest Washington state breeding records; and (5) other early Washington records identified for both species.

Scottish surgeon and naturalist David Lyall (1817–1895) presented a sizeable series (137 accessions; NHMUK 1859.1.26.1-91; 1860.8.24.9-34; 1861.8.12.1-20) of bird skins and eggs to the Natural History Museum (NHMUK), formerly the British Museum (Natural History Department), in 1859 (Sharpe 1906). These specimens were catalogued in association with the 3rd commission of HMS *Plumper* under Captain George H. Richards (1820–1896). During this commission, the ship was engaged to survey parts of the coasts of British Columbia and Washington State from 1857 to 1860. Lyall was the surgeon aboard HMS *Plumper* during surveys of southern Vancouver Island, the Fraser River area, and in the disputed San Juan Islands region from 18 November 1857 to 12 July 1858. He was reassigned in 1858-1861 as the British botanist and surgeon for the joint U.K.-U.S. Northwest Boundary Survey (1857-1861), mainly working inland from the ocean on the British Columbia mainland. The British naturalist also assigned to this survey was John K. Lord (1818–1872) (Lord 1866), whereas the American naturalist was Caleb B.R. Kennerly (1829–1861) (Baker 1900). Lyall was replaced in 1858 by Charles B. Wood (1823–1864), surgeon and naturalist,

who also collected birds in 1859-1862. However, Lyall periodically returned to work aboard HMS *Plumper*, based on NHMUK specimens he collected off northern and eastern Vancouver Island in April, May and September 1860 (Carter and Sealy 2011b; NHMUK 1861.8.12.20; see below). In December 1860, HMS *Hecate* arrived to replace HMS *Plumper*, with Captain Richards, Wood and others moving to HMS *Hecate*. HMS *Plumper* departed for England in late January 1861, and HMS *Hecate* continued to work in Vancouver Island waters in 1861-1863.

In 2004, HRC examined skins of seabirds in the NHMUK taken on the west coast of North America and also obtained information on egg specimens for this region. Carter and Sealy (2011a) had relied on this information for Pigeon Guillemots, but Black Oystercatcher skins or egg specimens were not examined in 2004. DGDR pointed out the omission of Lyall's 1858 egg specimens for Black Oystercatcher (see below) and some additional literature in Carter and Sealy (2011a). Upon re-examination of specimens of both species, DGDR also reassessed information available for each egg in groups of eggs catalogued together and noted two Black Guillemot (*C. grylle*) eggs that had been included as Pigeon Guillemot eggs (discussed in more detail below).

English field naturalist, James E. Hepburn (1811–1869), assembled a large collection of birds and eggs from western North America during long residences in San Francisco, California and Victoria, BC, with trips to adjoining regions, from about 1852 to 1869 (Swarth 1926, Jewett et al. 1953). After his death in Victoria in 1869, most of his more than 1500 specimens were presented to Cambridge University (Kinnear 1931), although some specimens reside in North American collections, primarily the U.S. National Museum. An incomplete list of Hepburn's specimens from British Columbia, Washington and Alaska was prepared by F.S. Hall at the University of California, Berkeley in 1933. Carter and Sealy (2011a) had relied on a copy of this list that resides in the British Columbia Archives (BCA; MS-1077, A01758). More recently, HRC determined that the original Hepburn notebooks and actual specimens were still housed at the Museum of Zoology at Cambridge University (UMZC). In 2015, he visited the UMZC, examined Hepburn's skins of seabirds from the west coast of North America,

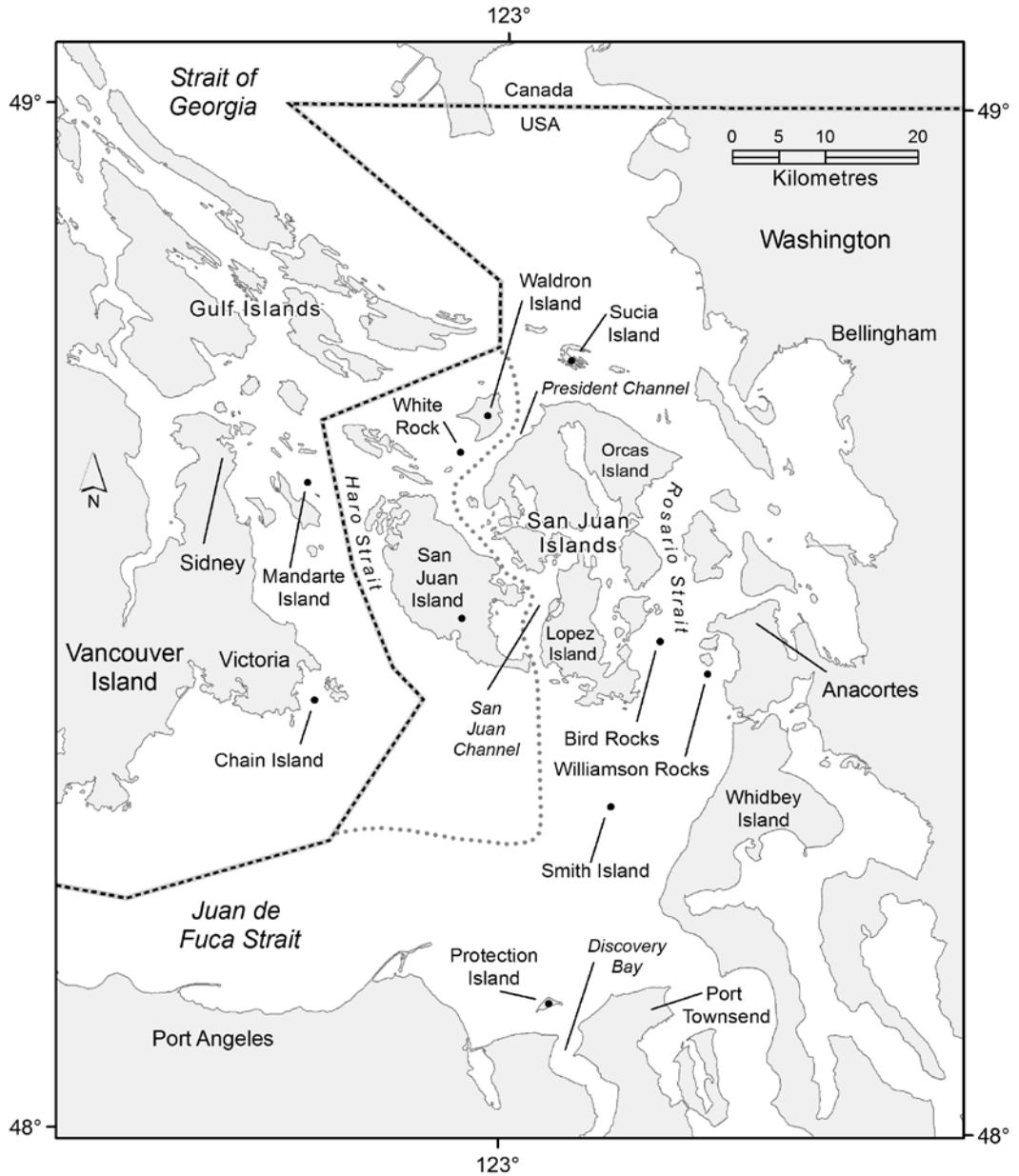
and obtained information on skins and eggs from Hepburn's notebooks and a manuscript. This work yielded additional Hepburn records for both species and information that augmented previously known records.

Before revisiting the earliest records of breeding for Black Oystercatchers and Pigeon Guillemots in British Columbia and Washington, we expand upon the historical background provided in Carter and Sealy (2011a) to further clarify our considerations about the disputed San Juan Islands region of British Columbia and Washington State prior to 1872. The Treaty of 1818, as amended in 1827, established joint occupation by the U.K. and the U.S. of the Columbia District, also known as the Oregon Territory, which extended from about 54° 40'N (i.e., south end of southeast Alaska) to about 42° N (i.e., north end of California) and west of the Rocky Mountains. The 1846 Oregon Treaty established an international border roughly through the middle of this region, mostly along the 49th parallel, but retained all of Vancouver Island for the U.K. However, this treaty was imprecise regarding the exact location of the border between the middle of the Strait of Georgia on the 49th parallel and the middle of Juan de Fuca Strait south of the San Juan Islands. Between 1846 and 1872, the Americans claimed Haro Strait as this part of the border, whereas the British claimed Rosario Strait.

The British claim was relatively strong in the western San Juan Islands. In 1843, Hudson's Bay Company (HBC) had established Fort Camosun (Victoria) on the southeast end of Vancouver Island.

In 1851, HBC first established a fishery at nearby San Juan Island (Bowsfield 1979), followed by a sheep farm in 1853 (Shiels 1938). In 1854, the first conflicts arose between HBC interests and American authorities. In 1858, several U.S. citizens arrived to settle on San Juan Island and other nearby islands. In 1859, a major conflict arose when American forces landed on the island. British forces were dispatched from Esquimalt Harbour near Victoria to land at San Juan Island but, instead of landing, they presented a protest against the landing of American forces and anchored near shore, avoiding war. Later in 1859, a compromise "middle passage" border was proposed by the British that would recognize San Juan Channel and President's Channel as the border running north to south through the San Juan Islands (Figure 1), retaining San Juan Island and adjacent smaller islands as British territory for the colony of Vancouver Island (Mayne 1862, Shiels 1938). Carter and Sealy (2011a) selected this "middle passage" border to identify the western portion of the San Juan Islands, which the British claimed most strongly in 1846-1872 that should be considered to be part of the British colony of Vancouver Island (1849-1866), the British colony of British Columbia (1866-1871), and the Canadian province of British Columbia (1871-1872). While all of the San Juan Islands occurred in territory jointly claimed by the U.K. and U.S., we felt that it was most reasonable to divide the islands so that avian breeding records before 1872 could be assigned to either British Columbia or Washington.

Figure 1. Map of southeast Vancouver Island, San Juan Islands, and eastern Juan de Fuca Strait, showing breeding locations (solid dots) mentioned in the text. The dashed line running through the San Juan Islands indicates the border proposed by the U.K. between the U.S. and the British colony of Vancouver Island (see text). Prepared by Mapmonsters Ltd., Victoria, BC.



Black Oystercatcher

British Columbia

Carter and Sealy (2011a) were not aware of the three earliest breeding records from 1858 of the Black Oystercatcher in British Columbia. Three out of a group of six Black Oystercatcher eggs catalogued together (NHMUK E/1859.1.26.83; Table 1) were collected on 23 June 1858 at “Waldron Island, Vancouver Island” [sic] (Figure 2) and presented to the NHMUK by Lyall. Oates (1902) mentions 3 eggs of the Black Oystercatcher (referred to as *Haematopus niger*) in the NHMUK collected on Waldron Island on 23 June, and presented to the museum by Lyall. In addition, another egg from this group was collected on 25 June 1858 from “Haro Channel” (see Figure 3). Waldron Island is currently part of Washington, but we considered this region of the western San Juan Islands to belong to the colony of Vancouver Island in 1858. The egg from Haro Strait likely was collected at Mandarte Island, where 5 Tufted Puffin (*Fratercula cirrhata*) eggs also were collected in June 1858 (Carter and Sealy 2011b). Sharpe (1896) also noted 2 skins of Black Oystercatchers under a former scientific name *Haematopus niger* (NHMUK 1861.8.12.8 - Denman Island [northern Strait of Georgia, British Columbia], April 1860; NHMUK 1859.1.26.13 - Haro Strait [possibly Mandarte Island]; undated) that were presented to the British Museum by Lyall. Instead

of summarizing all historical skin specimens from British Columbia or Washington for this time period reported in Sharpe (1896) and other sources, we only mention those obtained by Lyall, as they relate indirectly to his breeding records.

In the Natural History collections of the National Museum of Ireland (NMI-NH), 2 Black Oystercatcher eggs (NMI-NH 2008.74.496), likely from the same clutch, were obtained at “Vancouver Island” by an unknown collector without a collection date (P. Viscardi, pers. comm.). No other egg specimens from Vancouver Island were found in the NMI collection, which could have facilitated the identification of the collector or date of collection. However, a group of at least 51 skins obtained by Charles B. Wood also are labeled from “Vancouver Island”, although no Black Oystercatcher skins were among them. Captain Richards had presented Wood’s collection of “...Birds, Birds’ Eggs, Shells, Fossils, &c...” to the Royal Dublin Society (later incorporated into the NMI-NH collection) sometime before February 1864 (Carte 1866:284) but Wood was lost at sea when a small boat carrying him and other officers of HMS *Orlando* capsized off Tunis in November 1864 (Randolph 1864). Only one of Wood’s skins (NMI-NH 2008.51.296) bears a collection year (1861), indicating that he usually did not carefully record the year and date of collection. Mayne (1862:418) reported notes about birds provided by Wood but only the presence of Black Oystercatchers was mentioned. Given that



Black Oystercatcher. Photo by R. Wayne Campbell.

Table 1. Historical breeding records of Black Oystercatchers and Pigeon Guillemots in British Columbia and Washington, 1792-1867. Locations in the western San Juan Islands claimed strongly by the U.K. prior to 1872 are referred to as British Columbia locations (see text).

Species	Year	Location ¹	Original Sources
Black Oystercatcher	1792	Smith Island, WA	Newcombe (1923); Speich and Wahl (1989)
	1841	“Juan de Fuca Strait”, WA (probably Protection Island)	Cassin (1858)
	1858	“Rosario Strait”, WA (probably Bird Rocks or Williamson Rocks)	Oates (1902); NHMUK E/1859.1.26.83 (part)
		Waldron Island, BC	Oates (1902); NHMUK E/1859.1.26.83 (part)
		“Haro Channel”, BC (probably Mandarte Island)	NHMUK E/1859.1.26.83 (part)
	1860-1862	“Vancouver Island”, BC	NMI-NH 2008.74.496
	1861	Bird Rocks, WA	Baird et al. (1884); UMZC 16/Hae/1/d/22, UMZC 16/Hae/1/d/26, UMZC 16/Hae/1/d/27, UMZC 16/Hae/1/d/42; J. Hepburn, unpubl. notes
	1862	Williamson Rocks, WA	J. Hepburn, unpubl. notes
		Bird Rocks, WA	Baird et al. (1884); UMZC 16/Hae/1/d/21; J. Hepburn, unpubl. notes
		Mandarte Island, BC	Carter and Sealy (2011a); UMZC 16/Hae/1/d/19, UMZC 16/Hae/1/d/25; J. Hepburn, unpubl. notes
		San Juan Island, BC	UMZC 16/Hae/1/d/24; J. Hepburn, unpubl. notes
	1861-1862	Bird Rocks, WA	Baird et al. (1884); USNM B5,196
	1864	Mandarte Island, BC	J. Hepburn, unpubl. notes
	1867	White Rock, BC	J. Hepburn, unpubl. notes
		“Bird Rock near Saanich”, BC	J. Hepburn, unpubl. notes
Pigeon Guillemot	1792	Cutts Island, WA	Newcombe (1923); Speich and Wahl (1989)
		Unnamed sandy cliff near Cutts Island, WA (probably Fox Island)	Newcombe (1923); this study
	1855	Islands at mouth of Hood Canal, WA (probably Colvos Islands)	Cooper and Suckley (1859); Suckley and Cooper (1860)
		Whidbey Island area, WA (unknown exact location)	Cooper and Suckley (1859); Suckley and Cooper (1860)
	1858	“Rosario Strait”, WA (probably Bird Rocks or Williamson Rocks)	NHMUK E/1859.1.26.82 (part)
		Waldron Island, BC	Carter and Sealy (2011a); NHMUK E/1859.1.26.82 (part)
		“Puget Sound”, WA	USNM 1032
	1861	Williamson Rocks, WA	J. Hepburn, unpubl. notes
	1862	Mandarte Island, BC	J. Hepburn, unpubl. notes
		Williamson Rocks, WA	J. Hepburn, unpubl. notes
1864	Mandarte Island, BC	Carter and Sealy (2011a); UMZC 16/Alc/4/b/4; J. Hepburn, unpubl. notes	

¹Most locations are indicated in Figure 1.



Figure 2. Black Oystercatcher eggs (NHMUK E/1859.1.26.83 [part]) catalogued as collected at “Waldron Island, Vancouver Island” on 23 June 1858. *Photo by H. Taylor ©NHMUK.* Waldron Island was claimed by the U.K. as part of the British colony of Vancouver Island in 1858 (see text) and this record can be considered the earliest known breeding record for British Columbia and Canada. The island was ceded to the U.S. in 1872.

Wood’s collection contained eggs when presented to the NMI in 1864 and no other eggs labelled from Vancouver Island are currently held in the NMI, the 2 Black Oystercatcher eggs apparently represent all eggs in Wood’s collection in 1864. Wood may have obtained these eggs in 1860-1861 at an unknown location at Vancouver Island, as all sides of the island were visited during these years (Mayne 1862). Someone else may have been the actual collector, which possibly explains the absence of a collector’s name.

To clarify NMI-NH specimens further, at least 2 skins (not Black Oystercatcher or Pigeon Guillemot) collected by Lyall from “Vancouver Island” also reside in the NMI collection; one (NMI-NH 2006.12.1677) bears the date 12 May 1860 (when HMS *Plumper* was working off eastern Vancouver Island; see Mayne 1862). Carte (1862:93) noted that Lyall donated 17 skins and a small collection of insects from “the Islands in the Strait of Georgia, and the Fraser River” to the Royal Dublin Society by fall 1860. However, 26 skins (not Black Oystercatcher or Pigeon Guillemot) collected at “Vancouver Island” by Charles Forbes, medical officer aboard HMS *Topaze* (Captain John W.S. Spencer), also were found in the NMI-NH collection. HMS *Topaze* worked in Vancouver Island and British Columbia waters in

1860-1863. Thirteen (i.e., half) of Forbes’s specimens bear collection dates ranging from 26 September 1860 to 3 October 1862. Available information about Forbes and HMS *Topaze* is limited and we cannot dismiss the possibility that Forbes also may have collected the Black Oystercatcher eggs at Vancouver Island in 1861-1862. Thus, we treated the NMI-NH Black Oystercatcher eggs as collected in 1860-1862 by an unknown collector.

The fourth breeding record for the province is of a chick and adult female collected by Hepburn at “Bare Island,” which we assigned to Mandarte Island near Sidney, British Columbia, on 25 June 1862 (Carter and Sealy 2011a), but this may refer to the Bare Island near Waldron Island (Figure 1). This record was originally based on a list of Hepburn’s specimens, with notes found at the BCA, and subsequently these specimens (UMZC 16/Hae/1/d/19 and 25 [JH 1102, 1103]) and related notes have been examined. The original reported location for these specimens was “Barren Island” and it was noted that the adult female was the “mother” of the chick. In addition, 4 more Hepburn breeding records for Black Oystercatchers in British Columbia have come to light, constituting the fifth to eighth records for the province:

(1) 7 July 1862: a “half grown” chick (UMZC 16/Hae/1/d/24 [JH 1106]) was caught by a dog at San Juan Island (western San Juan Islands). This chick may have been taken on a small rock off San Juan Island but a more detailed location was not provided;

(2) 28 May 1864: two nests “half sat [incubated]” (3 eggs and 2 eggs) at “Bare Island, a rock near the entrance to the Straits of Haro” (most likely Mandarte Island, or possibly Waldron Island) were nest “No. 4” in Hepburn’s nest notebook (UMZC). These 5 eggs are the only Hepburn Black Oystercatcher eggs that remain in the UMZC, labeled by Hepburn as “HNG4” (M. Brooke and M. Lowe, pers. comm.), apparently indicating *Haematopus niger* Gulf Islands nest 4;

(3) 30 May 1867: nest with 3 eggs “half sat” at White Rock “near the Straits of Haro”, southwest of Waldron Island (western San Juan Islands), was nest “No. 5” in Hepburn’s nest notebook (UMZC); and

(4) 7 June 1867: single egg “apparently deserted, having been observed for some days on Bird Rock, near Saanich” noted as “No. 6” in Hepburn’s nest notebook (UMZC). This “Bird Rock” appears to be a rock closer to the east side of the Saanich Peninsula than Mandarte Island, but north of Oak Bay where a nest was later found in 1895 at Chain Islets (Carter and Sealy 2011a). Several rocks, currently supporting Glaucous-winged Gull (*Larus glaucescens*) colonies, occur near Sidney that potentially fit this description, including Imrie Island, Greig Island and Arbutus Island (Vermeer and Devito 1989).

To clarify some other literature, Black Oystercatchers were noted at Vancouver Island in the 1850s (Cooper and Suckley 1859), but Sclater (1859) indicated this species was not included in a collection of birds from Vancouver Island in 1857-1858 presented to the NHMUK by Captain Prevost (HMS *Satellite*). Lord (1866) and Brown (1868) also mentioned their occurrence but not breeding, even though Hepburn had assisted Brown with his list. Fannin (1891) first reported breeding in British Columbia, without details. No additional information was found for breeding records reported by Carter and Sealy (2011a) for British Columbia in 1878 (Skincuttle Inlet, Haida

Gwaii), 1892 (Mandarte Island), and 1895 (Valdes Island in the Gulf Islands, Chain Island off Victoria, and Skidegate in Haida Gwaii).

Washington

Lyall presented to the NHMUK two sets of Black Oystercatcher eggs taken from the eastern San Juan Islands at “Rosario Strait, Vancouver Island” on 8 June 1858 (two eggs) and 28 June 1858 (one egg) (NHMUK E/1859.1.26.83) (Figure 3). Oates (1902) mentions 3 eggs of the Black Oystercatcher (then referred to as *Haematopus niger*) in the NHMUK from Rosario Strait on 8 June presented to the museum by Lyall. These eggs were probably obtained at Bird Rocks or Williamson Rocks where breeding was noted shortly thereafter in 1861 and 1862 by Hepburn (see below). These breeding records together represent the third record for Washington but they were not reported by Speich and Wahl (1989).

Two other breeding records of Black Oystercatchers in Washington prior to 1858 have been reported:

(1) 6 June 1792: Archibald Menzies (1754–1842), naturalist and surgeon, who accompanied Captain George Vancouver on the HMS *Discovery*, shot Black Oystercatchers for food at Smith Island in eastern Juan De Fuca Strait. Menzies described this visit as follows:

As Capt Vancouver & Mr Broughton were at this time going off in a Boat to observe for the Latitude & take bearing on a small Island about 4 or 5 miles to the Northward of us I accompanied them to examine it, at the same time for plants, but I found nothing different from what I had met with in the Arms – About the rocks were a number of black Sea pies [Black Oystercatchers] of which we shot several & found them good eating – Most part of the island was faced with a sandy cliff & covered [sic] with Pines densely copped with Underwood” (Newcombe 1923, p. 46).

Newcombe (1923) referred to the island as Smith Island, which closely matches the location



Figure 3. Black Oystercatcher eggs (NHMUK E/1859.1.26.83 [part]) catalogued as collected at “Rosario Channel, Vancouver Island” on 8 June 1858 (two eggs on left) and “Haro Channel” on 25 June 1858 (right). The eggs from Rosario Channel represent the third breeding record for Washington, while the egg from “Haro Channel” (likely Mandarte Island) represents the second breeding record for British Columbia. *Photo by H. Taylor ©NHMUK.*

and habitats described by Menzies. Speich and Wahl (1989) concluded that Menzies’ observation reflected breeding at Smith Island, rather than only foraging, and we concur, although presence or breeding was not recorded again until 1967 (Speich and Wahl 1989). A light house was built there in 1858, which may have contributed to a lack of breeding afterwards due to impacts from the keepers and introduced mammals (e.g., dogs). The lighthouse was abandoned in the 1950s, apparently allowing Black Oystercatchers to recolonize by 1967.

(2) 29 July 1841: Charles Pickering (1805–1878), naturalist for the U.S. Exploring Expedition of 1838–1842 (Commander C. Wilkes), reported:

Mr. Case [Lieutenant A. Ludlow Case] has obtained the egg [of the Black Oystercatcher], as he felt quite assured from having noticed the birds in the immediate vicinity, and apparently the parents.... [The egg was] found on a rock on the northern shore of the Straits [of Juan de Fuca], with a few sticks and grasses thrown together, scarcely to be called a nest” (Cassin 1858, p. 331).

On about 20 July 1841, Case was ordered “... to proceed to Port Townsend, to fill up the surveys and connect them with Hood’s Canal and those of Whidby’s [sic] Island” (Wilkes 1845:483). We suspect the location to which Case was ordered was most likely Protection Island, located about 11 km NW of Port Townsend on the north-facing side of Juan de Fuca Strait. Presence of Black Oystercatchers was not again reported at Protection Island until 1965 (Speich and Wahl 1989), possibly indicating a lack of breeding for a long period prior to 1965 (see Wick 1958). This 1841 breeding record for Black Oystercatcher was not reported by Speich and Wahl (1989). We also note that James G. Cooper (1830–1902; see Emerson 1899), surgeon and naturalist for the Pacific Railroad Survey, reported this species (but not breeding) in the Whidbey Island area in eastern Juan de Fuca Strait in 1855 (Cooper and Suckley 1859; Suckley and Cooper 1860).

Shortly after 1858, breeding was described in the Salish Sea in the 1860s when Hepburn collected egg sets at Bird Rocks in Rosario Strait (Carter and Sealy 2011a), apparently referred to as “Puget Sound” in Baird et al. (1884). Recently, more details about Hepburn’s collection of Black Oystercatchers at “Bird

Rocks, Washington Territory” were uncovered:

(1) 15 June 1861: a nest with 3 eggs “...rather hard sat, on Bird Rock at the entrance of the Straits of Rosario” was nest “No. 1” in Hepburn’s nest notebook. Hepburn described the nest as “formed of small pebbles and ornamented with fragments of shell.” One adult (UMZC 16/Hae/1/d/22 [JH 996]) and 3 chicks “just hatched; taken from nest” (UMZC 16/Hae/1/d/26, -27 and -42 [JH 997-999]) were preserved as specimens; presumably, the 3 eggs were hatching when collected;

(2) 5 June 1862: a nest with 3 eggs “rather hard sat on Bird Rock” was nest “No. 3” in Hepburn’s nest notebook. The eggs were “sparingly spotted”. One adult female “Sitting bird” (UMZC 16/Hae/1/d/21 [JH 1096]) also was collected; and

(3) An undated clutch collected by Hepburn at “Puget Sound, Bird Rock” (USNM B5,196), apparently also collected on one of the visits in 1861-1862.

In his nest notebook, Hepburn (unpubl. notes at UMZC) also reported another breeding location in Washington. On 4 June 1862, a nest with 2 eggs “half sat” at Williamson Rocks “near Deception Pass”, also in Rosario Strait, was nest “No. 2”.

Pigeon Guillemot

British Columbia

Carter and Sealy (2011a) considered the earliest known breeding record of Pigeon Guillemot in British Columbia was that provided by Lyall (or someone else for him) at “Waldron Island, Vancouver Island” [sic] in June 1858 (Figures 4a, 4b). It consisted of nine eggs from a group of 12 eggs catalogued together (NHMUK E/1859.1.26.82). Only two of these nine eggs were accompanied by paper labels, with the date (“23 June”) and locality written on the eggshells, but the nine eggs had been considered to have been from “Waldron Island”, separate from the 3 eggs labelled from Rosario Strait (see Washington below). Waldron Island is currently part of Washington State, but we considered this region of the western San Juan Islands to belong to the colony of Vancouver Island in 1858.

Upon reconsideration of this breeding record, it has come to light that two eggs (marked α , β in Figure 4b) were apparently stolen and replaced with similarly pigmented and shaped eggs of similar size. The two suspect eggs may be incompletely catalogued and unregistered Black Guillemot eggs, possibly from the 19th century collection of Graf von Rödern,



Pigeon Guillemot. *Photo by R. Wayne Campbell.*

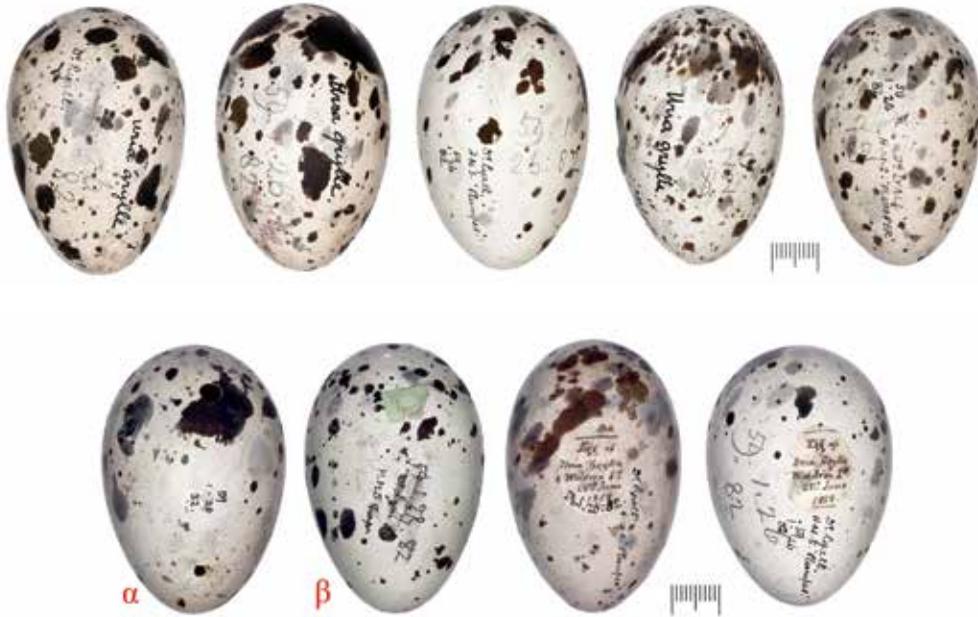


Figure 4. A. Pigeon Guillemot eggs (NHMUK E/1859.1.26.82 [part]) catalogued as collected at “Waldron Island, Vancouver Island” in 1858. Top row: five eggs without dates; bottom row: the two eggs on the left (α , β) are suspected of being fraudulent replacements of the original eggs (see text) while the two eggs on the right are original eggs. The five eggs without dates and two original eggs on the right, dated “23 June,” together constitute the earliest known breeding record for British Columbia and Canada. Waldron Island was later ceded to the U.S. in 1872 (see text). *Photos by H. Taylor* ©NHMUK.

from a nearby drawer. The first suspect egg (α) has a discernable cleaned area consistent with previous annotations having been removed and an incorrectly transcribed registration number “59.1.26.32”. This egg was also prepared with the archaic two-hole technique consistent with Black Guillemot specimens in the Rödern Collection. The second suspect egg (β) has a similarly discernable cleaned area consistent with previous annotations having been removed and crudely transcribed with a badly smudged but correct registration number. “HMS *Plumper*” is likewise clumsily reproduced in a style inconsistent with other specimens in the series. Both suspect eggs are missing the original annotated paper data label that accompanied two other specimens collected on 23 June (see Figure 4b). There is no doubt about the authenticity of the original breeding record but the

two eggs affected are considered by DGDR as being sufficiently suspect that they should be disregarded for scientific purposes unless supporting evidence for their original attribution is forthcoming.

Lord (1866 [Volume 2], p. 301) reported that Pigeon Guillemots, Tufted Puffins and Rhinoceros Auklets (*Cerorhinca monocerata*) were “Found in the Gulf of Georgia. Breed on the islands.” However, he did not present any eggs of these 3 species to the NHMUK or the Royal Artillery Institution (RAI) (Lord 1865). Only one Lord skin of a Pigeon Guillemot (NHMUK 1860.11.22.115) may have been obtained in the Strait of Georgia area but the locality on the tag is vague (“Vancouver Island”), it lacks a collection date, and the bird was molting. No skins of Pigeon Guillemots were presented to the RAI (Lord 1864). Given joint remarks on these 3 species,

Lord apparently based this statement on information provided by Wood who reported Tufted Puffins, Rhinoceros Auklets and “Sea Dove or Dovekie” (i.e., Pigeon Guillemot) as numerous in the waters near Vancouver Island and its adjacent islands (Mayne 1862, p. 418; see Carter and Sealy 2011b). Sharpe and Olgivie-Grant (1898) noted 2 adult male skins of Pigeon Guillemots (in breeding plumage) without collection dates in the NHMUK that were obtained by an unknown collector at Port Neville, British Columbia (NHMUK 1861.8.12.11, 1861.8.12.12), located on Johnstone Strait off the northeast coast of Vancouver Island. This collector probably was Lyall, who obtained 5 Rhinoceros Auklets (4 adults and 1 large chick) on 22 May 1860 at Fort Rupert, which also were accessioned at the NHMUK in 1861 (Carter and Sealy 2011b). Wood apparently referred to his own observations of Pigeon Guillemots at unstated locations at Vancouver Island in 1860-1861. Lord may have seen birds attending colonies (on the rocks or adjacent water) in the Gulf of Georgia but skin or egg specimens apparently were not obtained from them. Without more details on Lord’s observations to clearly distinguish them from Wood’s notes, we did not consider them as breeding records.

Carter and Sealy (2011a) reported an adult female Pigeon Guillemot with a brood patch that had been killed by a dog at its nest on “Bare Island, VI” on 6 July 1864 and collected by J.E. Hepburn; we assigned this location to Mandarte Island. This record was based on a list of Hepburn specimens with notes found at the BCA. In addition, in his nest notebook, Hepburn

(unpubl. notes) reported as nest “No. 4” an earlier record of “eggs” at “Bare Island” (i.e., Mandarte Island) on 25 June 1862. Nine eggs, clearly from several nests, were found at the UMZC labeled by Hepburn as “UCG4” (M. Brooke and M. Lowe, pers. comm.), apparently indicating *Uria columba* [early scientific name for Pigeon Guillemot] Gulf Islands nest 4. Black Oystercatchers also were collected on the same day at this location, referred to as “Barren Island” (see above). Hepburn’s records are the second and third for the province. Brown (1868) mentioned presence but not breeding of Pigeon Guillemots at Vancouver Island, despite Hepburn’s assistance. Selater (1859) did not mention any Pigeon Guillemots collected at Vancouver Island by Captain James C. Prevost aboard HMS *Satellite* in 1857 or 1858.

Additional information was not uncovered for later breeding records reported for British Columbia in 1892 (“west coast of Vancouver Island”, likely Mandarte Island), 1894 (“Pachena Bay” likely Seabird Rocks on the southwest coast of Vancouver Island) and 1896 (Seabird Rocks) (Carter and Sealy 2011a).

Washington

Lyall presented three Pigeon Guillemot eggs from a 12-egg set (NHMUK E/1859.1.26.82 [part]; Figure 5) that were collected in the eastern San Juan Islands at “Rosario Strait, Vancouver Islands” on 8 June 1858 (one egg) and 10 June 1858 (two eggs). These three eggs likely were obtained at Bird Rocks or Williamson Rocks where breeding was noted shortly



Figure 5. Pigeon Guillemot eggs (NHMUK E/1859.1.26.82 [part]) catalogued as collected at “Rosario Channel, Vancouver Islands.” The egg on the right was collected on 8 June 1858 and the two on the left on 10 June 1858; these eggs represent the fifth breeding record for Washington. *Photo by H. Taylor ©NHMUK.*

thereafter by Hepburn, in 1861 and 1862 (see below). We consider these eggs to collectively represent the fifth record for Washington, but this record was not reported in Speich and Wahl (1989). These records predate the earliest known British Columbia record by 13-15 days.

Four other breeding records of Pigeon Guillemots prior to 1858 have been reported:

(1 and 2) 21 May 1792: Menzies reported breeding of “a species of Diver” at two locations in Carr Inlet in southern Puget Sound, as follows:

...ran through a narrow gut leading to the Southward & winded round into a wide deep bay [Carr Inlet] which lead off N W about 4 miles, this we pursued passing on our right a high sandy Cliff in which a species of Diver burrowed very numerously like Swallows, we saw more of them in the Cliffs of a small Island a little further on which was also inhabited by a great number of Crows attending their young, here we landed & shot several of them which were found very good... (Newcombe 1923, p. 34).

Newcombe (1923) referred to the “Diver” as Pigeon Guillemot and to the island as Herron Island but that location is actually in nearby Case Inlet. Speich and Wahl (1989) reassigned the island to Cutts Island and assigned the “high sandy Cliff” to Green Point, both within Carr Inlet. Small numbers of Pigeon Guillemots were observed at Cutts Island in 1980-1982 (although breeding did not appear to have been determined) and none were noted at Green Point in 1982 (Speich and Wahl 1989). However, Pigeon Guillemot eggs were collected in 1897 and 1934 at nearby Fox Island, although this location apparently was not surveyed in 1982 (Speich and Wahl 1989). Fox Island is a larger island that forms the north side of the mouth of Carr Inlet and sandy cliffs occur around the south end of the island which would be passed on the right when Menzies entered Carr Inlet. Sandy cliffs are not present at Green Point. Based on eggs collected and apparently suitable habitats, we contend that Fox Island may be a better probable fit for the “high sandy Cliff” colony than Green Point.

Pearse (1968) argued that Pigeon Guillemots would not burrow in a sandy cliff and that this species might be Tufted Puffin; but Pigeon Guillemots do burrow in sandy cliffs in Puget Sound (see below) and Tufted Puffins are not known to breed in southern Puget Sound (Speich and Wahl 1989).

(3 and 4) March 1855: Cooper provided a detailed description of Pigeon Guillemots breeding and preparing for breeding near Hood Canal (probably Colvos Rocks) and in the Whidbey Island area (unknown exact location), as follows:

It breeds in steep, bold banks overhanging the salt water – burrowing out holes which extend two or three feet back from the entrance, and, according to the statements of the Indians, laying several white eggs. By reason of some prejudice the natives will not eat this bird; why, I cannot say, as they are fond of fishy-tasting birds, and prefer eating surf-ducks [*Melanitta perspicillata*], of strong rank flavor, to mallards [*Anas platyrhynchos*] ... There are several bare rocks projecting out of the water off the mouth of Hood’s Canal [probably Colvos Rocks; Cooper likely visited this area during a month long stay at adjacent Whidbey Island in March 1855], which, during the summer and early fall, are much resorted to by these birds, who at this season appear to be gregarious. They sit on the rocks during the middle of the day – many of them almost motionless – apparently resting after the fatigue of the morning’s feed.... The Black [Pigeon] Guillemot is a common resident in Puget Sound and the waters northward. It burrows holes several feet deep in the sandy cliffs [apparently an unknown location in the Whidbey Island area], at heights of from 20 to 200 feet above the water, the entrance being within two feet of the top of the ground, and the burrow winding horizontally inwards. I was not there when they had eggs or young, but from their frequently flying in and out in March I suppose that they were preparing to lay. The young are fledged in August, and are then caught by the Indians by digging down to the nest. This bird has got the name of “bank duck” from the settlers here (Cooper and Suckley 1859, pp. 285-286).

Speich and Wahl (1989) reported that Dr. George Suckley (1830–1869), also a naturalist for the Pacific Railroad Survey, noted breeding at Protection Island in 1854, citing Suckley and Cooper (1860). Neither Suckley and Cooper (1860) nor Cooper and Suckley (1859) mention breeding by Pigeon Guillemots at Protection Island in the account prepared for this species, although Cooper did not specify an exact breeding location for Pigeon Guillemots in the Whidbey Island area (see above) and Protection Island is only about 15 km away. However, in the Rhinoceros Auklet account, Cooper noted that:

In the summer of 1854 I obtained a couple of young birds from the vicinity of Port Townsend, Washington Territory. Unfortunately, they were destroyed by rats. Protection Island, near the last mentioned locality, is said to be a favorite breeding ground of the species [Rhinoceros Auklet], where, according to the accounts given me by Indians, they breed in holes dug in the steep banks, like those of the black [Pigeon] guillemot, and are said to have much the same habits (Suckley and Cooper 1860, p. 284).

We do not believe that this statement indicates breeding by Pigeon Guillemots at Protection Island in 1854; instead, it appears to state only that Rhinoceros Auklets also breed in burrows in similar habitats as Pigeon Guillemots. Cooper did not appear to visit Protection Island and the exact location in the Whidbey Island area where he noted breeding by Pigeon Guillemots in 1855 remains unknown.

After 1858, Hepburn (unpubl. notes) also reported 2 early breeding records in his nest notebook:

(1) 16 June 1861, eggs “all laid in crevices facing the sea” at Williamson Rocks were noted under nest “No. 2”. Thirteen eggs, clearly from several nests, were found at the UMZC labeled by Hepburn as “UCP2” (M. Brooke and M. Lowe, pers. comm.), apparently indicating *Uria columba* Puget Sound nest 2; and

(2) 4 June 1862, eggs from Williamson Rocks were nest “No. 3”. Five eggs from more than 2 nests were found at the UMZC labeled by Hepburn as “UCP3” (M. Brooke and M. Lowe, pers. comm.).

Hepburn also collected an adult male (UMZC 16/Alc/4/b/1; JH 1095) at Bird Rocks on 5 June 1862, but we could not confirm whether it had been collected from a nest site or nearby at sea.

For clarification of other early breeding records of Pigeon Guillemots in Washington, we also note that a clutch of two eggs (USNM 1032) was collected in “Puget Sound” by Kennerly in 1858, but the month, day and locality of collection are not known (also see reference to eggs collected in “Puget Sound” without details, in Baird et al. 1884). Kennerly died unexpectedly from a sudden brain disorder and was buried at sea in February 1861 off the coast of Mexico, on his way back from the Northwestern Boundary Survey. Speich and Wahl (1989) reported that naturalist Captain Matt H. Gormley (1867–1934) collected egg specimens (reportedly housed at the UWBM) on 22 June 1883 at West Point in the central basin of Puget Sound just north of Seattle. We did not locate any such specimens and no other Pigeon Guillemot specimens were collected by Gormley. However, we uncovered eggs of Glaucous-winged Gull (UWBM 03604) collected by Gormley at Sucia Island on 22 June 1883, which were not reported by Speich and Wahl (1989). We suspect these eggs may have been incorrectly reported as Pigeon Guillemot eggs from West Point. On 8 June 1886, Captain Preston B. Randolph (1860–1939) collected an egg set at “Seattle” (UWBM 03605), although we suspect the locality was Sucia Island because, on the same date at Sucia Island, he collected 2 sets of single Black Oystercatcher eggs (UWBM 03608, 03609) and the earliest recorded Tufted Puffin egg (UWBM 03606) in Washington (Speich and Wahl 1989, Carter and Sealy 2011b).

Final Thoughts

We believe all of the earliest breeding records for Black Oystercatchers (1858-1895 for British Columbia; 1792-1886 for Washington) and Pigeon Guillemots (1858-1896 for British Columbia; 1792-1886 for Washington) are now accounted for in Carter and Sealy (2011a) and this paper. The more detailed information about collectors and specimens provided herein also more strongly supports and more precisely clarifies these historical records, especially those from two major museums in the U.K. These records confirm that Black Oystercatchers have bred in the Salish Sea since at least 1792 and Pigeon Guillemots since at least 1858; both species likely bred there long before their first documentation. Many early records were obtained from the San Juan Islands, part of a region occupied jointly by the U.K. and U.S., between 1818 and 1846, and these islands were a disputed region between these countries in 1846-1871 and were still disputed in 1871-1872, after the British colony of British Columbia joined Canada in 1871. Although we considered that it was most accurate to consider records in the western San Juan Islands prior to 1872 to belong to British Columbia, we also recognize that future investigators may instead claim all records in the San Juan Islands as Washington records, given the 1872 decision to assign all of the San Juan Islands to the U.S. In any case, our chief goal has been to document these historical records for British Columbia and Washington. Historical information on breeding is important for assessing changes in distribution and abundance over time and identifying causes for the changes, in response to both anthropogenic and natural factors that affect these species and their habitats, prey, and predators.

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About the Authors

After assisting the first survey of seabird breeding colonies in British Columbia in 1975-1977, Harry continued to work closely with Wayne Campbell and others at the British Columbia Provincial Museum (now Royal British Columbia Museum) to produce the first bibliography of the birds in British Columbia in 1978-1979. This project involved sifting through historical literature and finding records of all bird species throughout the province, for eventual use in the four volumes of the “Birds of British Columbia” published by Campbell and others in 1990-2001. Harry’s knowledge of seabird historical literature and unpublished data, including that associated with museum specimens, increased greatly at the University of Manitoba in 1979-1982, with strong encouragement from and collaboration with Spencer Sealy. As part of his M.Sc. studies of Marbled Murrelets (*Brachyramphus marmoratus*) in Barkley Sound, British Columbia (working out of the Bamfield Marine Station and the RV *Tedmac*), he summarized historical records from Alaska to California, which contributed greatly to the recognition of the impacts of loss of old-growth forests throughout the range of this then poorly known seabird. Harry’s subsequent career has focused on research, conservation and restoration of breeding seabirds in Alaska to Baja California, especially in California. Historical information on



seabirds has been invaluable for assessing changes in abundance and distribution, identifying human and natural factors affecting breeding, and developing conservation actions that assist recovery of species heavily impacted by human activities. Since 2003, Harry has again worked closely with Spencer Sealy and others, including Douglas Russell, to uncover and summarize published and unpublished historical information on breeding or occurrence for several seabird species in British Columbia and other parts of the west coast of North America.

After graduating from Napier University in Edinburgh, Scotland, Douglas worked at the National Museum of Scotland preserving and studying specimens of several hundred seabird casualties from the *Sea Empress* oil spill in Pembrokeshire, Wales in 1996. Brief forays into mammal curation and research as well as a stint as curator of natural history at the Scarborough Museum in North Yorkshire followed. For the last 15 years he has been based at the Natural History Museum Bird Group in Tring, UK curating one of the world's largest and most comprehensive egg collections. As the Senior Curator, he helps professional and amateur researchers worldwide to access and research this extraordinary historical resource of over 200,000 sets of eggs representing over 50% of world bird species. Currently Douglas is focused on projects to digitise the remarkable manuscripts accompanying the collection to improve international research access and collection impact.



Spencer's interest in waterbirds began during episodes of banding at several colonies of gulls, terns, and cormorants in Saskatchewan and Alberta during his undergraduate days in the 1960s. This interest took him to the University of British Columbia where he conducted a study of the breeding biology of auklets on St. Lawrence Island, Bering Sea, in the mid-1960s. Doctoral field work on murrelet ecology on Haida Gwaii, out of the University of Michigan in the early 1970s, consolidated his interest in the seabirds of British Columbia. Seabird research continued at the University of Manitoba but was augmented by studies of foraging behaviour of cloud-forest birds in Costa Rica and, with many students, studies of breeding ecology of passerine birds at Delta Marsh and interactions between avian brood parasites and their hosts. These experiences instilled in him the importance of remembering the contributions of the early naturalists and ornithologists. Following a stint as editor of the ornithological journal, *The Auk*, Spencer joined the editorial team of *Wildlife Afield*, a journal notable for publishing a breadth of articles on the natural history of British Columbia, including ones focused on the early ornithological history of the province and adjacent regions.

