Wildlife Afield 11(1):39-47, 2014

Ancient Murrelets at Okanagan Lake and Shuswap Lake, British Columbia, 1942–1949

Spencer G. Sealy[1] *and Harry R. Carter*[2]

[1]*Department of Biological Sciences, University of Manitoba, Winnipeg, Manitoba, Canada R3T 2N2*

[2]*Carter Biological Consulting, 1015 Hampshire Road, Victoria, British Columbia, Canada V8S 4S8*

Abstract

Among the field notes left behind by Glenn R. Ryder were details of observations recorded between 1942 and 1949 of a small diving seabird, the Ancient Murrelet (*Synthliboramphus antiquus*), at Okanagan Lake (records of four live and two dead birds) and Shuswap Lake (record of a live bird), in south-central British Columbia. Ancient Murrelets typically inhabit the marine waters of the Pacific Ocean, but over the 128 years between 1882 and 2010 more than 125 individuals of this species have been recorded across the interior of North America. Ryder's records are particularly noteworthy in that four of these birds were recorded in May, whereas one each from August and two in November, thus more than doubling the number of summer occurrences recorded inland. The occurrences in May generally overlapped the breeding season of the Ancient Murrelet in British Columbia, on Haida Gwaii, whereas the records in November and August occurred during post-breeding migrations in British Columbia. Ancient Murrelets recorded in the interior of British Columbia most likely originated from waters off coastal British Columbia or southeastern Alaska, although it cannot be ruled out that they originated from northeast Asia or northern Alaska.

Introduction

A species that Glenn Ryder probably did not expect to record while observing birds in the southern interior of British Columbia was the Ancient Murrelet (*Synthliboramphus antiquus*), a small diving seabird that breeds from Haida Gwaii, British Columbia, to the Aleutian Islands, Alaska, to Kamchatka (Russia), and south to northern China (Gaston and Jones 1998). It winters in the northeastern Pacific from the Alaska Peninsula to southern California and in the northwestern Pacific, from the southern Sea of Okhotsk to central China (Gaston and Jones 1998). From 1942 to 1949, Ryder, often accompanied in the field by his brother Donald, recorded seven Ancient Murrelets in the southern interior of British Columbia at Okanagan Lake (6 records, 1942–1946; ~ 225 km inland [minimum straight line distance to Indian Arm, Burrard Inlet]) and at Shuswap Lake (1 record, 1949; ~ 290 km inland). Except when visiting breeding colonies, Ancient Murrelets do not normally occur away from the ocean, therefore, individuals encountered inland in British Columbia are vagrants. Ryder realized these records were unusual and in most cases he took extra time to note the pattern and colouration of the plumage. Because he could not preserve the two dead birds, he sketched one of them (Ryder 2006; record #5 below). Ryder interpreted diving behaviour as likely feeding behaviour while

he observed each live bird for the few minutes it remained within sight.

One Ancient Murrelet had been recorded in the interior of British Columbia before Ryder discovered his first in 1942, an individual found dead at Vaseaux Lake (Cannings et al. 1987; see Appendix 1 for list of records from interior North America, recorded in May). Ryder was unaware of the record for 1930 because it was hidden in a museum collection. He remarked in notes that accompanied the 1945 specimen from Okanagan Lake (Appendix 1) that there was no one to discuss and learn about the significance of his observations. After 70 additional years of field observations by others, Ryder's observations now augment the large body of inland records of vagrant Ancient Murrelets that extend across North America (see Munyer 1965, Verbeek 1996; Sealy and Carter, unpublished data).

Since the late 1970s, we have collated records of Ancient Murrelets and other alcids in the interior of North America to identify seasonal and age-related patterns of the vagrancy and speculate on routes of travel from different parts of the species' range (e.g., Sealy and Carter 2012a, b; Sealy et al. 2001; Sealy and Carter, unpublished data). Ryder's observations of vagrant Ancient Murrelets have been recorded below with the notes transcribed verbatim from his notebooks, unedited to preserve their flavour. Where appropriate, we inserted notes among the observations and later discussed them in a broader context. We aged the dead birds on the basis of Ryder's descriptions of the plumage as after-second-year (ASY) adults or subadults, with black throats (category D, figure 544 of Pyle 2008:768).

Ryder's Observations

1. Penticton, 2 May 1942. [ASY bird washed up on the shore of Okanagan Lake (map in Figure 1).] *The Birds Colours are Head area Black with some white feathering above and back of eyes or nape of neck. Bill Dark with a pale Yellowish tip to It. It has a Black throat or grey Blackish, the rest of the main throat is white plus upper Breast. Back is slate grey wing feathers Black. Sides of Body a mixed grey with white feathers. Under tail is white also, Bird size taken with a tape measure It is a smallish bird of some 10 inches. Its wings are 17+ inches in length. We give this Bird a Burial in the sand above the shoreline and placed some Driftwood on Top of the spot. The Bird was not in the Best of Shape.*

[Note: Ryder's description of this bird suggests an ASY individual (Appendix 1). The carcass was "not in the best of shape", hence, it had likely died several days before discovery. Vagrant alcids, including Ancient Murrelet, are known to feed on fresh water, as four of Ryder's observations suggest, and they may survive for several days or weeks before dying or moving on (Sealy and Carter 2012b, unpublished data). For example, Koes and Taylor (2008) recorded a hatch-year (HY) Ancient Murrelet on Lake Minnewanka, Banff National Park, Alberta that was present for at least one month, from mid-July to 20 August 2007 (Appendix 2).]

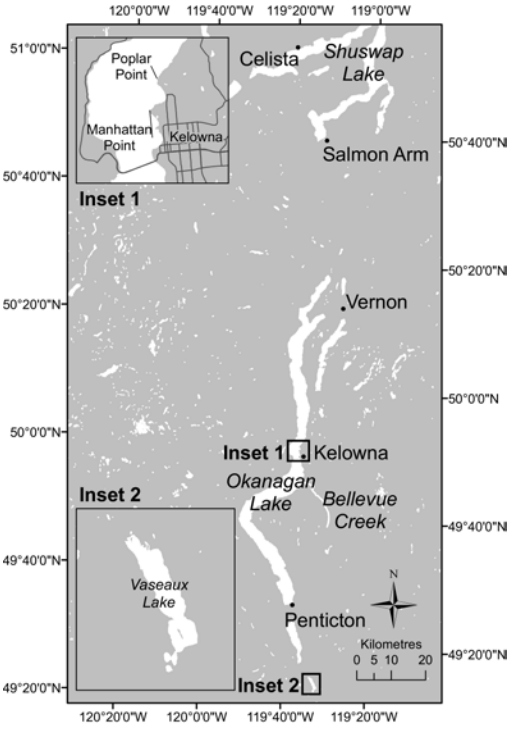

Figure 1. Locations of Glenn Ryder's and other records of Ancient Murrelet inland in southern British Columbia.

2. Kelowna, 28 May 1944 – [One ASY bird] *seen fishing diving and coming up with something in Its bill this small fat looking Bird is near shore just North of Poplar Point area Colours looks Black and white mainly with a Yellow thick beak. bird never seen flying It kept diving and feeding and It finely Vanished.*

3. Kelowna, 8 November 1944 – [One bird] *seen again out in deep water out from Poplar Point diving and likely feeding. this bird was seen in the area for about half hour then It vanished.*

4. Kelowna, 25 November 1944 – [One bird] *seen just out from Bellevue Creek diving and surfacing again. this small waterbird kept heading down the Lake with each time It came to the surface until It was gone from sight.*

5. Kelowna, 17 August 1945. *The* [ASY] *bird was in Its summer colours Black throat white area over eye to Back of head Bill Yellow Back area grey black. a small Bird of some 8 to 10 inches A Bird not to be expected in the area This bird had not been dead long as It was in good shape. I placed the Bird in the sand and Covered It up. Birds of Canada By P.A. Taverner 1934* [Taverner 1934] *said nothing about this Bird in the area of Okanagan. Just that It is on the Sea Coast areas from Alaska to California. And I have no one to talk to with on these things If it is out of place being here in this area?*

[Note: Ryder's second dead Ancient Murrelet was washed up on shore of Okanagan Lake, north of Manhattan Point. A sketch of this bird was published previously (Ryder 2006), but we have included it in Figure 2 to confirm the bird's plumage (also see Appendix 2). We could not determine if this bird had completed flight feather molt or had not started molting. Ryder did not mention missing or growing primaries so it did not seem to be molting.]

6. Kelowna, 22 May 1946. – [One ASY bird] *This little ocean going Bird is again seen here on Okanagan Lake and again off from Poplar Point fishing. the Bird was near shore just off the Point, Black head with a white line above the eye, Yellowish tip on Bill, white Breast and part of lower head, grayish Back.. smaller than a Bufflehead Duck.*

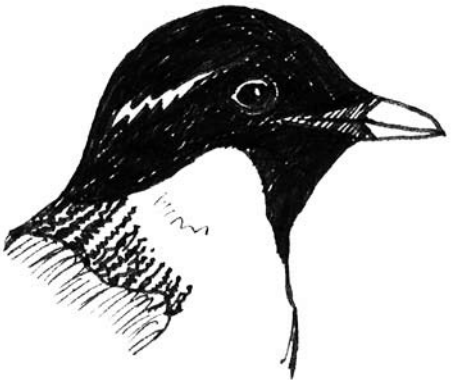

Figure 2. Sketch of Ancient Murrelet found dead on the shore of Okanagan Lake, BC, 17 August 1945 (record #5). *Original sketch by Glenn R. Ryder.*

7. Celista, 5 May 1949. [One ASY bird on Shuswap Lake] *Diving and feeding out from the old wharf Bird seen me on top of Piling and kept Diving and surfacing and moved out well off shore in a short time Head Black white over eye white throat area Yellowsh Bill slate Bluish Back, Whitish gray on sides Dark wings Black on Back of head and upper throat area. A small chucky bird about Robin sized but chunkier. This is my first record for this lake.*

[Note: A second record for Shuswap Lake was a HY Ancient Murrelet that was dip-netted and later released near Salmon Arm, British Columbia on 1 August 2004 (Appendix 2; Cecile (2005).]

Ancient Murrelets in the Interior of British Columbia

Four of Ryder's 7 records of Ancient Murrelet from interior British Columbia were dated in May: 3 were observed swimming on lakes, whereas the other individual was found dead on 2 May, but its condition indicated that it had died in late April (Appendix 1). We have collated 125 other records of Ancient Murrelet from the interior of North America from 1882 to 2010. Only 5 (4.0%) were recorded in May: (1) one specimen salvaged at Vaseaux Lake on 26 May 1930; (2) 3 observations of living birds (one soon died) and one bird found dead; and (3) the carcass of a fifth that was mummified, having died weeks earlier, hence, its date of arrival could not be accurately determined (Appendix 2). The number of inland records for May overall is small, possibly because at this time of the year movements of adults and older subadults are over and they are attending colonies in Haida Gwaii and southeastern Alaska. Colony visitation at these sites generally commences in mid- to late March, egg laying occurs in mid- to late April, and adults and recently hatched chicks have departed by late May and early June (Willett 1915, Sealy 1976, Gaston 1992). A similar timing of breeding has been documented in southern Russia (Kondratyev et al. 2000) but eggs are laid from late February to April in the Republic of Korea (Park et al. 2012) and 1-2 months later in the northern Sea of Okhotsk and in the Aleutian Islands (Kondratyev et al. 2000, Bechaver and Gehrig 2011). ASY Ancient Murrelets recorded inland in May (Appendix 1) may have been older subadults, non-breeding adults or breeding adults, assuming they had only recently flown inland before they were observed or died. The unsexed bird (MVZ #101551) salvaged on Vaseaux Lake in May 1930 (Figure 3, Appendix 1) bore no evidence of brood patches, indicating that it was a subadult or non-breeding adult. We could not determine whether brood patches were present on the two other specimens.

Ryder's records #3 and #4 were of single birds observed 17 days and ~ 9 km apart from the east shore of Okanagan Lake (off Poplar Point and Bellevue Creek, Figure 1). Although possibly the same individual, we considered them as two records in Figure 4 in which the dates of occurrence were plotted at biweekly intervals. Descriptions of the plumages that may have distinguished these individuals or suggested that they may have been the same individual were not available. Survival of at least 17 days at inland lakes has been recorded for vagrant Long-billed Murrelets (*Brachyramphus perdix*) where

Figure 3. Ancient Murrelets. Top: breeding female (UMZM #1168), Langara Island, Haida Gwaii, BC, 21 May 1970 (developing brood patches; first of two hard-shelled eggs was in oviduct, ready to be laid); middle: subadult male Ancient Murrelet (UMZM #1262), Lyell Island, Haida Gwaii, BC, 21 June 1979 (no brood patches); and bottom: unsexed bird (MVZ #101551) discovered dead on shore of Vaseaux Lake, BC, 26 May 1930.

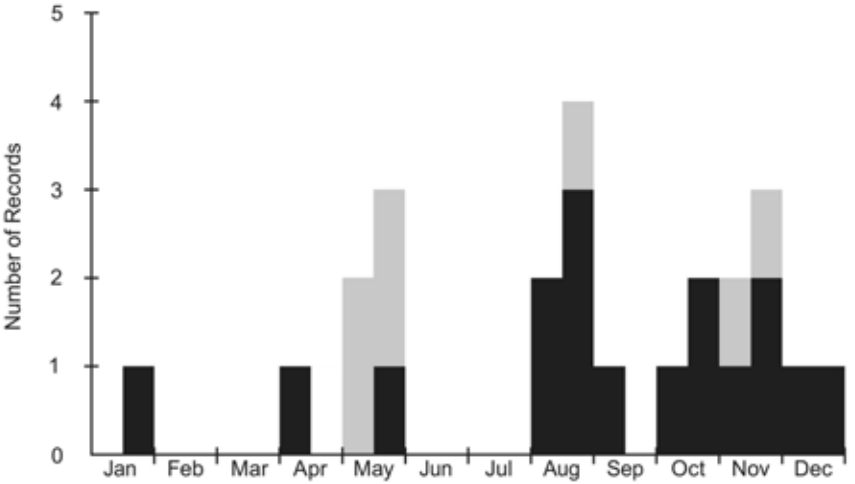

Figure 4. Seasonal inland distribution pattern of 24 Ancient Murrelets recorded inland in British Columbia (26 May 1930 to 22 November 2010) in bi-weekly periods (S.G. Sealy and H.R Carter, unpublished data). Ryder's observations are denoted by grey bars, those of other naturalists by black bars. [Note: a specimen salvaged near Cranbrook, BC in "the early winter of 1960" (Johnstone 1964:200) was assigned as late December 1960.]

feeding occurs (Sealy and Carter 2012b). Record #2 was of a bird also observed off Poplar Point but about five months earlier, but this may have been the same individual if it had survived for 5-6 months by feeding on different lakes in the region. Feeding at the north end of Okanagan Lake (minimum straight-line distance from south to the north end of the lake is 96 km) or nearby lakes without detection could explain the lack of observations between records. We also speculate that record #5, from the same lake but recorded 8 months later, and record #6 at the same lake but another 9 months later, could have been the same individual as those in records #2, #3 and #4, if this individual survived the summer of 1944 through the winters of 1944–1945 and 1945–1946. Okanagan Lake and some nearby lakes do not freeze every winter. The winters referred to above were mild and the lake did not freeze (mean monthly temperature at Kelowna reached only a low of -2.3ºC in December 1944 and -0.6ºC in January 1946 (http://climate.weather.gc.ca/climateData).

In extreme cases, vagrant alcids have been known to survive months to years, but only when overwintering on the ocean. One Ancient Murrelet apparently survived for at least 3 years (27 May 1989 to 29 April 1992) before disappearing near Lundy in the United Kingdom (Waldon 1994). A Kittlitz's Murrelet (*B. brevirostris*) survived for at least 4-5 months (November 1985 to April 1986) near Victoria, British Columbia before disappearing (Carter et al. 2011).

Records #3 and #4 fell within the main peak of records (late October through early December) of Ancient Murrelets in inland North America (Munyer 1965, Verbeek 1966, Sealy et al. 2001; Sealy and Carter, unpublished data). However, for interior British Columbia, the main peak apparently extends earlier to August (Figure 4) when record #5 was obtained. Records #1, #2, #6 and #7 fell near the end of a narrower second peak in March-May. Earlier, this peak had been shown to occur in March and April, possibly reflecting spring migration (Munyer 1965, Verbeek 1966). With the inclusion of records in May, this peak is broader and overlaps the breeding season for southern portions of the breeding range, including Haida Gwaii.

Five of the 7 aged Ancient Murrelets recorded inland in North America in July and August were HY birds, whereas 2 were ASY (adults or subadult) birds (Appendix 2). By mid-July, most HY Ancient

Murrelets in British Columbia can fly and have become independent of adults but their movements at this time are incompletely known. Most adults and subadults in British Columbia are flightless in late July and August while molting (Sealy et al. 2013; Sealy and Carter, unpublished data). However, birds in northern regions do not initiate molt until August-September. At least some HY birds occur in coastal habitats adjacent to at-sea rearing areas at this time (Sealy et al. 2013). One ASY individual recorded on Okanagan Lake in August (MVZ#101551) had recently completed molt but insufficient information was recorded to assess molt in Ryder's August bird (record #5). As noted elsewhere (Sealy and Carter 2012a), patterns of movements of alcids of different ages and breeding status, including Ancient Murrelets, may be better described using geolocators that facilitate tracking of individuals over the annual cycle.

Acknowledgements

Glenn Ryder's carefully recorded observations of Ancient Murrelets and many other species is commendable and provide important lessons on the value of preparing detailed field notes. R.W. Campbell's foresight to preserve Ryder's notes for use by researchers and naturalists made this article possible. In addition to specimens examined in the collection of the University of Manitoba Zoology Museum (UMZM), curators and assistants at several other museums arranged loans, facilitated visits and photography, and/or provided additional information: C.M. Cassidy and R.E. Johnson (Charles R. Connor Museum, Washington State University [WSUM], Pullman); J.V. Remsen Jr. (Louisiana State University Museum of Natural History [LSUMNH], Baton Rouge); P. Unitt (San Diego Museum of Natural History [SDMNH], San Diego, California); C. Cicero and N.K. Johnson (University of California, Museum of Vertebrate Zoology [MVZ], Berkeley); and J.W. Wyckoff (Biology Museum, University of Utah [UUBM], Salt Lake City). M. Nyhof prepared the graph. The map was prepared by CloverPoint Cartographics (Victoria, BC), with assistance from S. MacGregor and E. Hillier. Visits to museums were funded by grants to SGS from the Natural Sciences and Engineering Research Council of Canada.

Literature Cited

Bechaver, C.A. and J.M. Gehrig. 2011. Biological monitoring at Aiktak Island, Alaska in 2011. U.S. Fish and Wildlife Service Report, AMNWR 2011/12. Homer, Alaska. 151 pp.

Cannings, R.A., R.J. Cannings, and S.G. Cannnings. 1987. Birds of the Okanagan Valley, British Columbia. Royal British Columbia Provincial Museum, Victoria. 420 pages.

Carter, H.R., S.K. Nelson, S.G. Sealy, and G.B. van Vliet. 2011. Occurrences of Kittlitz's Murrelets south of the breeding range along the west coast of North America. Northwestern Naturalist 92:86-199.

Cecile, D.G. 2005. British Columbia. North American Birds 59:133-135.

Cecile, D.G. 2006. British Columbia. North American Birds 60:124-126.

Dobler, F.C. and T.W. Sauve. 1982. Ancient Murrelet on the Columbia River near Wenatchee, Washington. Murrelet 63:71-72.

Gaston, A.J. 1992. The Ancient Murrelet. T & AD Poyser, London, UK. 249 pp.

Gaston, A.J. and I.L. Jones. 1998. The Auks: Alcidae. Oxford University Press, Oxford, UK. 349 pp.

Johnstone, W.B. 1964. Two interior British Columbia records for the Ancient Murrelet. Canadian Field-Naturalist 78:199-200.

Kondratyev, A.Y., N.M. Litvinenko, Y.V. Shibaev, P.S. Vyatkin, and L.F. Kondratyeva. 2000. The breeding seabirds of the Russian Far East. In: A.Y. Kondratyev, N.M. Litvinenko, and G.W. Kaiser (eds.). Seabirds of the Russian Far East. Special Publication, Canadian Wildlife Service, Ottawa. pp. 37-81.

Koes, R.F. and P. Taylor. 2008. Prairie Provinces. North American Birds 62:97-99.

Knopf, F.L. 1976. Ancient Murrelet in Utah. Western Birds 7:27.

Lowery, G.H., Jr. 1960. Louisiana birds. Louisiana State University Press, Baton Rouge. Revised second edition. 567 pp.

McCaskie, G. 1987. Southern Pacific Coast Region. American Birds 41:487-490.

McCaskie, G. and K.L. Garrett. 2005. Southern California. North American Birds 59:493-497.

Munyer, E.A. 1965. Inland wanderings of the Ancient Murrelet. Wilson Bulletin 77:235-242.

Park, C., A. Seo, T. Ogura, H. Nam, G. Bing, S. Cho, S. Park, G. Hong, and H. Chae. 2012. Breeding status and estimation of population size in Japanese and Ancient murrelets on Gugul-do (Is.), Republic of Korea. In: Y. Kwon, H.Y. Nam, C.Y. Choi, and G.C. Bing (eds.). Status and conservation effort on murrelets. Proceedings of the 6th International Symposium on Migratory Birds. National Park Migratory Birds Center, Shinan, Republic of Korea. pp. 151-167.

Pyle, P. 2008. Identification guide to North American birds. Part II. Anatidae to Alcidae. Slate Creek Press, Point Reyes Station, CA. 835 pp.

Ryder, G.R. 2006. First record of the Ancient Murrelet at Kelowna, British Columbia. Wildlife Afield 3:146-147.

Sealy, S.G. 1976. Biology of nesting Ancient Murrelets. Condor 78:294-306.

Sealy, S.G. and H.R. Carter. 2012a. Rare inter-ocean vagrancy in Crested Auklet and Parakeet Auklet. Waterbirds 35:64-73.

Sealy, S.G. and H.R. Carter. 2012b. Body condition and survival of vagrant Long-billed Murrelets, *Brachyramphus perdix*, in North America. Canadian Field-Naturalist 126:6-14.

Sealy, S.G., H.R. Carter, and J. Hudon. 2001. Specimen records and sightings of Ancient Murrelets from the Canadian prairie provinces. Blue Jay 59:175-182.

Sealy, S.G., H.R. Carter, R.E. Thomson, and K.H. Morgan. 2013. Movements of Ancient Murrelet family groups to northern Vancouver Island, British Columbia. Northwestern Naturalist 94:209-226.

Taverner, P.A. 1934. Birds of Canada. National Museum of Canada Bulletin, No. 72. 445 pp.

Trochlell, D. 2001. Idaho-Western Montana. North American Birds 55:458-459.

Verbeek, N.A.M. 1966. Wanderings of the Ancient Murrelet: some additional comments. Condor 68:510-511.

Waldon, J. 1994. Ancient Murrelet in Devon: new to the Western Palearctic. British Birds 87:307-310.

Willett, G. 1915. Summer birds of Forrester Island, Alaska. Auk 32:295-305.

Appendix 1. Nine records of inland Ancient Murrelets in North America in May.

Year	Date	Province/ State	Location	Sex	Age	Documentation	Status	Source
1930	26 May	British Columbia	Vaseaux Lake	?	ASY[1]	MVZ #101551[2]	Dead on lake shore	Cannings et al. (1987)
1942	2 May	British Columbia	Okanagan Lake	?	ASY	Specimen[3] discarded	Dead on lake shore	G.R. Ryder (this paper)
1944	28 May	British Columbia	Okanagan Lake	?	ASY	Observation	Swimming on lake	G.R. Ryder (this paper)
1946	22 May	British Columbia	Okanagan Lake	?	ASY	Observation	Swimming on lake	G.R. Ryder (this paper)
1949	5 May	British Columbia	Shuswap Lake	?	ASY	Observation	Swimming on lake	G.R. Ryder (this paper)
1954	6 May	Louisiana	Lake Pontchartain	♀[4]	ASY	LSUMNH #19466	Dip-netted on lake (soon died)	Lowery (1960:300-301)
1974	8 May	Utah	Gunnison Is, Great Salt Lk.	?	ASY	UUBM #22472[5]	Mummified on salt lake island	Knopf (1976)
1987	23 May	California	Salton Sea	?	ASY	Observation	Swimming on salt lake	McCaskie (1987)
2005	29 May	California	Salton Sea	?	ASY	Observation	Swimming on salt lake	McCaskie and Garrett (2005)

[1]Age of each bird was determined after examination of plumage of specimens or from descriptions of plumage of individuals observed and/or photographed. ASY = after second year, adults or subadults with fully black throats (category D, figure 544 of Pyle 2008:768).

[2] This specimen (Figure 3), originally salvaged by S.J. Darcus, became part of the Allan Brooks collection. A note on the label stated that the bird had been "Probably dead for about 10 days." Part of Brooks's collection was transferred to the Museum of Vertebrate Zoology (MVZ), University of California at Berkeley. [3]

[3] Ryder described this specimen as "… not in the best of shape," which would place its death in about late April.

[4] Sex was obtained from the catalogue of Louisiana State University Museum of Zoology (LSUMNH), where the specimen is on display.

[5] Although the mummified carcass was discovered in early May, this bird arrived inland and died several weeks earlier, hence, this record is not included in Figure 4.

Appendix 2. Ten records of inland Ancient Murrelet in northwestern North America in July and August.

Year	Date	Province/ State	Location	Sex	Age[1]	Documentation	Status	Source
1942	29 Aug	British Columbia	Okanagan Lake	♀	HY	MVZ #101550	Shot	Cannings et al. (1987)
1945	17 Aug	British Columbia	Okanagan Lake	?	ASY	Specimen discarded	Dead on lake shore	G.R. Ryder (this paper)
1972	15 Aug	Idaho	Payette Lake	♀	HY	SDMNH #38233	Dead on lake shore	Unpublished
1979	17 Aug	Washington	Columbia River	♂	HY	WSUM #80-763	Dip-netted on river (soon died)	Dobler and Sauve (1982)
1981	21 Aug	British Columbia	Okanagan Lake	?	?	Observation	Swimming on lake	Cannings et al. (1987)
2001	26 Jul	Idaho	Salmon River	?	?	Observation	Swimming on river	Trochlell (2001)
2004	1 Aug	British Columbia	Shuswap Lake	?	HY	Captured	Released back to lake	Cecile (2005)
2005	15 Aug	British Columbia	Fraser River	?	ASY	Observation	Swimming on river	Cecile (2006)
2005	28 Aug	British Columbia	Williston Lake	?	?	Observation	Flying above lake	Cecile (2006)
2007	16 Jul-20 Aug	Alberta	Lake Minnewanka	?	HY	Observation	Swimming on lake	Koes and Taylor (2008)

[1] HY = hatch year; ASY = after second year.