

PIONEERS OF NEW BRUNSWICK ARCHAEOLOGY I: SPENCER FULLERTON BAIRD

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During the nineteenth century, in most parts of North America, archaeological investigations were conducted, not by individuals who thought of themselves as archaeologists, but by natural scientists with broad interests in many aspects of natural history. New Brunswick is no exception; however, in this province, the activities of the nineteenth century's pioneers are separated from modern archaeological activities by a period of about 50 years, when little archaeological activity was undertaken in the province by either natural scientists or by professional archaeologists. This essay is the first of a series documenting the nineteenth-century pioneers of New Brunswick archaeology.

As far as is known, Spencer Fullerton Baird, an American naturalist associated for most of his life with the Smithsonian Institution in Washington, D.C., was the first professional scientist to conduct archaeological research in New Brunswick. My interest in Baird's work stems from parallels between his research and mine: he was interested in Native shell middens, as I am; I have visited and excavated several archaeological sites in Charlotte County, N.B., that were initially recorded by him; and his involvement in fisheries research relates to my interest in the historical development of fisheries on the Northeast coast. In this essay, I present a brief account of Baird's life and work. I emphasize his role as a pioneer of New Brunswick archaeology, although, in the context of his entire career, this role warrants little more than a footnote.

Spencer F. Baird was born in 1823 at Reading, Pennsylvania, into a middle-class family of Anglo-Scottish ancestry. Although he lived most of his life in Pennsylvania and in Washington, D.C., Baird had strong connections to the New England/Maritimes area: one branch of his family had moved to Nova Scotia as United Empire Loyalists, and his mother came from Boston. Baird and his family often spent vacations in Massachusetts and Maine.

As an adult, Baird was a physically imposing person, above average height, with a prominent brow and forehead, deep-set eyes, a full head of brown hair and a full beard with the mustache shaved out (Figure 1). Despite symptoms of a chronic heart condition, he led an extremely active and productive life, routinely working all day and well into the night, and frequently ignoring his doctors' warnings to reduce his commitments and devote more time to rest and recreation. In temperament, Baird was quiet, deferential, reluctant to speak in public, but persistent in the pursuit of goals he valued. He wrote about 1000 published articles on a wide variety of natural history topics. Throughout his career, he acted as mentor and friend to many younger naturalists.

Professor Baird taught for several years early in his career, and became known as an innovator in the outdoor teaching of natural history. In 1850, he was appointed Assistant Secretary of the Smithsonian Institution; in 1878, he became Secretary (the senior executive position) of the Smithsonian. In this capacity, he was a driving force behind the development of the United States National Museum and oversaw the creation of the American Bureau of Ethnology. In addition, Professor Baird participated in the formation of the United States Commission of Fish and Fisheries, and, as the head of this organization, was instrumental in the creation of the (now-world-famous) Woods Hole Oceanographic Institution. He retained his positions with the Smithsonian and on the Fish Commission until his death, at Woods Hole, Massachusetts, in 1887.

Baird's primary scientific interest during the early part of his career was ornithology — the study of birds (e.g., Baird 1866; Baird et al. 1860). Later, his focus shifted to ichthyology — the study of fish. He invested much energy in acquiring, preserving, describing and classifying

animal specimens for the Smithsonian's collections. His name appears in the taxonomic designations of more than 40 species.

Since he was a prolific correspondent in both his public and private lives, much of what I have learned about Baird's work comes from published letters. As an example, I present the following excerpt from a letter he wrote in 1871, to the U.S. House of Representatives' Appropriations Committee, summarizing some early findings of his fisheries work:

During my visit of last Summer to the Vineyard Sound and other maritime portions of New England, I was much impressed by the great diminution in the numbers of fish which furnish the Summer food supply to the Coast... as compared with their abundance during a previous visit in 1863; & I found the same impression to be almost universal, on the part of those with whom I conversed on the subject. The belief is everywhere loudly expressed that unless some remedy be applied — whatever that may be — the time is not far distant when we shall lose, almost entirely, this source of subsistence & support — a calamity which would involve a vast number of evils in its train.

The causes assigned by intelligent fishermen & residents along the coast, are very varied, most disinterested persons, however, ascribing the scarcity to the use of nets of one pattern or another, & the capturing of the fish on or near their breeding ground before they have spawned; & urging vehemently the passage of laws for preventing or regulating the employment of nets or weirs.

State action has been invoked at various times, for the purpose of securing a remedy for the evil in question; but owing to conflicting interests and the influence of powerful parties who are concerned in maintaining the present mode of fishing, little has been accomplished, especially in view of the impression that seems to prevail with many, that the subject, if requiring legislation at all, must be provided for, at least in part, by the General Government, which controls the waters in which the fish are captured. (Dall 1915:420–21)

Anyone familiar with recent crises in Atlantic fisheries will be struck by the disturbing familiarity of these sentiments, expressed 135 years ago.

Baird's scientific and administrative work brought him into contact with many of the leading natural scientists of his day, including John J. Audubon, the famous ornithologist after whom the Audubon Society is named (Rivinus and Youssef 1991:30–43), Thomas Henry Huxley, "Darwin's bulldog" (Dall 1915:379), and Louis Agassiz, who popularized the concept of past "Ice Ages" (Herber 1963). It was, in part, his contact with naturalists living in Charlotte County, especially with George A. Boardman of St. Stephen (Dall 1915:418) and Simeon Cheney of Grand Manan (Fewkes 1890:426), that led Baird to extend his archaeological investigations to sites in New Brunswick. He conducted excavations during vacations, and in spare time during fisheries research visits, in the years 1868 to 1872.

Baird investigated sites at Oak Bay, St. Andrews, Digdeguash, Pocologan, Fries Island, the Bliss Islands, and Grand Manan. Much of this activity took place in August and September of 1869, when Baird and his family spent several weeks visiting George Boardman. The observations he made at this time are particularly important, because this work took place just a few months before the Saxby Gale devastated the Charlotte County coast, and, undoubtedly, destroyed substantial portions of the prehistoric archaeological record.

The approach Baird and Boardman took to investigating archaeological sites was typical of Victorian gentlemen at their leisure. For example, of their excavations at shell midden on Oak Bay, Boardman noted:

September 6 — Very fine day. Went down to the Simpsons. Had a gay time — picnic and digging for Indian relics. (Boardman 1903)

Baird's observations on this occasion included the following:

Oak Bay, St. Croix River, St. David's Parish, New Brunswick.— This locality is on the eastern side of Oak Bay, and is about eight miles from Calais, on the farm of Josiah Simpson. This is the most extensive and in fact one of the richest mounds I have ever examined. The total thickness of the bed is about 5 feet, and the different layers occur in a succession indicated in the accompanying diagram.

A striking feature of this mound is the abundance of spines and shells of Echini [sea urchins], which evidently constituted a large portion of the food of the aborigines. A careful examination of the ashes indicated that they were derived, for the most part, from eel-grass (*Zostera marina*), and it is suggested that the cooking of the shells was done by wrapping them up in dry eel-grass and setting fire to it. This would probably cook the animals sufficiently to enable them to be readily withdrawn from the shell. (Baird 1881:292)

Like many natural scientists who became involved in archaeology, Baird was as interested in animal bones and shells found in archaeological sites as he was in stone tools and other artifacts. In this, his work anticipates the zooarchaeological research on more recent times. Figures 2 and 3 show examples of animal remains he recovered from N.B. sites.

Baird intended to continue his archaeological research, and to present a detailed account of his findings. However, when his other commitments prevented this, he published, in 1881, a brief account of his work in the *Proceedings of the United States National Museum*. Dr. Bruce Trigger of McGill University in Montreal reprinted this paper in a volume on early studies of Native shell middens in North America.

Baird illustrated his account with a diagram of the stratification — the layering — in the Simpson's Farm shell midden (reproduced here as Figure 2). The mound was five feet deep, and consisted of alternating layers of shells, organic soil and beach gravel. Baird noted that in some layers shells were more fragmented than in others, and recorded distinct layers almost completely composed of sea urchin shells. His descriptions are consistent with the contents of other large, deep, Woodland (Ceramic) period shell middens investigated more recently in Charlotte County (e.g., Black 1991, 2004).

Not all of Baird's observations stand unchallenged. For example, apparently he believed gravel layers in shell middens were natural beach deposits formed during periods of high water levels. Archaeologists now find this unlikely, as sea levels were significantly lower when Native people lived at these sites. Instead, they believe that Native people created the gravel layers intentionally, by dumping basket-loads of beach gravel onto their coastal camp sites, to stabilize the surfaces on which they worked and built their houses.

During the 1970s and 1980s, as part of a long-term project aimed at recording coastal archaeological sites in Charlotte County, employees of Archaeological Services New Brunswick re-recorded some of the sites first described by Baird. Louise Hale and Scott Finley found intact cultural deposits at the Simpson's Farm site, long thought to have been destroyed completely by erosion and construction (Hale 1985:13–20). As part of the Bliss Islands Archaeology Project, I excavated two sites Baird recorded, the Pintlowes Cove site and the Weir site (Black 2004).

In addition, in 1983, I rediscovered sites Baird recorded on Cheney Island, Grand Manan (Black 1984). In 1984, Archaeological Services New Brunswick officially named one of the sites on Cheney Island "the Baird site," to commemorate Baird's contributions to our knowledge of the archaeology of Charlotte County.

Susan Blair (1999) investigated these sites as part of her M.A. thesis research on the archaeology of the Grand Manan archipelago. As part of this work, Blair visited the Smithsonian Institution, and photographed N.B. artifacts that are part of their collections. Some of these artifacts, such as those shown in Figure 5, bear Spencer F. Baird's name.

Acknowledgements:

I thank Susan Blair for permission to use the photos in figures 2, 3 and 5.

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Figure 2: Shells collected on Grand Manan by S.F. Baird (Smithsonian Institution; S. Blair photo).



Figure 3: Animal bones collected from archaeological sites in N.B. by S.F. Baird (Smithsonian Institution; S. Blair photo).

VERTICAL SECTION OF SHELL HEAP, OAK BAY, NEW BRUNSWICK, SEPTEMBER, 1869.
[Scale 1/4"]

6 in.	Top sod, fine powdery humus.	1.
6 in.	Much decomposed clam shells.	2.
3 in.	Fine flat gravel—Ancient beach.	3.
3 in.	Finely comminuted shells: carbonaceous matter.	4.
3 in.	Clayey humus, nearly pure.	5.
4 in.	Fine shells, white ashes, carbonaceous matter.	6.
4 in.	Finely comminuted shells, carbonaceous matter.	7.
6 in.	Shells.	8.
2 in.	Layer of <i>Echinus</i> spines.	9.
3 in.	Black bed.	10.
8 in.	Shells.	11.
3 in.	Blackish matter.	12.
	Original clay.	13.

Figure 4: Baird's (1881:293) stratigraphic sequence for the Simpson's Farm site (BhDt4; Hale 1985).



Figure 5: Stone tools collected on Grand Manan by S.F. Baird (Smithsonian Institution; S. Blair photo).