

# CHAPTER 22

## The Marpole Site – The Great Fraser Midden: A Retrospective of Archaeology and Historical Changes

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### Introduction and Background

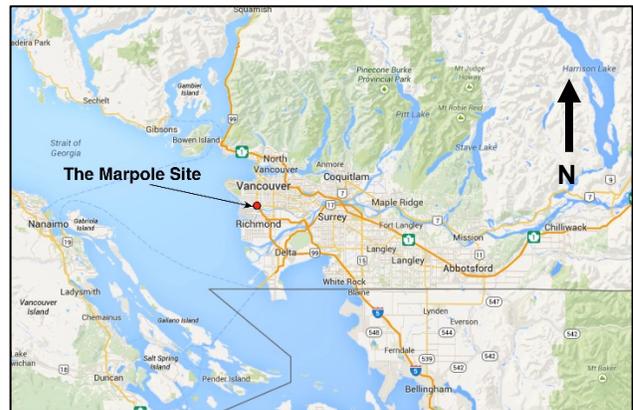
Hill-Tout first described the Marpole site in 1895, in a paper entitled *Later Prehistoric Man in British Columbia*. The Marpole site (DhRs-1) is located on the North bank along the North arm of the Fraser River opposite Sea Island and when occupied was positioned at the outer margin of the Fraser delta (Figures 1 to 3). Hill-Tout was particularly awestruck by the size of the site, posed the questions, “When and for what reasons was this ancient camping ground abandoned” (Hill-Tout 1895:104) and described the Great Fraser midden to be “... upwards of 1,400 feet in length and 300 feet in breadth; and covers to an average depth of about 5. and to a maximum depth of over 15. feet an area exceeding 4 ½ acres in extent”, and remarked that Marpole, “... exceeds in mass and area the largest middens of Denmark, and abounds in interesting ethnological data (1895: 103). Charles Hill-Tout was obviously impressed by the size and complexity of the Marpole site, and for most archaeologists working in the lower mainland, the Marpole Site is of considerable importance with regard to defining the culture history of the Delta sub-region.

For me, the Marpole Site has a different meaning, and in this Chapter I present and explore the history of archaeological and other investigations conducted at the site, highlight some aspects of this site that has intrigued researchers over the years, and offer some recommendations for future research. Charles Hill-Tout was the first to publish and bring the Marpole site to the attention of the public. In 1903, Harlan I. Smith, who was also impressed by the size and complexity of the site, expanded Hill-Tout's descriptions of the Marpole Site in a paper titled “Shell-Heaps of the Lower Fraser River, British Columbia.”

“The main shell-heap near Eburne is north of the north arm of Fraser River, and parallel to its bank. It is opposite the eastern end of Sea Island, and is located along the edge of the gravel terrace which here drops abruptly to the alluvial bottom-land, that is perhaps an eighth of a mile wide and subject to occasional inundation.

The heap is at least several hundred feet long, and is from fifty to over two hundred feet wide, covering several acres. The extreme limits have not been determined because covered with forest growth. In places it rises to form knolls similar to those at Port Hammond, but larger. Its maximum depth is about nine feet . . . Back of the heap the surface of this gravel is higher than the bottom-land, but it is slightly

lower than that under the shell-heap. . . On this heap stood a Douglas-fir stump twenty-nine feet in circumference at a point five feet above the ground, and another twenty-nine feet and a half three feet above the ground . . . Two distinct types of human skeletons were found above a depth of six feet, and most frequently in the northern inland slope of the heap. The first type, of which the greater number were secured, had a skull resembling in shape those found at Port Hammond. The other type, with very narrow forehead, seems to be artificially deformed by lateral pressure . . . Another shell-heap on slightly higher land is located about a mile inland from the northwestern part of the island. Undoubtedly there are many more such heaps on the islands and bottom-lands of the Fraser Delta. Many other shell-heaps are found within a radius of twenty miles of the main heap near Eburne, but they are apparently of a different character from those of the Lower Fraser, and will be left for consideration at another time” (Smith 1903:139).



**Figure 1. Map showing the location of the Marpole site on the North bank of the Fraser River in South Vancouver, B.C. Google Maps 2016.**

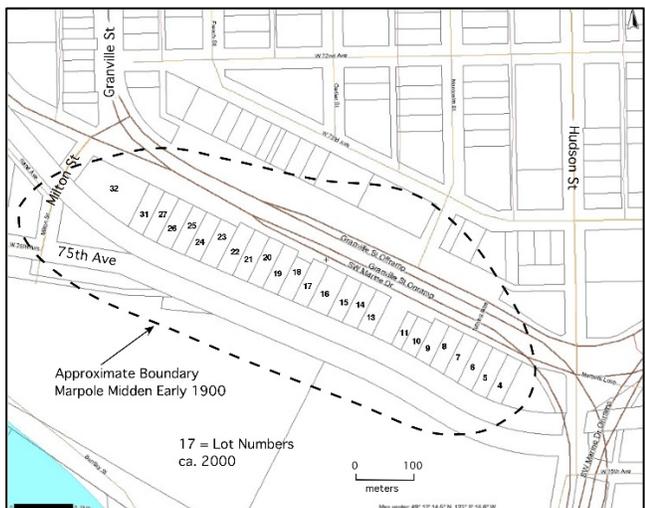
In 1927 Herman Leisk (1986), who was alarmed at the scope and expansion of on-going disturbance, undertook the first salvage work at the Marpole site. He estimated the extent of intact deposits at that time to be approximately 1,300 feet by 350 feet (42,479 m<sup>2</sup>) which is approximately 11 acres or 4.4 ha in size (Ham 2002: 27). Acheson (2009:37) estimated the disturbance that had occurred since it was first discovered over a century ago, and noted that the Marpole archaeological site has sustained innumerable adverse impacts since its discovery ranging in immeasurable degrees of severity and scope. Acheson offered a best

estimate of the extent and volume of remaining intact archaeological deposits at the site then to be approximately 6,000 m<sup>3</sup>. A sizable portion of this amount was subsequently removed between 2010 and 2014.

Thus, while we surmise the original site proportions were substantial, estimates remain difficult at best since even from the time of initial discovery the site had been altered and changed, and while there exists some information to allow estimations of original dimensions and volumes, it remains clear that a great deal of information about the site has been lost.



**Figure 2.** Map showing the general location and extent of the Marpole site (Great Fraser Midden; DhRs-1) in south Vancouver. Google Earth Maps 2015.



**Figure 3.** Map showing the estimated extent of the Marpole site in the early 1900s and present legal lots.

**Site Chronology**

The Marpole Site is widely regarded as the type site for defining the archaeological manifestation referred to as the *Marpole Phase* (Carlson 1960). Marpole is one of a series of named periods which form a culture-historical sequence defined for the Gulf of Georgia/Salish Sea region. These periods are often called “culture types” and can be regarded

as, “... tentative, largely intuitive archaeological units, whose strength ... lie[s] in the generality of their definition” (Mitchell 1990:340). Within the sub-regions of the Gulf of Georgia, each culture type is manifest as a specific local phase. These local phases are marked by diagnostic artifacts and/or technological suites, and inferred economic, social, and cultural traits (Pratt 1996:53).

Acheson (2009:34) recounts in a Site Master Plan that:

“Until the early 1970’s the Marpole site was considered to be a single component site in age and affiliation – the Marpole Culture Type. This interpretation began to change in 1973 when Baker (1974:a4) noted that the lower levels of the site in the area he investigated (Lot 17) contained materials typical of older sites in the Fraser Delta. From this Burley (1979: 526-536) went on to define two components for the Marpole site – the earliest, Marpole I, being assigned a much earlier regional culture type, and Marpole II. The Marpole II component appears throughout the site, whereas the spatial extent of Marpole I is unclear. Marpole I materials, for example, were not encountered in Borden’s excavations at the western end of the site ... The idea of an early pre-Marpole culture type in the eastern end of the site supports Wilmeth’s (1978) suggestion of an east to west trend in the age of the earliest deposits ... However, the possibility that the differences in assemblages could reflect differences in site use, rather than represent a different culture subtype, is equally plausible.”

Temporal positioning of the Marpole Phase within the defined culture history advanced for the Lower Mainland region is shown in Table 1 (dates originate from Matson and Coupland 1995). A full description of each culture type of the Gulf of Georgia/Salish Sea region is beyond the scope of this chapter. For a more comprehensive discussion of the culture-history of the Gulf of Georgia, see works by Acheson (2009), Burley (1979), Ham (1982, 2002), Matson and Coupland (1995), Mitchell (1971, 1990) and Moss and Erlandson (1995). A brief overview of the Marpole Culture Type follows.

**Table 1. Culture Historical Units for the Gulf of Georgia and Fraser Delta.**

Gulf of Georgia Region Culture Types	Fraser Delta Sub-Region Local Phases	Time Period (Years Before Present)
<i>Old Cordilleran</i>	<i>Old Cordilleran Phase</i>	9000 to 4500 BP
<i>Charles</i>	<i>St. Mungo Phase</i>	4500 to 3500/3300 BP
<i>Locarno Beach</i>	<i>Locarno Beach Phase</i>	3500/3300 to 2400 BP
<i>Marpole</i>	<i>Marpole Phase</i>	2400 to 1500/1100 BP
<i>Gulf of Georgia</i>	<i>Stelax Phase</i>	1500/1100 BP to Contact

**Marpole Culture Type**

The Marpole culture type, and its Fraser delta equivalent the Marpole phase, begins around 2400 BP, but its termination date is less certain. Disagreement arises because the transition from the Marpole phase to the succeeding phase appears “seamless” albeit it happened over several hundred years. The transitional boundary seems somewhat arbitrary.

**Table 2. Chronological list of events, salvage undertakings and archaeological work at the Marpole Site since 1884.**

Year	Archaeologist/ Reporter	Activity*	Comments
1884	H.H. Gowan & James Johnson	Am	Recovered skeletal remains and artifacts from below Lots 32 to 24 during the upgrading of the "Garypie Farm Road." The collection was submitted to the Natural History Museum of New Westminster, and subsequently lost during 1898 fire (Smith 1903:13).
1889	William Oliver	RC	Collects archaeological materials from road building exposures & passes them to Harlan I. Smith at the AMNH in New York.
1895	Charles Hill-Tout	C & Ex	Makes first published reference in 1895 based on materials he collected in 1892 and earlier by William Oliver.
1898	Harlan I. Smith	Ex	Conducted excavation for the Jesup North Pacific Expedition. Collected 35 boxes of archaeological material shipped to the AMNH in New York. Smith obtained items from Oliver. The AMNH's Marpole collection today totals 588 pieces, including human skeletal elements and items from the Orchard site. Collection was originally larger with discarded items listed as nondescript pieces of fish or bird bone or antler.
1927-1933	Herman Leisk	Sal	Conducted salvage excavations beginning in 1927 for 2 years for the Vancouver City Museum, and then at his own expense until 1933. During these seven years Leisk encountered approximately 750 burials and a large assemblage of artifacts. His excavations were poorly documented but he did keep a journal now held by the Vancouver Museum (Leisk 1986). Some data on the skeletal assemblage appears in a 1933 report by George Kidd (1933).
1936	Robert Allen Cumming	Am	Cumming's excavation notes and collections are at UBC in the Laboratory of Archaeology. He noted a deposit in Lot 19 1.22 m deep and recovered 617 items.
1941	T.P.O. Menzies	Sal	Conducted excavations on Lot 25 for the Vancouver City Museum, which was then called The Art, Historical and Scientific Association of Vancouver. Some items are at the RBCM as part of its Marpole holdings that includes over 1,069 artifacts and items donated by O. C. Hastings and Capt. L.A. Peck in the late 1800s.
1949, 1950, 1954, 1955 & 1957	Charles E. Borden	Ex	Borden excavated at the western end of the site now covered by the Fraser Arms Hotel over 5 seasons. His work remains the most extensive and most extensively documented, but the results were never fully analyzed or reported. His excavation included some 384 m <sup>2</sup> of the site, totalling an estimated 440 m <sup>3</sup> of cultural deposits. His collections reside at UBC's Laboratory of Archaeology along with stratigraphic drawings, field notes, artifact descriptions and photographs.
1958	Don Abbott	Ex	Abbott, completed a single test excavation in E. Burnett's yard south of the rail tracks. He documented disturbed deposits to 28 cm dbfs that were underlain by undisturbed deposits to 160 cm dbfs.
1970	Alan McMillan	AFS 1970-017	Under the auspices of the VCM's archaeological field school program in 1970 McMillan excavated in a vacant lot east of the Fraser Arms hotel. The original report map showing the detailed excavations has been lost and it's unclear where they took place. Ham (2002:38) suggests Lot 18 and McMillan contends his units were located east of Baker's excavations in Lot 17. Since I drew Baker's map, it would have been impossible in Lot 18 and I suggest that Al is correct. He was in Lot 17.
1972	Lesley Moore & Rob Tyhurst	AFS 1972-032	Vancouver Centennial Museum field school conducted an excavation in the South aspect of Lot 19, encountering intact deposits beneath a 0.18-0.30 m layer of mixed gravel fill. These deposits consisted of up to 0.86 m of complex shell and ash layers, and two hearth features. There is no map showing the specific location of the excavations.
1973	R.C.W. (Rick) Percy	M	Collected artifacts during monitoring of renovations of Fraser Arms Hotel. Specific details are unknown.
1974	James Baker	AFS 1973-010	James Baker of Vancouver City College Langara's 1974 field school excavated between 92 m <sup>2</sup> and 112 m <sup>2</sup> in Lot 17 (1390 SW Marine Drive). Over 1,200 artifacts were catalogued and are now part of the Marpole collection at UBC's Laboratory of Archaeology.
1979	Leonard Ham	Ex 1978-078	A small testing program was carried out at the site as part of a regional evaluation program aimed at determining site condition or degree of disturbance and remaining undisturbed deposits.
1989	Arnoud Stryd and Karla Kusmer	M & CEX 1988-078	The first of a series of CRM projects initiated at the site to monitor renovations beneath the Fraser Arms Hotel. Project Excavation totalled 5.54 m <sup>2</sup> . A comprehensive and detailed report records 6 stratigraphic layers, 5 possible post moulds, both intact and disturbed deposits, 2 radiocarbon dates (2,120 and 1,540 BP indicating an early to late Marpole phase affiliation), and incomplete skeletal remains of 4 individuals (MNI) from disturbed deposits.
1989	Leonard Ham	M 1989-0104	CRM monitoring project for a series of geotechnical tests in Lot 21. Report records 20 to 30 cm of intact basal deposits.
1995	Andrew Mason	AIA 1995-0226	A small AIA testing program revealed re-deposited materials. Area lies outside the mapped Marpole Site area. Area may have been near the enigmatic Orchard Site and not related to Marpole.

**Table 2. Chronological list of events, salvage undertakings and archaeological work at the Marpole Site since 1884.**

Year	Archaeologist/ Reporter	Activity*	Comments
1999	Andrew Mason	M 1999 - 0303	Monitoring for a billboard footing at 1342 SW Marine Drive. Results not entirely clear as to whether or not the deposits were disturbed.
2000	Andrew Mason	M 2000-0398	Monitoring of 21 fence-post holes along the south side of SW Marine Drive between Lots 5 to 9 and the removal of 12 bushes from Lot 8. Disturbed deposits found in 4 of the postholes on Lot 9.
2002	Andrew Mason	M 2002-001	Monitoring of 5 small-diameter geotech auger tests in Lots 4 and 5. Results showed intact midden in the south of the properties and disturbed deposits in the north.
2002	Brian Pegg	M 2002-392	AIA of area on western boundary of the site. Disturbed deposits found.
2005	Leonard Ham	AIA 2005-0138	Documentation of damage to the site at 9000 Milton Street and 75th Avenue ROW between Milton Street and Montcalm Avenue.
2006	Dave Hall	M 2006-080	Monitoring of a small-scale excavation on Lot 8 (1342 S.W. Marine Drive). Disturbed deposits encountered and 2 small human skeletal fragments were collected. Sections of the original "Old River Road" built in 1890 were encountered.
2006	Dan Weinberger	AIA 2006-0320	AIA for commercial development in Lots 4 to 11, between 1314 and 1360 SW Marine Drive. The initially hired firm withdrew from the project in 2010 and it was completed by Ball under the same Permit.
2010	Bruce F. Ball	AIA 2006-0320	The 2006 AIA concluded there was potential for intact deposits in Lots 4, 5, 9 and 10 (Kemp and Weinberger 2006:26) and that more testing was needed in Lots 4 & 5. The AIA was completed in 2010 with testing concentrated along a narrow southern section of the site in Lots 4 and 5. Both disturbed and undisturbed midden deposits were found, mirroring previous project interpretations. New estimates of the extent of remaining undisturbed deposits were provided.
2011	Stantec	AIA 2011-0376 & Alt 2011-0210	Results and reports were not available at this time. It likely that both disturbed and undisturbed deposits were uncovered and large numbers of archaeological items collected.
2014	Rizwaan Abbas	M 2014-0115	Monitoring of 3 "Bell-hole tests" in Lot 5. These tests were in the same area as tests placed in 2006 and 2002. Disturbed deposits were noted.
* Am = Amateur Interest; RC = Road Construction; C = Collection; AFS = Archaeological Field School; Ex = Archaeological "Test" Excavation; CEX = Controlled Excavation (Mitigation); M = Archaeological Monitoring; AIA = Archaeological Impact Assessment; Alt = Alteration Permit; Sal = Salvage Archaeology; RBCM = Royal British Columbia Museum; VCM = Vancouver Centennial Museum.			

(Burley 1980; Matson and Coupland 1995:218). Since Matson and Coupland (1995:203) provide a more recent estimate, I follow their lead at this point and suggest that the end of Marpole grades into the following culture type between 1500 BP and 1100 BP. Pratt (1996) lists 16 sites with Marpole phase components in the Fraser Delta Sub-Region, including the Marpole site and an additional four found in Washington State.

The Marpole culture type is characterized by an increased dependence on ground stone artifacts, with a concomitant decrease in chipped-stone tools, a trend that continues throughout this Period. Marpole lithics (Figures 6 to 16) include a variety of chipped stone projectile point styles, as well as ground slate points and knives, perforated stones, stone celts and adzes, and hand mauls. A variety of antler wedges, large needles, sectioned or split bone awls, unilaterally barbed antler harpoons, fixed unilaterally-barbed antler points, labrets and earspools, native copper ornaments, and beads of slate or shell have been found. Antler and stone sculpture, including zoomorphic and anthropomorphic forms, also date to Marpole times (Burley 1980; Matson and Coupland 1995; Ham 1982; Pratt 1996; Mitchell 1971, 1990). The Marpole culture type lacks composite toggling harpoons and 'Gulf Islands Complex'

artifacts present in previous Locarno Beach cultural deposits (Ham 1982; Matson and Coupland 1995).

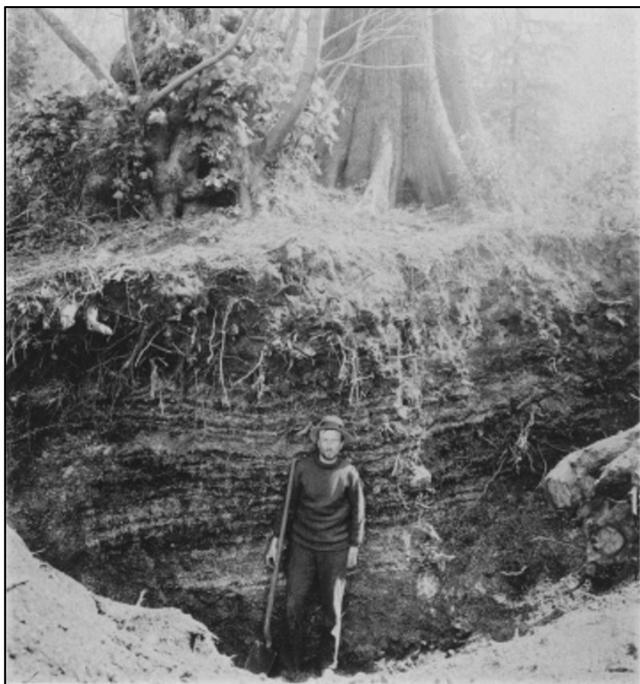
Subsistence during the Marpole Period involved a continued primary focus on marine resources. Salmon was harvested in abundance and preserved and stored for winter (Mitchell 1990; Matson and Coupland 1995). Other fish, especially flatfish, herring and eulachon, were also important. Shellfish continued to be harvested in large quantity. Terrestrial and marine mammals along with birds continued to be regularly exploited (Burley 1980; Matson and Coupland 1995). Seasonality studies suggest that some Marpole sites were winter village sites, while others were seasonal sites, used periodically for resource extraction as part of a "collector" subsistence and settlement strategy (Matson and Coupland 1995; Moss and Erlandson 1995).

The major hallmarks of ethnographically-known Coast Salish culture traits are well represented in the archaeological record of the Marpole culture type (Burley 1980; Matson and Coupland 1995; Mitchell 1990). It is during the Marpole Period that plank houses and semi-sedentary villages first appear. Marpole settlements were comparably large, with rectangular, plank houses arranged along shorelines (Mitchell 1990). Traces or outlines of rectangular house structures are known from six

archaeological sites in the region and large post-molds are present in other sites indicating the presence of large plank houses. These sites are generally thought to be analogous to the well documented ethnographic winter villages (Burley 1980; Fladmark 1982; Matson and Coupland 1995:208; Moss and Erlandson 1995).



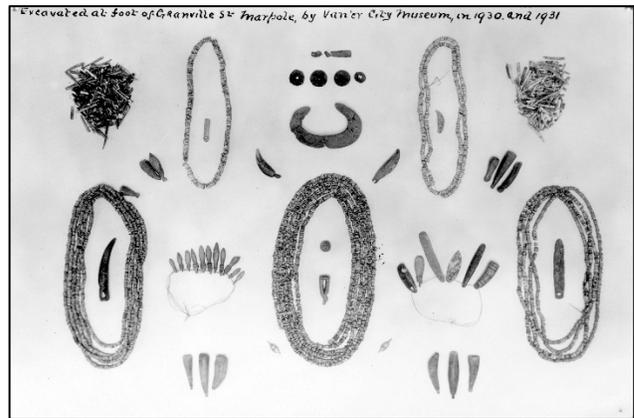
**Figure 4.** Photo taken in 1908 by Phillip T. Timms entitled “A man examines bones that were exposed when the Marpole Midden was plowed”. City of Vancouver Archives, ref # AM54-S4: Str P388.



**Figure 5.** Photo from Smith (1903:192) showing deposits at Marpole in 1897. The depth of deposits at this location is “9 feet”.

Burials appear in a variety of different ways. Flexed midden inhumations, which continue from the Locarno Beach culture, may be most typical of the Marpole culture type, but cairn burials, rock slab internments, and surface inhumations are also reported (Burley 1980; Thom 1995). Some burials are rich in grave goods, including *dentalia* shells, beads, and copper ornaments. Abundant grave goods in sub-adult burials is thought to reflect ascribed higher

social status (Burley and Knüsel 1989). Cranial deformation practiced in Marpole times is often cited to indicate that status was ascribed, not achieved (Burley 1980; Matson and Coupland 1995; Mitchell 1990).



**Figure 6.** Beads and Pendants from Leisk’s 1930 and 1931 excavations. City of Vancouver Archives.

#### History of Marpole Site Disturbance and Investigations

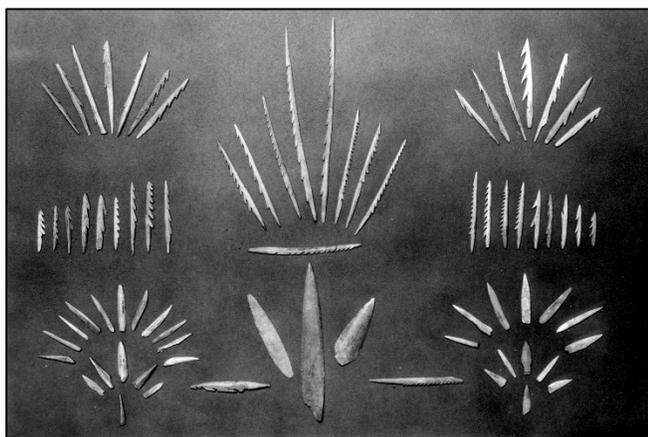
Historical disturbance of the Marpole site first occurred sometime before 1884. While it is not certain how and when this happened, site discovery coincided with disturbance that occurred from road and trail construction. The first road in the area was the North Arm Trail (Province of British Columbia Public Works 1884), surveyed in 1862 and cleared in 1863, this route passed north of the site area (Ham 2002:9). The next road was likely Garypie’s Farm Road which was built sometime before 1870. Ham (2002) provided the best narrative based on data gleaned from Vancouver Public Works documents on contracts issued during this period for construction of various routes proximal to the Marpole Site.

“Thus by the 1890s the “Marpole Midden” was blocked out by roads. The North Arm Trail crossed the northern end of the study area in 1862-63. By 1862-65 a road had been built across the flats along the southern edge of the site from Garypie’s to a dock and church near the foot of Hudson Street. In 1876 a wagon road was built from the foot of the “North Arm and Granville Road” (Fraser Street) to the foot of Hudson, cutting across the southeast end of the study area. “Old River Road” was constructed the length of the site in 1890, but was shifted to the east after 1908 when Eburne Avenue (S.W. Marine Drive) was built” (Ham 2002:15).

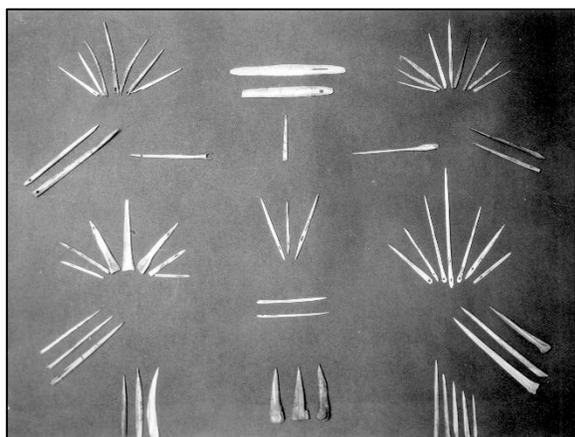
What we do not have from this time is an account of clearing or farming on the property. Garypie’s land included the Marpole site and his pre-emption application for his farm was made in 1865 (Ham 2002:18). Acheson (2009) and Ham (2002) have provided the most comprehensive narratives on archaeological activity at the Marpole site over the years. A chronological listing based largely on Acheson (2009) and Ham (2002) is provided in Table 2.

### Early Investigations (Late 1800 - 1945)

Archaeological materials at the Marpole site were first noticed by Herbert Henry Gowan and James Johnson who collected archaeological materials from the Garypie farm area. They visited the area in 1884 and collected, "... a human skull which was peculiarly long and had a narrow forehead..." from a new road cut caused by the 1884 upgrading of "Garypie Farm Road" (Ham 2002:18). It seems possible then that previous road and farm landscaping would have impacted the site and exposed the materials. While these items were apparently submitted to the Natural History Museum of New Westminster, they were lost subsequently during the devastating fire that destroyed the whole city in 1898. In 1889, William Oliver noticed artifacts when road construction (Figure 5) exposed archaeological remains, "... between the end of the road running due south from Vancouver and the bridge at Eburne was cut through the middle of it" (Smith 1903:135).



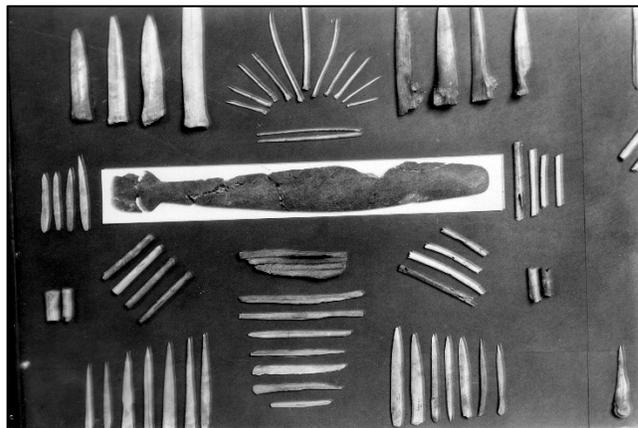
**Figure 7. Bone and antler items and harpoon heads from Leisk's 1930 and 1931 excavations. City of Vancouver Archives.**



**Figure 8. Bone and antler needles, awls and other items from Leisk's 1930 and 1931 excavations. City of Vancouver Archives.**

Oliver collected materials from the exposure and contacted Harlan I. Smith at the *American Museum of Natural History* (AMNH). Smith later acquired the Oliver

collection for the museum. After the road building exposed the site until the mid-1890s, several collections were accumulated, including those made by Charles Hill-Tout. Smith (1903:135) lists the collections to include those of William Oliver, J. Sprott, Rev. H. H. Gowan of Seattle, and Mr. James Johnson and Dr. Eden R. Walker, both of New Westminster. Hill-Tout (1895; 1902) published drawings of what may be items collected by Oliver (Smith 1903:135).



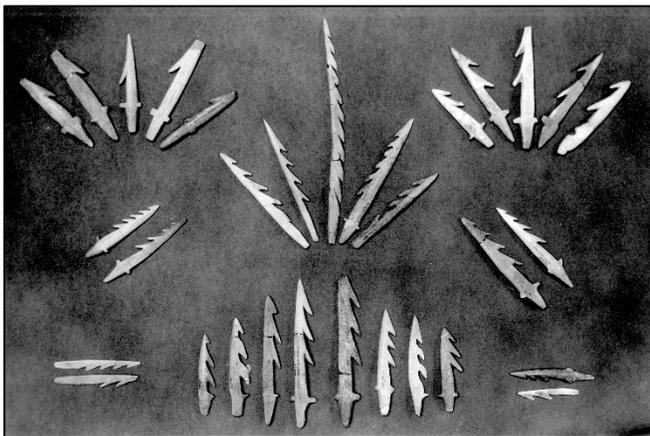
**Figure 9. Bone and antler items from Leisk's 1930 and 1931 excavations. City of Vancouver Archives.**

Hill-Tout obviously explored the site considerably, collected materials, published data, discussed and interpreted the site based both on collections and human remains he saw from the site and his own explorations. He published the first description and interpretations of the "Great Fraser Midden" in a report presented to the *Royal Society of Canada* (Hill-Tout 1895) based on collections and human remains secured from the site.

Hill-Tout (1895:103, 1902:441, 1938:1) reported he ascertained the midden stretched, "... for upwards of 1,400 feet" with a "width of over 300 feet", and averaging 5' in thickness with some mounds reaching 15' in thickness". These dimensions are basically the same as those provided by Leisk (1986:19) (Ham 2002:18, 20). In Hill-Tout's 1903 paper, he makes this interesting comment, "... we may fairly conclude that the present Salish tribes (of the lower Fraser) are not the original occupiers of this portion of the province; that they are, in fact, comparative late-comers" (Hill-Tout 1903:449).

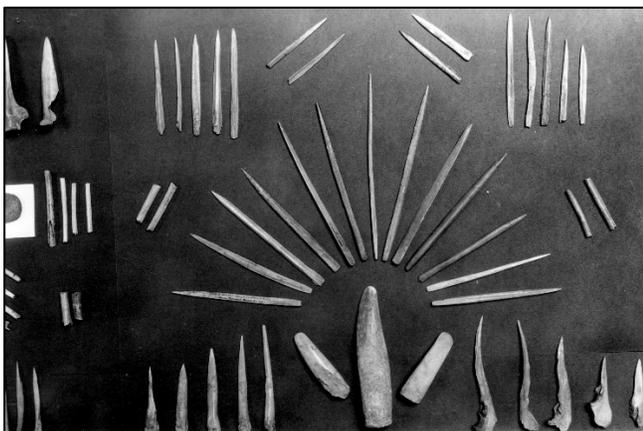
The first formal excavations at the Marpole site appear to have been conducted in 1898 by Harlan I. Smith (1903:135-136) (Table 2; Figure 5). He relates, "In September and October, 1897, I conducted explorations for the Jesup North Pacific Expedition in the shell-heaps of the Lower Fraser River at Port Hammond. This work was continued in June, 1898, near Eburne". Smith (1903) provided a listing of materials recovered from the site along with comparisons of items and data recovered from other local sites. Unfortunately, Smith's early work does not include documentation or specific provenience of the excavations (Ham 2002:20).

The next formal excavations were sponsored by the Vancouver City Museum, and directed by Herman Leisk, beginning in 1927 and ending in 1931. His daily journal was published by the Vancouver City Museum in 1986 (Leisk 1986). There are currently over 4500 items from the Marpole Site curated at the Vancouver City Museum. Artifacts from this collection are shown in Figures 7 to 16. None of these materials have ever been properly reported on and references to the investigations have been slight and dismissive. Perhaps it would be propitious to properly analyze what has been recovered rather than to dismiss the data because “it doesn’t look like it was collected properly”.



**Figure 10. Unilaterally barbed antler harpoon heads and projectile points from Leisk’s 1930 and 1931 excavations. City of Vancouver Archives.**

Leisk’s work was originally funded by the Vancouver City Museum/Museum of Vancouver for collection purposes, but later funded by Leisk himself. His excavations were inspired in part by the ongoing removal of site deposits for new Vancouver subdivisions in the 1920s. According to Luckner (1984) archaeological deposits were removed from the site by the wagon load. Depression era property repossession gave Leisk access to some of the Lots on the site and the City Museum helped pay back taxes on at least one lot.

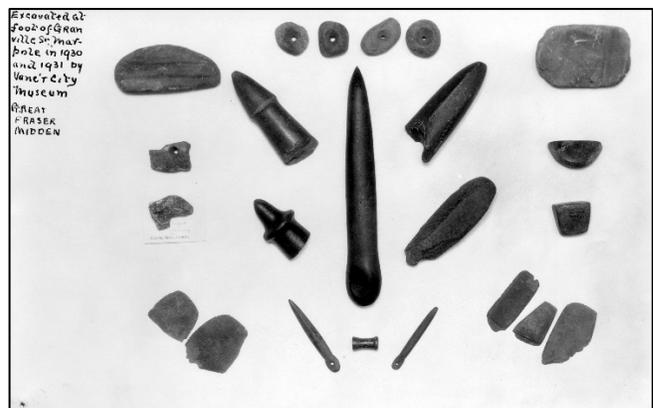


**Figure 11. Bone and antler items from Leisk’s 1930 and 1931 excavations. City of Vancouver Archives.**

Various sources detail that between 750 and 1000 skeletons or burials were removed from Marpole by Leisk in different states of repose and condition. Some of these skeletons were analyzed by George E. Kidd who continued Hill-Tout’s classification of older “long-headed” and historic “broad-headed” skulls. Roy (2006) argues the perpetuation of such “population replacement” theory has had more effect on local perceptions of recent First Nations land ownership concerns than on subsequent archaeology. Perhaps such a comment relates more to the state of archaeological research and local culture historical interpretation.



**Figure 12. Chipped stone projectile points and ground slate items from Leisk’s 1930 and 1931 excavations. City of Vancouver Archives.**



**Figure 13. Pecked and ground stone items from Leisk’s 1930 and 1931 excavations. City of Vancouver Archives.**

These essentially rescue or salvage projects prompted by the continued degradation and erosion of site deposits were followed by a series of more informal excavations.

“In 1941 the Vancouver City Museum held excavations on Lot 25 at the Marpole Midden for the Junior Archaeology Club formed by the Vancouver Art, Historical and Scientific Associations (Menziés 1941). In the winter of 1949, Dr. Charles Borden’s Anthropology 401 students conducted a class research excavation in a “back-garden near the midden’s western end” (Lot 26?) (Duff 1949:1, 19; Peynam and Capes 1949; Ramsay and Wylie 1949). At the same time the UBC Museum of Anthropology acquired a

collection from the site excavated in 1936 by a Mr. Cummings” (Ham (2002:22).

Leisk’s salvage work was thus followed by a University of British Columbia researcher named Robert Cummings (UBC 1957) in 1936, also Thomas Philip Oxenham Menzies, Curator of the Vancouver City Museum in 1941, and others. Leisk managed to save the items found by Cummings which are housed at the Vancouver Centennial Museum and the items collected by Menzies’ are at the Royal BC Museum. Interestingly, Cummings’ work was considered important enough to be noted by Hill-Tout (1948). Unfortunately, overall, relatively little is known of the excavations which were largely intended as salvage operations. Generally speaking, the fieldwork was poorly recorded with little provenience or descriptive information. Ham (2002) assembled a timeline for excavations conducted by Leisk, Cummings and Menzies which is summarized in Table 3 and Figure 17.

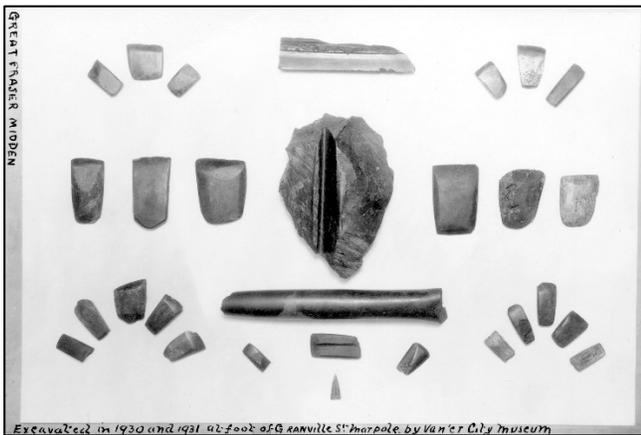


Figure 14. Ground stone items from Leisk’s 1930 and 1931 excavations. City of Vancouver Archives.

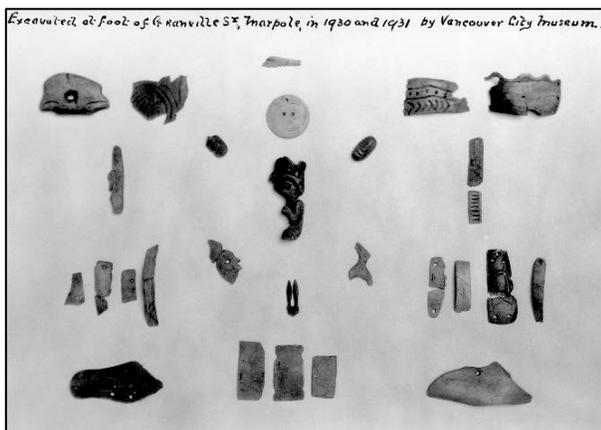


Figure 15. A variety of worked bone and antler items from Leisk’s 1930 and 1931 excavations. City of Vancouver Archives.

Greatest disturbance to the Marpole site likely occurred during the initial road building in the late 1800’s and subsequent removal of site deposits for agriculture, production of gun powder, and landscaping (Ham 2002:21).

During the years before and after WWI substantial portions of the site were taken for gardens in other parts of Vancouver and surrounding areas. Kluckner (1984:184) notes that, “Much of midden was taken away by the wagon load to provide soil for gardens in Shaughnessy Heights in the years before the First World War”. This midden appears to have been taken from lots east of Lot 21 (Figure 3).

Apparently, exploitation of shell middens was common in North America, by chicken farmers, as a source of calcium for egg production (Sanger and Sanger 1986), and for manufacture of ammunition. During the late 19<sup>th</sup> and 20<sup>th</sup> century gunpowder was made by mixing sulphur with potassium nitrate and charcoal derived from burnt wood. Potassium nitrate can be made by mixing animal manure mixed with earth, crushed oyster shell and potash from burned beech wood.



Figure 16. A boulder (anchor stone) carving exhibiting a human face from Leisk’s 1930 and 1931 excavations. City of Vancouver Archives.

It appears likely that by the end of the 1940’s, and when Charles Borden began his excavations, the greater part of the Marpole site had already been removed or otherwise negatively impacted. Early photos by Smith and others (Figures 4 and 5) provide only a mere glimpse of what existed before the first road building and subsequent urban development occurred at Marpole.

#### Academic Beginnings (1945-1979)

Beginning in the late 1940’s, Charles Borden’s work at the site marks the beginning of a more academic bent of archaeological activity at the Marpole site (Borden 1950:18). Following his initial tests at several sites in the region, Borden carried out excavations at the Marpole site in 1949 to 1951, 1954, 1955 and 1957. Based on his findings Borden constructed a culture history framework for the region (Borden 1968, 1970; Burley 1979, 1980; Matson and Coupland 1995; Mitchell 1971, 1990). Borden first excavated at Marpole in 1949 with UBC field school students and returned periodically to 1957. His excavations were concentrated in the west end of the site in Lots 26, 27 and 32. These areas are now occupied by the Fraser Arms

Hotel. Much of the post-1954 investigations were salvage operations. The Marpole collection at UBC includes over 9,176 items. Details from Leisk and Borden's excavations, including stratigraphy, have never been published, nor have the collections been formally analyzed or reported.

Most of the site was destroyed or missing by the time Borden began his interpretive work. In his early publication, he describes results from test pits at the Marpole site that indicate that fairly extensive site disturbance had occurred from previous construction, farming, archaeological digging, artifact collectors and erosion.

**Table 3. Summary of excavations conducted by Leisk, Cummings and Menzies between 1927 and 1941.**

Date	Activity Description
1927	Leisk excavated about 1.2 m of deposit in Lot 13. At this time he documents removal of deposits from Lot 12. He also excavated in Lot 32 when deposits were exposed by a road cut made for construction of the Interurban railroad.
1928	Leisk returned to Lot 13, and continued the excavations started in 1927. He also undertook some brief work in Lots 19 and 22 which was apparently difficult due to alternated grey sandy clay, yellow sand, black dirt which Ham (2002) thought might indicate house or occupational floors. Leisk judges Lot 25 to be the 'best area' of the site to excavate, and notes this area originally included a large mound that had been 'mined out' before Leisk worked there. He describes deep deposits up to 4.5 meters.
1929	No work was carried out in 1929.
1930	Leisk continued his operations in 1930, excavating in Lots 11, 12, 22 and 25. The collection from Lot 11 occurred after the shell had been mined or stripped away and resulted in the recovery of fragments from a mask and skull. He describes a 1.5 meter deep deposit which he later referred to as the "bone bed" containing many burials.
1931	Leisk continued his work in Lots 23 to 25 and described over 2.4 meters of deposit in Lot 23, including possible evidence of Smith's excavations in this location.
1932-1933	Locations of excavations conducted in 1932 and 1933 are not clear.
1936	Robert Allen Cummings, an amateur with the UBC Lab of Archaeology collected 617 items from different parts of the site including Lots 19, 23/24, 32 (Ham 2002).
1941	Little is known about Menzies' excavations. These collections reside at the Royal BC Museum.

In an effort to begin to interpret prehistory in the lower mainland, Borden recognized the need to define a culture history for the Lower Fraser River region. Based on comparisons with other local site assemblages, the Marpole site assemblage was differentiated from the earlier Locarno Beach components in his definition of an "Intermediate Period" of Gulf of Georgia prehistory. Defining traits include: barbed antler harpoons, chipped stone projectile points, broad leaf-shaped basalt knives, ground slate knives, large antler and wood splitting wedges, pestle-shaped hand mauls, adzes, and stone and antler sculpture. Borden believed the Marpole site had a late component (part of his postulated-Whalen II phase) which represented a major, but

perhaps not compete, break from Marpole phase traditions marked by disappearance of ground slate artifacts, stone bowls, and stone carving, and the appearance of *olivella* shell beads, microblades, and side-notched and corner-notched points. Later researchers have discarded Whalen II as a phase but without a good summary of Borden's stratigraphy and proveniences, it is difficult to properly assess this. Burley (1979) could find little evidence for the claim after a brief review of Borden's collections.

Following Borden's investigations there were five smaller efforts between 1958 and 1973 coinciding with termination of the academic salvage period of B.C. archaeology and the beginning of cultural resource management (CRM) archaeology. In 1958, Donald Abbott (Acheson 2009:42) excavated south of the rail tacks into 28 cm of disturbed fill followed by 28 cm to 160 cm of intact deposits. In 1970, Alan McMillan (1970) carried out excavations in disturbed contexts in Lot 16 for the Vancouver Centennial Museum Field School. In 1972, under the auspices of the Vancouver Centennial Museum, a field school excavation was carried out at the back of Lot 19 directed by Lesley Moore and Robert Tyhurst (1972), and Davis (1972) who reported results and compared them to the Liquid Air site (DhRs 19), noting similarities in assemblages.

Rick Percy (1973) monitored and collected materials on behalf of the *Simon Fraser University Museum* during renovation and expansion of the Fraser Arms basement. Interestingly, most of the midden excavated during this construction was sold to a soils company. In Lot 23, Percy estimated 1.22 to 3.00 of intact deposits were destroyed or lost, including 10 to 12 hearth lenses, human remains, as many as 7 stone bowls and many other artifacts.

In 1973, James Baker (1974a, b) of Vancouver City College Langara, led a field school in an excavation in the southern and central parts of Lot 17 at 1390 S. W Marine Drive. Disturbed and intact deposits were noted up to 1.4 m deep. Disturbance was mostly, but not entirely, confined to the upper 30 cm of deposits.

I note Burley's (1979:513) map is different than the one originally produced; it lacks units dug, and Ham's discussion on exactly where the excavation took place is not correct. I recall that all catalogued items were checked, and artifact identifications were by Baker himself. Thus, if any discrepancy exists between the catalogue and the field notes, the former would be the more reliable. Moreover, Baker's excavation occurred in 1973 which was well before Burley's analysis took place. All of the field notes and materials remained at the Langara campus of Vancouver City College.

David Burley (1979, 1980) used this 1973 collection as a basis for his Ph.D. dissertation. He defined two components (Marpole I and II) on the basis of relative vertical provenience of formal attributes of projectile points, harpoons, bone and antler points, and exceptionally thin ground slate knife fragments.

Burley includes a brief discussion of mortuary remains and practices and a discussion of intra-site settlement layout. He argues for existence of signs of large commodious

houses based on widely-spaced post holes documented by Borden (1970: 104), extensive ash spreads, and hearths. Multi-family cedar plank structures aligned in a row existed along the midden edge for the Marpole II component. No evidence of dwellings were inferred for Marpole I. Burley concluded that Baker's excavations were on the eastern periphery of the site, but Leisk's map and Ham's overlay shows them to be fairly central to the overall midden. That the Marpole I component seemed patchy is pertinent, obviously the location of settlement and discard changed over time, but more importantly a large portion of the site was already missing by the time Borden and his followers began their research.

Thus, much of what is now known about the Marpole Site comes from work during the 1930s to late 1950s, and the reworking of reported assemblages afterward. Throughout this period and into the present, development has imposed continued destruction of the site.

“The Marpole Midden was popular with collectors from the moment it was damaged by road construction. It is in fact impossible to document all the collections made at the site. Leisk refers to a number of other excavators at the site while he was working there (1986:16, 35, 80, 93, 97, 103, 105-06, 139, 145, 206). Shortly after Leisk worked at the Marpole Midden a series of excavations were carried out in 1936 by Cummings (UBC n.d. "c"). Relic collectors were active in the 1950s when Borden excavated at the Marpole Midden (UBC 1957), and when Baker excavated there (1974a, 1974b). In the 1970s the Archaeological Society of British Columbia catalogued 9 collections from the Marpole Midden (see DHRs 1 site inventory form). The last incident of relic collecting at the site may have been that observed by the author in 1989 on southern end of Lot 21.” (Ham 2002:21).

To summarize, there were some initial collections and investigations of the site between 1884 and 1898 (Herbert H. Gowen & James Johnson 1884; William Oliver 1890; Charles Hill-Tout 1892; and Harlan I. Smith 1898). The next period of activity resulted from various local disturbances related to mining the site for shell deposits used for farming and industrial purposes. Between 1927 and 1933 Herman Leisk carried out a series of salvage/recovery excavations, and in 1936 and 1941 Cummings and Menzies carried out excavations and Borden's investigations followed.

### **CRM/Consulting Archaeology (1978 to 2016)**

In the 1970s, with the advent of new legislation aimed at protecting B.C.'s cultural resources, the tenor of archaeological work at the Marpole site changed. Archaeological inspections, excavations, examinations and investigations in B.C. fall under the rubric of Cultural Resource Management (CRM) or “consulting archaeology”. Archaeological work fieldwork requires a permit, and with this came the idealized priority of assessments prior to disturbance, mitigation rather than salvage, and managed justification for the work undertaken and the associated cost. In 1978 Leonard Ham (1979) undertook an ambitious evaluative overview of all

known archaeological sites in the Greater Vancouver Regional District for management purposes and the Marpole site was included in this review (Ham 2002) (Figure 17). For the Marpole site, Ham estimated approximately 2,000 m<sup>2</sup> of intact deposits remained of an original, estimated 68,000 m<sup>2</sup> (~16 ha). Bussey (1985) carried out a similar review for the City of Vancouver some years later aimed at assessing site condition and significance, and her conclusions essentially echoed Ham's earlier work. Both assessments noted the original immensity of the site, the amount of disturbance that has occurred and that there were remaining pockets of intact deposits.

In 1989, Arnoud Stryd and Karla Kusmer (1989) conducted an excavation and monitoring program for renovations at the Fraser Arms Hotel, in the basement of the Hotel, approximately along the south wall in Lot 23. They describe both disturbed and intact deposits and estimate approximately 1.45 m<sup>3</sup> of intact deposits were excavated. Overall, some 380 lithic items and 1779 shell and bone pieces were collected, and the report, presents detailed descriptions of stratigraphy and provenience as well as specifics on faunal and botanical data. This was one of the first of the CRM projects undertaken at the site and differed from previous studies in that it provided greater depth and detail in the reported results and being more comprehensive. The report provides a good review of known information and some discussion of subsistence. Unfortunately, this study suffers from sample bias given the tiny portion of the site it details.

In 1989, Leonard Ham (1989) undertook a monitoring project in Lot 21 and describes 20 to 30 cm of intact basal deposits and a series of “hearth feature layers”. In 1993, a monitoring project was carried out in Lot 21 (Ham and Mason 1993) and all the deposits encountered were determined to be disturbed. In 1995 (Mason 1996) and 2000 (Hewer 2000), Archaeological Impact Assessment (AIA) inspections were carried out for the Marpole Correctional Facility at 8982 Hudson Street and disturbed deposits were encountered at this location during both of these projects. This was followed by a series of small projects dealing with isolated parts of the site and other impact assessments, and investigations are carried out in lots and properties situated close to the main Marpole site (Ham 2005; Hewer 2000; Mason 1996; Pegg 2003).

Mason (1999) monitored machine excavation of a billboard footing and reported midden deposits. Unfortunately, it was not entirely clear whether or not these deposits were intact. Determining presence of intact versus disturbed shell midden deposits proved somewhat difficult given the absence of any obvious layering, and low shell content (Mason 1999:6). Deposits removed from the Billboard footing were not screened and the assessment of the degree of disturbance within the layers was unclear. While artifacts and archaeological remains were noted and recorded, the nature of the deposits was not evaluated and so it is not known if historic debris was present within layers

Page removed

that had darker soils and prehistoric archaeological remains. Disturbed archaeological soils from the Marpole site will usually contain both historic and archaeological items, midden deposits that have been disturbed can contain shell, bone and other archaeological remains and will be more homogeneous in appearance, and generally will not contain Monitoring fence hole digging and bush removal was undertaken in 2000 (Mason 2001). Three fence post holes produced archaeological materials consisting of “black soil”, fire broken rock and historic (sawn) bone fragments. The project also involved monitoring removal of 12 juniper bushes from the east border of Lot 9. The plants were cut close to the ground and the root balls were pulled out with a vehicle. Visual inspection of the back-dirt from each plant was then carried out. It was concluded that intact deposits probably exist in the southern part of Lot 9, but intact midden deposits were not actually encountered. This conclusion is based on bits of shell in the soil from the monitored areas.

In 2002, a geotechnical and environmental drill-hole project executed in Lots 4 and 5 was monitored by Mason (2002). He concluded that 2 of 5 auger holes showed evidence of intact midden deposits, and described disturbed midden deposits consisting of “black organic soil”, FCR, bits of clam and mussel shell and crushed shell flecks.

Dave Hall (2006) carried out a monitoring program for relocation of a gas meter and gas line in Lot 8. He remarked that, “No intact midden deposits were encountered within the trench excavation. However, a thin layer of heavily disturbed midden (Layer III) was identified at the bottom of the trench” (Hall 2006:19). His report also concludes that while archaeological remains exist disturbance is predominant and prehistoric deposits are mixed with historic debris.

In 2006, an AIA was initiated for a development project in Lots 4 to 11 (Ball 2012; Kamp and Weinberger 2006). Terra Archaeology Limited conducted an AIA of the proposed development area in 2006 and 2007. Fieldwork included excavation of one shovel test, one evaluative test unit, visual monitoring of 18 Geo-tech boreholes and 29 auger tests in 2006, and an additional 12 auger tests in 2007. This assessment concluded that there was potential for intact deposits in Lots 4, 5, 9 and 10 (Kemp and Weinberger 2006:26), and that additional testing should be undertaken in Lots 4 and 5. The AIA was continued and completed by Ball in 2010 (Ball 2012) when testing was concentrated along a narrow section in the south, east and south central parts of Lots 4 and 5. Both disturbed and undisturbed midden deposits were found and estimates of the extent of the undisturbed deposits remaining in these lots were provided. Based on these investigations, a more comprehensive mitigation program was initiated for the final salvage operations within Lots 4 to 11.

A follow-up of the 2006/2010 AIA work involving two separate projects was undertaken in the same area by Stantec in 2011 (Investigation Permit 2011-0376 and Alteration Permit 2011-0210). Due to existing legal issues reports on

whole shell or distinct stratigraphic layers of shell or other materials. These deposits may also include historic debris.

The results of the 1999 investigations indicated that this part of the site has been profoundly disturbed, and many investigations suffer from unsure findings and mixed stratigraphic contexts. Specific details concerning these excavations are not available at this time, however it is not difficult to surmise that both disturbed and undisturbed matrices were uncovered and intra-site dynamics were difficult to differentiate.

In 2014, Stantec (Abbas 2014) carried out another visual monitoring program for three “Bell-hole tests” placed in Lot 5, adjacent to two previous tests (Kamp and Weinberger 2006; Mason 2002), and disturbed deposits were again documented. The site is now embroiled in a legal battle between local First Nations communities and the Provincial government over who should take on responsibility for remaining sections of the site. So what’s left?

### **Discussion and Future Management**

In reviewing the archaeological work-history of the Marpole site, two things seem overwhelmingly obvious. First, the site was partially destroyed even before it was first discovered, and second, what is known about this important site comes from disturbed contexts. Reading early descriptions of the deposits and the extent of the site, and comparing available pictures and maps from investigators such as Hill-Tout, Smith, Leisk and Borden, one gets a clear sense at the immensity of the destruction and loss. It is remarkable, astonishing really, that archaeologists have been able to extract reliable data, construct a framework, and generate substantive contributions beyond simple salvage collecting.

Looking back over the Marpole site investigation history, we see a period of discovery, a period of recognition that it’s important and something should be done to salvage whatever possible, a period of revelation and the beginning of academic interpretation, and finally a period of CRM. Clearly, efforts have been proposed for managing site disturbance (Acheson 2009; Ham 2002), but to what success? From 1978 to 2014, there have been at least 15 separate CRM projects aimed at “protecting” the Marpole Site. Some were titled investigations, some were visually monitoring machine excavations and drilling, some were billed as “impact assessments”, and others “controlled recovery” or mitigation excavations. With respect to CRM presumptions of protection and management, what have we learned from all of this, and what research resulted from all the time and money spent?

In my view, I contend that little has been learned about the Marpole site subsequent to Burley’s re-visiting of Baker’s collections, since the nature of the later projects was not conducive to providing substantive results on which to base any solid inferences about the site and its past inhabitants. These recent projects were couched in CRM methods involving visual monitoring and testing, impact assessment and inventory. As Spurling (1982:53) warned, “Research results can only be realistically expected at a sufficient scale

and at an appropriate time in the development of a project". Since these CRM efforts at Marpole over the last 40 or so years were largely controlled by existing government bureaucracy, I think the legislative process and its authoritative policies rather than protecting the site, may be more realistically viewed engendering inadequacies and deficiencies. What then was the purpose of these CRM efforts? Protection of the resource? The current interpretation of the Heritage Act in B.C. stipulates that an archaeological site is protected by law, regardless of size or nature.

Essentially, if there exists any material items that are determined by anyone (not just trained archaeologists) to be archaeological in nature, the recovery context is considered automatically protected under the Heritage Conservation Act, and once this *proviso* is met so begins the CRM process. This high level of guardianship is extraordinary and monumental in a variety of ways. With respect to Marpole, Acheson (2009:4) remarked,

"The Marpole site derives its statutory protection from the Heritage Conservation Act, a provincial statute that prohibits the disturbance of archaeological sites, including any alteration of land within the boundaries of a site, except as authorized under permit by the minister responsible for the Act. Specifically, the Act does not allow a person to "damage, excavate, dig in or alter, or remove any heritage object from, a site that contains artifacts, features, materials or other physical evidence of human habitation or use before 1846." The Act further prohibits a person from damaging, desecrating or altering a burial place or removing human remains or any heritage object from a burial place that has "historical or archaeological value." The Marpole meets all these criteria as defined by the Act. One also needs to be aware that the protection of archaeological resources under the Act applies regardless of the known condition or integrity of the deposits or to their significance. Identified conflicts between land use and protected archaeological resources are dealt with through the Province's archaeological impact assessment and permitting process".

The archaeological impact assessment and permitting process results in acquisition of necessary permits and culminates in a summary report like many of those listed in Table 2. One of the positive spin-offs to this precondition is that it allows the process to take place or begin pertinaciously, and government workers are released of the decision-making burden on the need for further archaeological work. While I present a somewhat cynical, sardonic or negative assessment of the process, as a former practitioner, I maintain there exists a fair degree of truth to be sure.

In the case of Marpole, it appears when "undisturbed" deposits were encountered a high degree of importance was presupposed. While this seems somewhat simplistic, there is some relevance as witnessed in results of many CRM investigations. What level of protection has any of this

collection of archaeological materials does not in itself constitute a substantive research contribution. The underlying tenet has been "undisturbed" equals research potential, but then what and how does one pay for research proposed? Assuming there is potential and work should be carried out, how can it be sustained? A primary objective in these studies initially could be to determine whether found deposits are important or significant and to what extent? I contend that this level of initial assessment has not been carried out, and the more common approach has been to conduct some level of investigation simply because it's an HCA requirement.

One of the fundamental determining factors to consider when assessing research potential is identifying the topical relevance of the expected data to current problems, objectives, plans or targets (Deeben et al. 1999:187). What is the potential for the "undisturbed" deposits at Marpole to contribute to current research ideas and archaeological paradigms and how do we infuse scientific research into the work undertaken?

Such questions and ideas are sound and have been around for some time, but making these objectives real and applying them is not always practical or feasible. For the Marpole site, it may be too late since a large part of the site has been destroyed, even before Hill-Tout and Smith visited the site, and more was missing by the time Borden began his studies. Now, there remains only small pockets of disturbed and undisturbed deposits that are difficult to find as time goes on and development continues to obliterate the site. What now for the site? What is the future for archaeology of the Great Marpole Midden?

Perhaps it would be advantageous to focus on knowledge gaps and areas of research potential for Marpole rather than to continue with additional assessment and small isolated recovery operations in the hopes that something extraordinary will be found. One of the more notable aspects of the site that shows in past site descriptions is the number of burials both mentioned by some and secured by others. Leisk (1986:8) apparently collected as many as 750 individuals. To my knowledge, this is unlike any other site in the Fraser Delta region. Both Smith and Hill-Tout mention the burials in their discussions, and likely many others were destroyed before Leisk's salvage operations and subsequently. Isn't this culturally significant? Doesn't this anomaly indicate a comparative difference? Do these burials not have research potential? How does this compare with other large midden sites in the region? What of the variation reported in skeletal remains?

Another research concern involves existing collections and most notably those of Borden and Leisk. A formal detailed analysis of existing collections is one possibility and one that could potentially benefit others working in the region. Ham (2002:50) remarks that:

"Borden's materials have never been fully reported, but as he used modern archaeological excavation procedures, that collection could be analyzed and written up. Most recent excavations have not been reported beyond very

preliminary reports (Burley 1979:510), if that. In fact the most recent archaeological encounters have not even attempted any mitigation procedures. Very simply, archaeological research at the Marpole Midden has never been adequately funded”.

Other possible subjects include questions about existing <sup>14</sup>C dates, faunal collections, and a comprehensive culture history reconstruction – a necessary and important foundation for meaningful archaeological interpretation. These are but a few topics that come to mind. Of course there are many other subjects and countless problems that might be explored, and it is not my intent to suggest these are the most important, relevant or needed.

As I briefly noted above, one of the biggest difficulties for research-oriented work is funding. How do you pay for it? Clearly, there is considerable difficulty getting commercial archaeology to take on this role since as a business they are squarely set on profit. Therefore, it seems obvious the task rests more appropriately with academic departments or research institutes. Projects initiated through development proposals and mostly guided by the lowest bids cannot begin to address issues at hand from a problem-oriented point of view. As stated above, the existing provincial protection system, the HCA, and local land administrations that control land development all work antithetically to current research needs of archaeological sites. Current legislation demands that all development be monitored and checked and if archaeological materials exist or have the potential to exist, archaeological study is required. But this process too often creates projects that have insufficiently small budgets to allow for meaningful problem-oriented results. The current HCA restricts the law from going beyond or “thinking outside the box”, as it were.

Can we change things for the future? Of course, anything is possible. Start with research work dealing with existing collections and data already recovered. Continued contention that the HCA provides meaningful protection to archaeological resources is untenable and the Marpole site, and others, exist as absurd examples of the travesty of CRM. It seems more than apparent that change to the legislation is needed that would allow greater latitude for the bureaucrats and civil servants to provide meaningful direction in the management of the resource. Also, change in process could allow for changes in funding systems.

Continued development of site areas like the Great Marpole Midden could generate funding for research programs, such as those mentioned above, through managed contributions from developers and proponents to institutes or universities who choose to engage in problem oriented research. Such ideas are not new and have existed since the beginning of CRM, and there are good examples of successes in Great Britain and the United States. Perhaps reviewing the legacy of Marpole and all that has happened will engender a call for change. An ironic positive twist to a sad story of unintended destruction. To better control loss we need to change the way CRM is done in order to manifest the protection originally intended.