Why Hamilton Mack Laing Matters Today

There are many reasons why Hamilton Mack Laing, who settled in Comox in 1922 and built his house at Baybrook, near the outlet of Brooklyn Creek in 1923, should matter to Canadians in the twenty-first century. This note does not pretend to enumerate them all, merely to point out the importance of considering Laing's relation to the Geological Survey of Canada, and how it affects us today.

Mack Laing was from the release of his first book ***Out With The Birds*** in 1913 to the death of his wife, Ethel, in 1945, an extremely productive and well-known Canadian nature and environmental writer, publishing over 700 articles, 22 of which are in peer-reviewed scientific publications of his day.[1] A closer scrutiny of these writings and of his contributions to science indicates that Mack Laing plays a pivotal role in the environmental history of Western Canada, for both his literary and scientific contributions.

B.C. historians such as Dr. Allan Pitchard, who grew up in Comox, knew Laing, and went on to teach at the University of Toronto, and Dr. Richard Mackie, who has written extensively on the history of the Comox Valley, have repeatedly pointed out the importance of Mack Laing for any person interested in the Comox Valley's history. However, Mack Laing's real accomplishments lie elsewhere. Specifically, they lie in the significance of the 10 now largely forgotten, but important, expeditions in which he served the National Museum of Canada as a naturalist, much as Darwin had served on The Beagle's expedition in the time-honoured tradition of biological surveys.

While this is not the place to detail the importance of these expeditions, they continue to be important today because they were an extension of the work that Sir William Logan began in 1842 when he founded The Geological Survey of Canada. The expeditions associated with the Geological Survey laid down the foundations of Canada's ecological and economic heritage, by recording and collecting specimens of regional species and their variants and mapping Canada's potential mineral wealth. This work lies at the heart of Canadian environmental science. Without the work of the Geological Survey of Canada we would have no first-hand long-term record of the environmental changes and impacts that the nation has undergone since Confederation. Without this key information we would have little means to chart the implications of the ongoing environmental changes for our global future. To deny the importance of Mack Laing and his fellow naturalists is to deny the importance of the scientific work of the Geological Survey of Canada.

Mack Laing did not write only about ornithology and hunting, as is frequently thought. Early on he tackled some new environmental issues such as oil pollution, which makes him particularly relevant today as British Columbians weigh the merits of LNG, Enbridge and Kinder Morgan. He was in 1928-1929 one of the first writers to discuss and document the impact of oil spills on the West Coast, and particularly in what he knew as Georgia Strait, the modern Salish Sea.[2] His concern is as fresh today as it was in 1929, and in it today's environmentalists can trace the origin of their concerns.

In many ways the literary and scientific facets of Mack Laing's personal life and writings make him a forerunner to the postwar generation of Canadian environmental writers. Notably, his realistic descriptions of faunal behavior, concern for the fate of nature in the modern industrial world, and particularly his ground-breaking concern with marine coastal oil pollution impacts on the coastal birds,

point to themes and concerns that the late Farley Mowat would meld into the Canadian psyche in the 1960's. In this respect, Mack Laing shared with Mowat important personal connections in the world of Canadian environmental biology. Mowat shared his name "Farley", with his uncle Frank Farley, an Albertan ornithologist who worked with Laing under Percy Taverner, as a well-known photo of the Taverner Party taken in 1920 at Vaseux Lake documents (**Figure 1)**. It was Frank Farley who guided a young Mowat's early naturalist readings – and as a popular author easily accessible to Mowat in the 1930's, Laing was undoubtedly recommended reading.

Figure 1 Taverner Party at Vaseux Lake May 1922 (Top) Allan Brooks, Percy A. Taverner, **Frank Farley** (Bottom) **H. Mack Laing**, George Gartrell, D. Alan Sampson

Coincidentally, Mack Laing and Farley Mowat shared the same mentor in their first expeditions north, Dr. Francis Harper who worked for the Smithsonian in 1920. Just as Dr. Francis Harper took Mack Laing north to Lake Athabasca in 1920 with the Smithsonian Institute and the U.S. Biological Survey, in 1947 Harper took a University of Toronto biology student, called Farley Mowat, to Nueltin Lake in South Keewatin, to the barrens that would come to be the scene of many Mowat stories. That Mack Laing may have had a hand in Harper's choice of assistant, is warranted by Laing's continued correspondence with Harper up to Harper's death at the University of North Carolina in 1972.[3]

Mack Laing was much more than the "hunter-naturalist" that Richard Mackie's excellent seminal biography described 30 years ago. Mack Laing, like his contemporary Dewey Soper, was one of "The Collectors", for the National Museum. The Collectors were in the words of Soper's biographer, Anthony Dalton: "*the quiet unpretentious men, who surveying for the Dominion of Canada, established the outline and substance of Canada".*[4] Laing was an unpretentious "collector-naturalist," and the National Museum considered Laing to be one of the best collectors in Canada. In Anderson's 1935 assessment, Laing was *"The top field man in Canada*."[5]

Three decades on, since Mackie's ground-breaking biography of Laing first came out, our understanding of the historical context within which Mack Laing's generation worked and wrote has evolved considerably, together with the historical and contemporary importance of the institution with which Mack Laing was closely associated, the Canadian Museum of Nature.

The Canadian Museum of Nature, first opened in 1915 as the Victoria Memorial Museum in Ottawa to house the natural history collections of the Geological Survey of Canada. It came to be better known as the Canadian National Museum. In 1990 it was split into two new institutions, The Museum of Civilization and the Museum of Nature. The latter recently underwent major renovations and re-opened 2011.

The splitting of the National Museum in 1968 into the Museum of Man and the National Museum of Natural Sciences, and its subsequent series of re-organizations in the 1980's and 1990's culminating in the complete renovation and re-opening in 2011 reflect the changing focus of science, as well as the renewed interest in the collections and in the men and women who brought them together. These individuals were skilled field naturalists, skilled in taxonomy, the discipline of identifying species-level differences.

In the postwar period, field biology, natural history and taxonomic studies suffered a progressive and steep decline, making way for experimentation, quantitative biology and micro-biology, which were of greater interest to industry and government than basic field research. The decline in support for field work was particularly accelerated between 1970 and 1990, when increasingly few students were trained in taxonomy. It was only in the late 1980's that the twin questions of species biodiversity" and "ongoing anthropogenicly-driven extinction" emerged as global concerns, well-articulated by Niles Eldrege's 1991 *The Miner's Canary*. When E.O. Wilson published his two great works: *Ants* and *The Diversity of Life* in 1990, he heralded the return of scientific and popular interest in taxonomic diversity, and in the importance of natural history museum collections, together with the articulation of a growing concern for the plummeting environmental health of the planet.

Throughout the 1980's it had become increasingly clear that the rate of urban and industrial growth was outstripping the carrying capacity of the planet. One of the best indicators of the state of the planet's "health" was, and continues to be, the decline in species diversity. However, to measure that one has to be able to identify floral and faunal species, and have access to reference collections. Thus "biodiversity" studies became linked to the developing awareness and measurement of environmental impacts. Taxonomy became increasingly more important, at a time when untold species, and both taxonomic skills and museum collections, were on the verge of being lost.

The collection of the National Museum of Nature of Canada is an international treasure. It houses over 7 million specimens in geological, paleological, botanical and vertebrate and invertebrate collections. As one of the top North American collectors, Mack Laing collected over 10,000 vertebrate specimens in his lifetime, the majority of which he collected for the National Museum of Canada.

The value of museum collections around the world has recently been borne out by Dutch research on sources of bee declines.[6] In order to understand environmental changes that are driving wild bee

population declines these researchers turned to museum collections of bee specimens from 1872 to 2011 in the Netherlands. They examined 40,000 wild bee specimens and analysed pollen from their legs. Not only did they find that wild bumblebee species diversity declined by 30%, and bee diversity declined 15%,but also that the pollen analysis revealed that preferred host plant diversity had also sharply declined with direct adverse consequences for bee populations, and bee species size. In other words, access to museum collections enabled these researchers to understand not only the historic diversity of bee species, but also what the preferred host plants of each extant and lost bee species were, what landscape–level changes had driven their decline, and the impact of changes in plant species composition.

All this information, from some minute pollen grains on the legs of stored museum bees! Museum collections are a vital source of yet untapped data to understand not just our natural history, but our present predicament, and the future we will chart. And if only for this, we owe our future to unassuming collectors like Laing.

In three expeditions funded by Canada and the United States between 1933 and 1935, Laing recorded and sampled marine bird populations. The species record and the specimens he collected then are a potential treasure house of information of the changes or "ecological health" of the Salish Sea, that could yet contribute to understanding present calamities, such as the recent death of an Orca and her calf off Courtenay.[7] Tissue analysis of these samples could provide clues as to the state of the environment in 1935, when Salish Sea Orca and marine bird populations were not in imminent danger, as they are today.

Some may complain that Mack Laing – as most of his contemporaries, including his best-known student, the late Dr. Ian McTaggart-Cowan - hunted and killed the specimens they collected, and that the museums are distasteful necropoleis. However unpalatable and unsavoury this may be to our innate squeamishness, no picture – no matter how good- will ever replace the information content of specimen collections. No picture will ever give us access to the histology and the genetic history of disease and climate changes that a specimen carries.

Mack Laing and his fellow collectors did not only leave a substantial written and photographic record of nature as they saw and recorded it between 1919 and 1945, they also left us an exceptional material record of scientific information that will undoubtedly prove increasingly important in understanding environmental changes in the coming Age of Climate Change. To deny the importance of Mack Laing and his fellow naturalists today, is to deny the importance of the scientific work of the Geological Survey of Canada in every facet of Canadian environmental work carried out today.

Environmentalists and would-be "protectors of nature" who would deny the importance of Mack Laing and his fellow collectors and their own debt to these important predecessors, effectively deny the scientific foundation of the environmental work they claim to be doing. This denial of the museum collectors' scientific legacy is no different than supporting the current government's cutbacks to basic government science. Both are denials of the value of basic science. What motivates it is best left unsaid.

All environmental science in Canada began with the establishment of The Geological Survey of Canada, whose first actual function was the determination of the Dominion's natural history. As F.J. Alcock noted in 1947, in the first history of the Geological Survey: "*In fact, the Survey for a long time, although primarily geological was in reality a natural history one."*[8] It is not just a case of the old adage, "they who deny history are doomed to repeat it." If one does not understand the value of the past, and respect the value of the natural history legacy left to us by men and women like Laing, then how can one claim to protect and hand or even understand, a legacy for future generations?

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1. Richard Mackie (1985). **Hamilton Mack Laing: Hunter-Naturalist.** Victoria: Sono-Nis. (Remains the most comprehensive account of Mack Laing's life.)

2. Hamilton Mack Laing. (February 1929). "Oil-Black Death of Waterbirds: The bird-world faces a new menace, oil-polluted waters, a tragedy on the West Coast." Forest and Outdoors.

3. Palmer, Ralph S. (1973). "Francis Harper." The Auk 90(3). 737-738. Norment, Christopher J. (2000) "Francis Harper (1886-1972)." Arctic 53 (1) 72-75.

4. Anthony Dalton (2010). **Arctic Naturalist: The life of J. Dewey Soper.** Toronto: Dundurn Press.

5. Richard Mackie, private correspondence.

6. Schepper, Jeroen et al. (2014) "Museum specimens reveal loss of pollen host plants as key factor driving wild bee declines in The Netherlands". **Proceedings of the Academy of Sciences.**

7. http://www.cbc.ca/news/canada/british-columbia/necropsy-on-killer-whale-j-32-reveals-orca-had-full-term-fetus-1.2863303

8. F.J. Alcock (1947). **A Century in the History of the Geological Survey of Canada**. Ottawa: King's Printer, p.4.