

Note

An assessment of historical records of Wolverine (*Gulo gulo*) from New Brunswick

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Abstract

We assessed selected historical reports and original archival records of Wolverine (*Gulo gulo*) in New Brunswick. Wolverine range in the Maritimes region of Canada is based on a widely accepted 1904 report of extant museum skulls from Canterbury Station, New Brunswick, which is discounted here. However, we report at least 15 pelt export records from the 18th century and conclude that Wolverines appear to have been uncommon, but present, over much of New Brunswick until at least 1794, and seem to have been extirpated from the province by the middle of the 19th century.

Key words: Wolverine; *Gulo gulo*; New Brunswick; historical record

Proper documentation of the past distribution of species will assist in recovery efforts and the assessment of wildlife response to human-associated threats, including climate change (Monsarrat *et al.* 2019). Numerous species of large mammals were extirpated from regions colonized during the 17th to 19th centuries (Krohn and Hoving 2010; Naughton 2012), but data on these events are often sparse because documentation was coarse and requires interpretation, and surviving archival material is limited (Boshoff and Kerley 2010).

The historical distribution of Wolverine (*Gulo gulo*) in the Maritime provinces of Canada is not well understood. Much of the evidence for Wolverine occurrence in New Brunswick is based on 17th century written accounts of French priests and seigneurs (e.g., Denys 1672; LeClerq 1692), combined with Indigenous Traditional Knowledge (see Squires 1946). van Zyll de Jong (1975) located the species along the northern New Brunswick border with the Gaspé Peninsula, while Dilworth (1984) does not include Wolverine in *Mammals of New Brunswick*. Hall and Kelson (1959), Peterson (1966), and Banfield (1974) all place the southern historical limit of Wolverine in eastern Canada along the Maine–New Brunswick border, mainly on the basis of specimens

reputed to have been collected at Canterbury Station, New Brunswick, in 1904. Banfield (1974) states that Wolverine was extirpated from New Brunswick and southeastern Quebec around 1850, while Anderson (1946) suggests that it was still sporadically present in eastern Canada until the 1940s.

Most authors have suggested that Wolverine was historically absent from Nova Scotia, Prince Edward Island, and the Gaspé Peninsula, Quebec, although more recently, Gallant *et al.* (2016) reviewed online historical documents and concluded that Wolverine occurred throughout the region, with the apparent exception of Prince Edward Island. However, most of these historical observations lack physical proof, such as a skull or pelt. Denys (1672) for example, accurately described a Wolverine, until he added that it possessed a long, rope-like tail, which Wolverines lack. The most satisfactory evidence of Wolverines in New Brunswick is records of pelts (Raymond 1899a,b) being exported by sea in the mid-1700s from Saint John to Massachusetts or Halifax, Nova Scotia (Squires 1946; Forbes *et al.* 2010; Gallant *et al.* 2016). However, the records are few and details have not been published. Likewise, there is much uncertainty surrounding the early 20th century report from Canterbury Station. The objective of this note is to

build on the work of Gallant *et al.* (2016) and to better assess records and historical status of Wolverine in New Brunswick.

We searched for written accounts of Wolverines in the Maritime provinces and attempted to locate original documentation, such as exports of pelts from New Brunswick ports. The first published account of Wolverine pelts from New Brunswick is in an export consignment document for a shipment to England in 1781 (Raymond 1899a: 34; with original spelling, but notes in brackets are added by G.J.F. and D.F.M.):

Shipt by Messrs. Hazen and White, on Board the Ship Recovery... and goes consigned to the Hon'ble Michael Francklin, Esq'r, at Halifax, viz., to be shipt for England for sale: 571 Moose skins, 11 Cariboo do. ["do" = ditto, for skins], 11 Deer do., 3621 Musquash [Muskrat] Skins, 61 Otter do., 77 Mink do., 152 Sable [Marten] do., 40 Fishers do., 6 Catts, 11 Lucervers [Lynx] do., 17 Red Foxes do., 6 Cross Fox do., 9 Bear do. Fort Howe, River St. John, 21 Nov'r, 1781. James Proud, for Messrs Francklin, Hazen and White.

The "6 Catts" was changed to "6 Wolverene" in a separate publication by the same author later that year (Raymond 1899b). We examined the original export document (James White Paper; Ship Accounts B3-2, New Brunswick Museum Archives & Research Library [NBM ARL]), as well as a rewritten receipt by the ship's staff (B3-5). There are two additional copies of the receipt (B3-3, B3-4) but they simply list cervids and only refer to other "small furs". All documents are in cursive script but a comparison of letters allows for deciphering the word "Catts" or "Catty" in

the export document, and the term Catts is very clear in the ship's receipt.

Raymond (1899a,b) does not indicate why he changed Catts to Wolverine, and except for one reference to Cougar (*Puma concolor*) as Catts in early 17th century Massachusetts (Morton 1637), we could not find the use of Catts in similar accounts from the period, nor in a contemporary summary of early French and English names for wildlife in Atlantic Canada (Ganong 1910). Terms for Wolverine in early French records are carcajou, quincajou, and blereaux (Ganong 1910). The term Wolverine, or various spellings of carcajou (Table 1), were used in export documents from the same trading post that was responsible for the 1781 account; thus, the use of a new word for Wolverine is unlikely. Catts might indicate Lynx (*Lynx canadensis*) but Lynx are consistently referred to as lucivee or lucervers in the same export documents, including the 1781 document, which listed 11 Lucervers (Raymond 1899a,b). Catts may refer to Bobcat (*Lynx rufus*), but there is no definitive record of Bobcats in other export documents for the time period, either because they were not separated from Lynx pelts or not abundant enough to be harvested. There is one "cat" record from 1774 (F81-32) but the species is uncertain. Another suggestion for Catts is Cougar (Morton 1637), which is also called "catamount" (Parker 1998), but there is no mention of Cougars in export documents of the period, and exporting six Cougars in one shipment, therefore, seems unlikely. In summary, there is enough uncertainty about the "6 Catts" reported by Raymond (1899a,b) that we recommend these not be cited as evidence of Wolverines in New Brunswick.

Raymond (1898), repeated in Squires (1946), noted that he had access to other export documents of

TABLE 1. Records of Wolverine (*Gulo gulo*) exported from Saint John Harbour, New Brunswick, 1764–1794.

New Brunswick Museum Reference no.	Date	Name of ship	Destination	Record*	Value†
Hazen F79-7	3 July 1764	<i>Speedwell</i>	Newbury, Mass.‡	2 Wolverine	12
Hazen F79-18	28 May 1765	<i>Wilmot</i>	Newbury, Mass.	2 Wolverin	12
Hazen F79-21	June 1765	?	? (Boston, Mass.)§	1 Wolverin	4
Hazen F79-20	July 1765	<i>Wilmot</i>	Newbury, Mass.	2 Wolverin	12
Hazen F79-19	15 June 1766	<i>Peggy</i>	Newbury, Mass.	3 Caurkajuaq¶	12
Hazen F79-8	20 August 1767	<i>Woodbridge</i>	Newbury, Mass.	1 Rackajeau	4
Hazen F79-3	23 June 1768	<i>St. Johns Paquet</i>	Newbury, Mass.	2 Carkajeaux	8
Hazen F79-16	3 June 1794	<i>Speedwell</i>	?	2 Wolveren	12

*Spelling as in original document.

†Value is in shillings. Prior to 1783 currency is "Lawful Money of Massachusetts" set at approximately 1.6£ 8 shilling per 1£ sterling (Raymond 1898). After 1783, value is in British sterling.

‡Written as Newbury but refers to Newburyport, Massachusetts, 60 km north of Boston.

§No destination given, but this shipment was to a new partner, based in Boston, Massachusetts (Raymond 1898).

¶Also spelled Caurkajian in a second copy of export record (F79-22).

the same trading company, from which he tallied “8 Woolverene” over a 10-year period, 1764–1774. We located these export records in the NBMARL, as well as additional records apparently not used by Raymond. They detail shipments from Saint John by Simonds and White to their partners, Hazen, Jarvis, and Blodgett in Newburyport, Massachusetts, the home base of the company; around 1775, pelts were then shipped to Halifax before export to Britain because of the American War of Independence (Raymond 1898, 1899c; Gwyn 2003). Furs were acquired as part of a bartering system with First Nations trappers and settlers in the Saint John River watershed, including at a trading post in Fredericton, New Brunswick. Another company post was at Maugerville, 20 km down river (Raymond 1898). The NBMARL contains data for 15 years in a 30-year period (1764–1794), often with multiple exports in each of the 15 years, for a total of 52 export records. Each export document is an itemized list of the number of skins by species, and, except for the occasional combining of Marten (*Martes americana*) and Mink (*Neovison vison*) into one tally, each line represents a single species. Other mustelid species that potentially could be confused with Wolverine, such as Fisher (*Martes pennanti*) and Marten (often termed “sable”) are separate line items whenever Wolverines are listed. It is also unlikely that there is misidentification of Wolverines at the time of handling because of their distinctive pelage.

If we discount the “6 Catts” exported in 1781, a minimum of 15 Wolverine pelts were exported from Saint John (Table 1). Wolverine records were regular, from the first year of operation of the trading company (1764) to the last available record (1794), with most (87%) in the earliest five-year period, from 1764 to 1768. During 1769–1775, no Wolverines are mentioned in 24 shipments. After 1775, there are data on only five shipments of any species over three years (1781, 1792, and 1794) and trends in the abundance of Wolverine pelts cannot be assessed. However, even in this smaller data set, excluding the 1781 Catts record, Wolverines were exported in 1794.

The Saint John River extends northward to Quebec, where Wolverines were likely more abundant than in New Brunswick (Banfield 1974; van Zyll de Jong 1975), and there is some concern that these pelts originated far upstream and were not from the province (Forbes *et al.* 2010). The ledgers of the company trading posts indicate extensive trade with local settlers who were involved in trapping. Trade among First Nations was extensive and long-standing, with items moving up and down the seaboard over thousands of kilometres (Bourque 1994). However, most of the pelts in the watershed were supplied by the Wolastoqiyik (Raymond 1898), whose territory is

non-coastal and covers much of the Saint John River (Wolastoq) watershed (Raymond 1910), a large (>55 000 km²) area of central New Brunswick and northern Maine. The section of the watershed in New Brunswick covers nearly half the province. We are not aware of movement of furs from the St. Lawrence River Valley, likely because numerous trading posts already existed there (Biggar 1901; Lee 1984), and it is unlikely pelts would be exported further than necessary. Posts also existed in coastal northeast New Brunswick and are associated with the only other Wolverine pelts reported for New Brunswick; the Robin Pipon Company of Caraquet acquired two Wolverine pelts from coastal New Brunswick in 1767 and one pelt at Caraquet in 1768 (Gallant *et al.* 2016).

Anderson (1946) stated that Wolverines were still present from Cape Breton, Nova Scotia, westward into the 1940s, but no evidence is provided. Hall and Kelson (1959) and Peterson (1966) reported that Wolverines ranged into eastern New Brunswick until the turn of the 20th century, apparently on the basis of skins and skulls collected at Canterbury Station in 1904 and since housed in the Field Museum, Chicago, Illinois, USA. Field Museum records list three New Brunswick Wolverine specimens (catalogue numbers 14020, 14021, and 14022). Although Elliot (1909) appears to suggest that there are four specimens, Peterson (in litt. to W.A. Squires, 26 January 1967) reports he could locate only two Wolverine skulls in the Field Museum, identified as items 14020 and 14021 and ascribed to Canterbury Station, New Brunswick (Adam Ferguson pers. comm. 23 May 2018). Peterson (in litt.) addressed New Brunswick Museum curator W.A. Squires’ doubt about the veracity of the data associated with these specimens. He reported that D.G. Elliot (1905), curator of the Field Museum’s mammal collection, had a particular interest in *Gulo* and would have been confident in the data when citing these specimens in describing an apparent Alaskan species (*Gulo hylaesus*) that is no longer recognized as a separate species. Although, Elliot (1909) lists C.F. Periolat (C.F. Periolat Fur Company, Chicago, Illinois, USA) as the source for the New Brunswick specimens, Field Museum data identify H.W. Grant as the collector. Periolat was a fur buyer who sold specimens to the Field Museum (A. Esai pers. comm. 24 May 2018). Among the 86 mammal specimens in the Field Museum ascribed to C.F. Periolat, 81 are of Alaskan or British Columbian origin and three are from Labrador. The only items listed from New Brunswick are the two Wolverine skulls. It may be significant that Canterbury Station was a stop on the New Brunswick and Canada Railway and that specimens, particularly as many as four at a time, may have arrived from elsewhere. We have not been

able to locate any information on the collector H.W. Grant. It is also noteworthy that the taxonomic review by Rausch (1953) found *G. hylaeus* inseparable from *G. gulo luscus*, the nominate subspecies and the form now deemed present across Canada and most of Alaska. Therefore, the reputed New Brunswick specimens that Elliot believed were morphologically different from those from Alaska could have originated from western North America.

Finally, members of the Natural History Society of New Brunswick (NHSNB), most notably W.F. Ganong and M. Chamberlain, had written about New Brunswick mammals (Chamberlain 1884; Ganong 1903, 1908) and were very active in the province in the late 19th and early 20th centuries. It is inconceivable that any number of Wolverines could have been taken during this period without it coming to the attention of NHSNB members or being commented on in the society bulletin. In a review of accounts of rare wildlife in Maine and surrounding areas, Krohn and Hoving (2010) do not record Wolverines in the region after 1865 (Allen 1904), and an account of the professional trapper, Rufus Philbrook, who trapped extensively in the same region as Canterbury from 1859 to 1862 makes no mention of Wolverines (Palmer 1949). Gesner (1847) reports Wolverines as seldom killed in New Brunswick, while Adams (1873) omits Wolverines entirely from his list of New Brunswick mammals. The last mention of Wolverines in New Brunswick is from the 1850s (Chamberlain 1884). We conclude that W.A. Squires was correct in discounting the Canterbury specimens as originating in New Brunswick and that Wolverines were extirpated from the Maritimes by the 1850s.

Excluding the 1781 record and the Canterbury skulls, the information above suggests that at least 18 Wolverine pelts can definitely be ascribed to New Brunswick. Data on exports during the >100 years of French-controlled fur trade in the Saint John River watershed before 1763 are unknown, but it can be assumed that Wolverines would be at least as abundant during this period of lower human density (Raymond 1910). With the three pelts from northeastern New Brunswick added to the 15 from the Saint John River region, Wolverines appear to have been uncommon, but present, over much of New Brunswick, at least until 1794. Although these results support the assessment of Gallant *et al.* (2016), only 18 Wolverines were exported over 30 years; thus, it would seem that Naughton's (2012) judgement that Wolverines were scarce at the time of European contact is correct. With the Canterbury Wolverine records discounted, and with contemporary reports suggesting that Wolverine was essentially extirpated from the province after the middle of the 19th century (Gesner 1847; Adams

1873; Chamberlain 1884), Banfield's (1974) assessment that Wolverines were no longer present in New Brunswick by around 1850 would seem to be correct. Finally, although the data-mining approach advocated by Gallant *et al.* (2016) is powerful, the information presented here emphasizes the value of verifying results through original source documents in archives, given that much remains to be made accessible online.

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