

NOONS CREEK AND BELCARRA: A PRELIMINARY REPORT ON
EXCAVATIONS NEAR PORT MOODY

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INTRODUCTION

Archaeological survey at the head of Burrard Inlet and on Indian Arm revealed two sites in danger of destruction. The first site, DhRq 1, located at Noons Creek in Port Moody was brought to our attention by the Port Moody Historical Society. Permission to excavate was granted by Mr. Morris Steele, the owner of the property, and the site was investigated between May 19 and June 2. The second site, DhRr 6, at Belcarra Park was excavated between June 8 and August 17.

NOONS CREEK SITE DhRq 1

The portion of the Noons Creek site which was excavated is located at 49° 15' 00" latitude north and 122° 47' 30" longitude west. The areas excavated was located within one vacant city lot approximately one half mile northwest of the Ioco Road - Highway 7A junction, at 301 Ioco Road. Seventeen, 2 meter by 2 meter pits were excavated to sterile soil. Cultural deposits varied from 20 centimeters to 70 centimeters in depth. Similar deposits of discontinuous midden were observed at the Pigeon Cove site (DhRr 9), approximately one half mile southwest of the Noons Creek midden. Upon surveying the Noons Creek - Pigeon Cove locality, it was found that any cultural deposits which may have existed have been virtually obliterated by one or more of the following factors:

1. landscaping and construction of seven houses
2. Bulldozing for a community ball park and ice arena

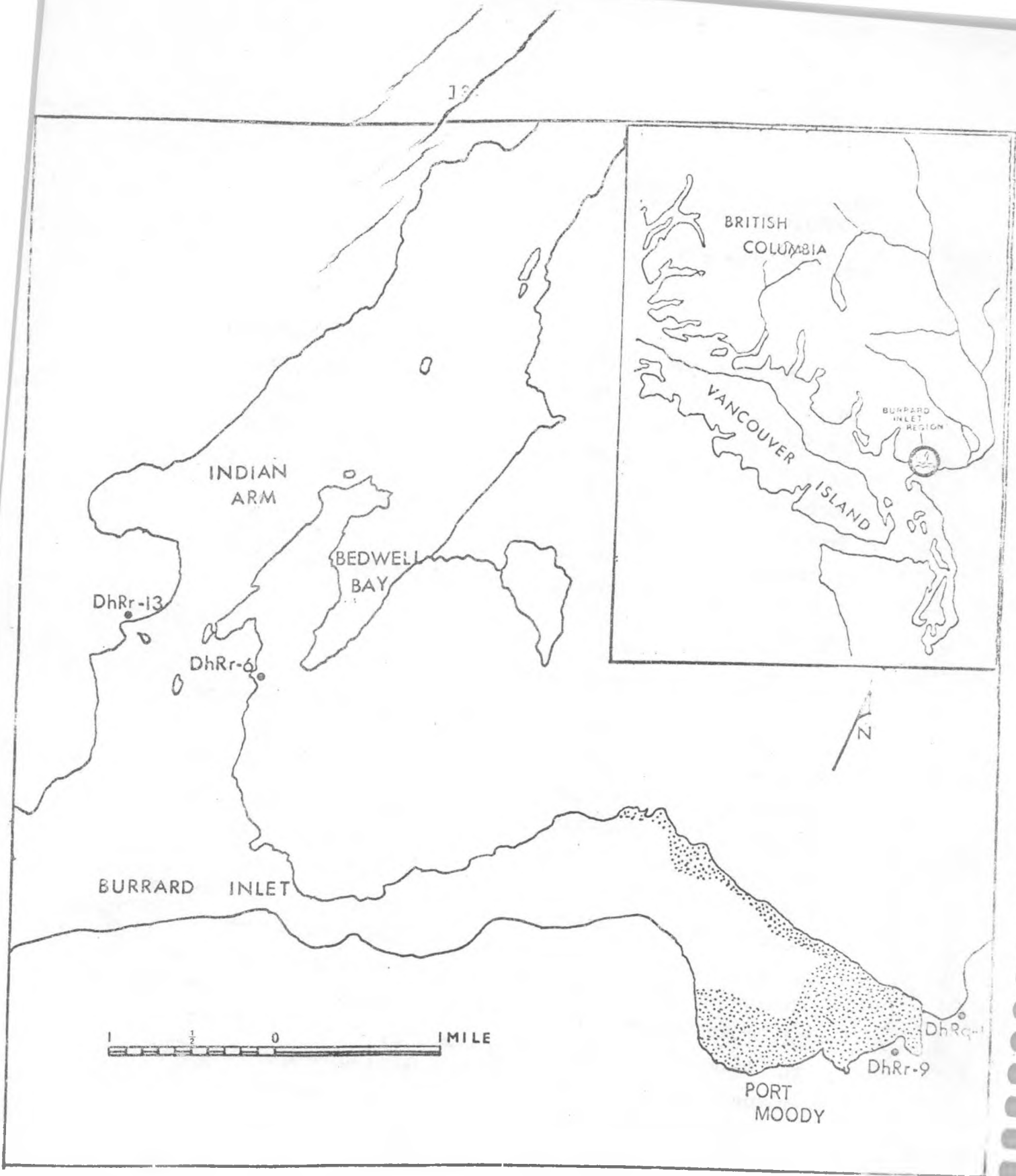


FIG. 43. Map of the Burrard Inlet - Indian Arm region, showing the following sites: Noons Creek (DhRq 1), Belcarra Park (DhRr 6), Pigeon Cove (DhRr 9), and Strathcona (DhRr 13)

3. Road and railroad construction
4. Bulldozing for clay deposits for a brick kiln which formerly existed in the area.

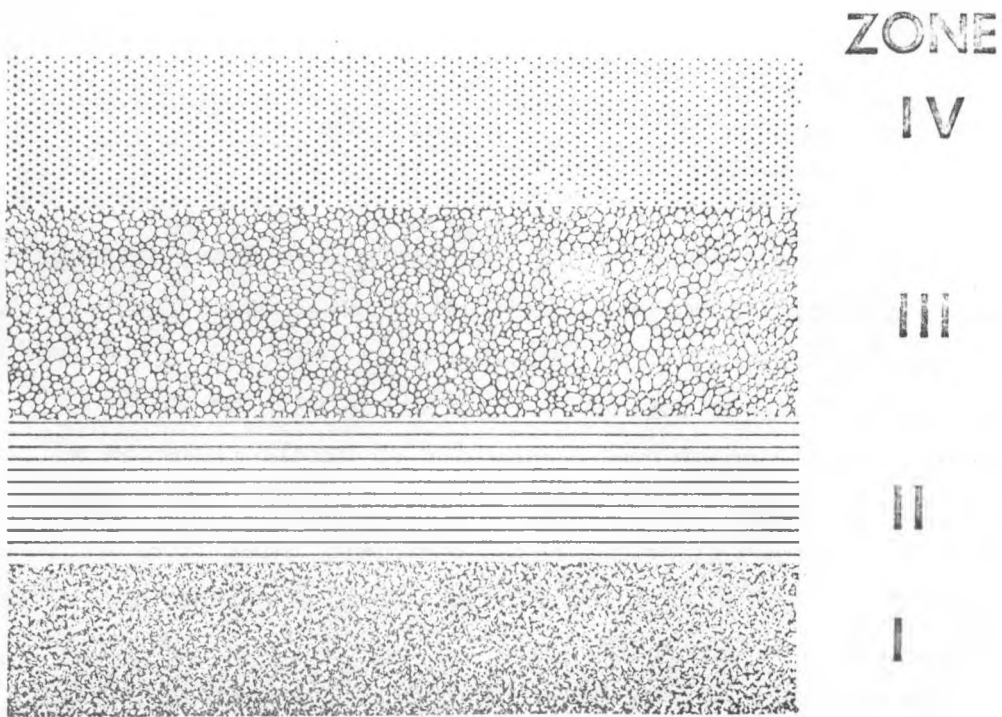
Between the Noons Creek site and the Pigeon Cove site, disturbed deposits can still be seen on the south bank of Noons Creek. Thin, small patches of shell have also been observed in the area. On the tidal flats at the head of Burrard Inlet, one chipped basalt projectile point plus a quantity of basalt flakes were found on the surface. These observations lead me to believe that the area surrounding the head of Burrard Inlet from Pigeon Cove to Noons Creek, was at one time, an extensive, shallow, discontinuous midden.

A small salmon run of minor importance has been reported at Noons Creek in former times. The tidal flats at the head of Burrard Inlet were at one time, an excellent source of various shellfish. The excavations at Noons Creek have located quantities of butter clam, cockle, blue mussel, whelk and oyster shell, and fish bones. The area may have been occupied prehistorically on a seasonal basis, primarily for the collection of shellfish.

Stratigraphy

In the area where the deepest cultural deposits (70 centimeters) were located, a definite stratigraphic sequence was observed (Fig. 44). This sequence consisted of four zones which will be identified as I to IV from the oldest to the youngest. Zones II, III, and IV are the cultural deposits at the site, while zone I is the geological strata upon which the cultural deposits lie. Fire-cracked rocks, charcoal deposits and irregular ash layers were observed within all three cultural layers.

Zone IV is the latest cultural deposit at the Noons Creek



LEGEND

ZONE IV	DARK HUMUS DEPOSITS, SPARSE CLAM AND COCKLE SHELL
ZONE III	CLAM, COCKLE SHELL
ZONE II	BLACK HUMUS, SPARSE BLUE MUSSEL
ZONE I	BROWN STERILE CLAY

FIG. 44. Idealised strata from the Noons Creek site

site. This layer has been heavily disturbed and it was not uncommon to find historic material mixed with prehistoric material. Zone IV is composed mainly of dark brown humus.

Zone III is comprised of heavy deposits of crushed butter clam, (Saxidomus giganteus), and basket cockle, (Clinocardium nuttalli). Deposits of loose, whole clam and cockle shell were common in this zone.

Zone II is composed of black humus with light deposits of crushed blue mussel, (Mytilus edulis), shell.

Zone I is the underlying geological deposit at the site, composed of brown sterile clay with many boulders.

Artifacts

A total of 124 stone, bone, and antler artifacts were collected from the Noons Creek locality. Of this, 94 were excavated in situ while 30 were collected from the surface. The 30 surface artifacts were from the tidal flats at the head of Burrard Inlet and from the surface of the Noons Creek site itself. The majority of the surface artifacts were basalt flakes. The one fire-hardened antler tine from the surface showed cut marks. One complete chipped basalt projectile point, 4 centimeters long, was collected from the tidal flats.

Bone and Antler Artifacts

A total of 30 antler wedges, almost a third of all artifacts excavated, were recovered. Of these, half were complete and varied from 8 to 14 centimeters in length. The other half are broken tips, all of which measure under 6 centimeters in length (Fig. 45c). Most of the broken tips measure between 2 and 3 centimeters in length. Nine of the wedges had been split longitudinally and ground unifacially (Fig. 45g).

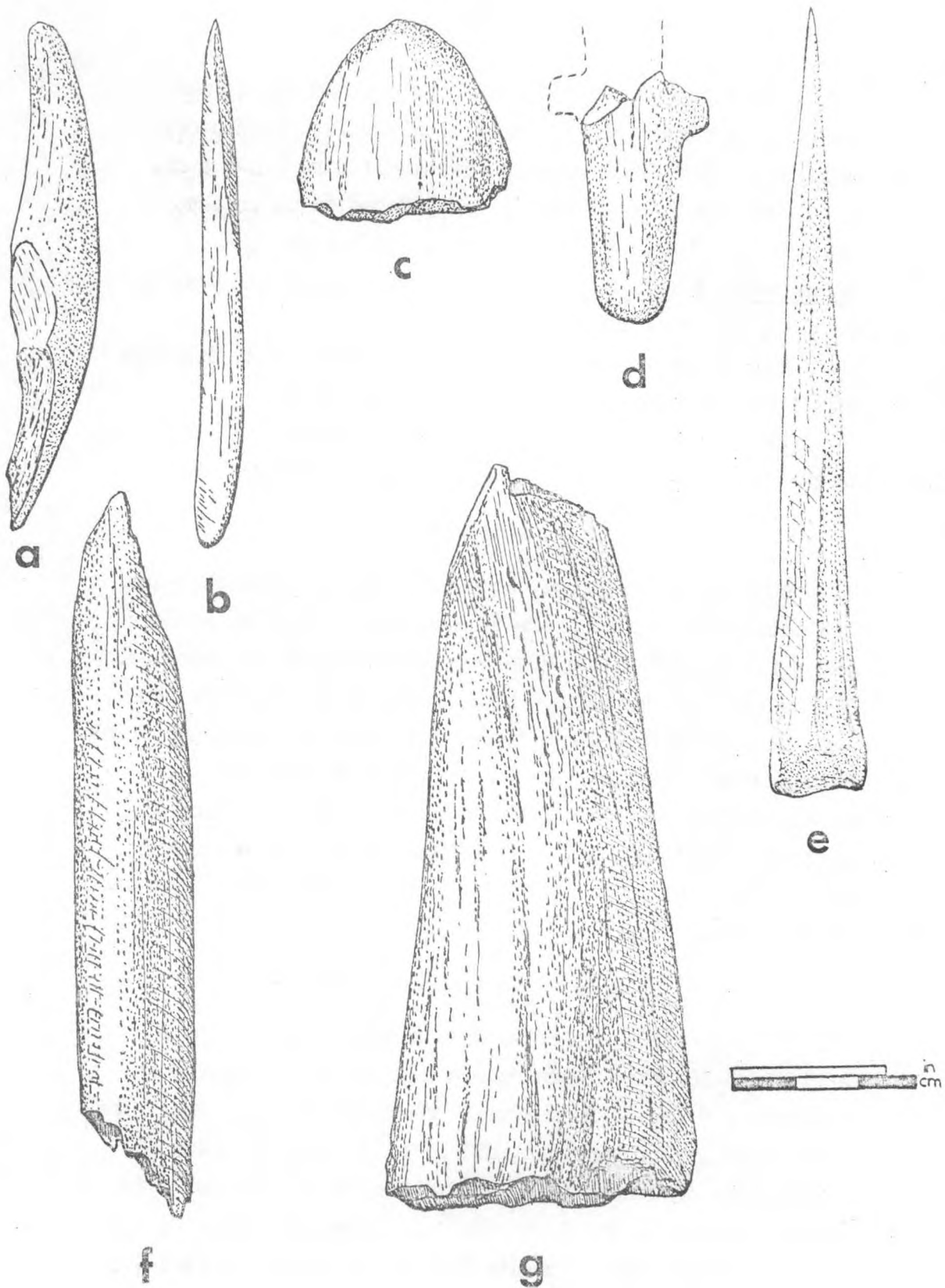


FIG. 45. Bone and antler artifacts from the Noons Creek site.
a, worked antler tine. b, ground bone point. c, antler wedge tip.
d, butt of antler harpoon with lateral line guard. e, ground bone
 awl. f, ground and polished bone flesher?. g, ground antler wedge

Six antler tine tips were excavated. They average 6.3 centimeters in length and range from 4.2 centimeters to 9.00 centimeters in length. All have been cut or crudely hacked at the proximal end, but none appear to have been ground for use as wedges. All specimens except for a rather blunt one show minute scratches and abrasions at the distal ends. It is possible that they functioned as flakers in the production of chipped stone tools (Fig. 45a).

Two pieces of antler which had been cut at each end were excavated. They measure 14 centimeters and 16 centimeters in length. It is possible that antler wedges were made from the pieces which had been cut off.

One fire hardened butt of a harpoon was excavated. The tang, which measures 3.0 centimeters in length, and the lateral line guard are all that remain (Fig. 45d). The harpoon was probably of the unilaterally barbed variety and bears a strong resemblance to the Marpole phase harpoons.

Twenty-four bone points or fragments of pointed bone objects were recovered. Most of the tools were made from split long bones of land mammals. These splinters had been taken and one end has been ground to a point.

Stone Artifacts

Seven chipped stone tools were recovered during the excavations. All of the specimens are made from various grades of local basalt. Six of the seven are leaf shaped in outline (Fig. 46g), while one is stemmed. Four of the points are complete and vary in length from 4 to 6 centimeters. Two of the points are incomplete with only the tips remaining. The other point is also incomplete, and only the medial section is present. The specimen measures 4 centimeters in width and is 1.3 centimeters thick. This tool plus the two tips may have functioned as chipped stone knives.

Two adze blades were recovered, both of nephrite and both incomplete. Both had been ground and polished on all surfaces. The larger specimen measures 9.0 centimeters in length, is 6.5 centimeters wide and is 1.6 centimeters in depth (Fig. 46d). The other adze blade is a fragment of a butt end and measure 1.0 centimeter in thickness. These adze blades are similar in style to the large adze blades found in Marpole, Whalen II and Stselax phases on the Fraser Delta.

Two abrader stones were excavated. Both were flat, rectangular and exhibited smoothed surfaces where grinding had taken place.

Three hammerstones were recovered. All are elliptical in cross-section. One was incomplete. The two complete hammerstones measured 14.0 and 9.0 centimeters in length. Both had flakes removed from one end and the edges of one appeared to be heavily abraded.

Eleven fragments of ground slate knives were recovered (Fig. 46c). All are very thin and exhibit bifacially ground edges. Most of the fragments were also ground on both the lateral and ventral surfaces.

Five basalt cores were excavated in situ (Fig. 46b). Five utilised flake of green quartzite was also excavated.

Summary

Survey work and excavations in the Noons Creek area have shown that a large area at the head of Burrard Inlet was at one time a large but shallow midden. The area may have been a seasonal camp for a number of aboriginal groups who were exploiting the abundant shell fish beds in the area. Almost one third of the artifacts excavated were complete or broken antler wedges. The two adze blades recovered were of the large variety often utilised in heavy woodworking activities.

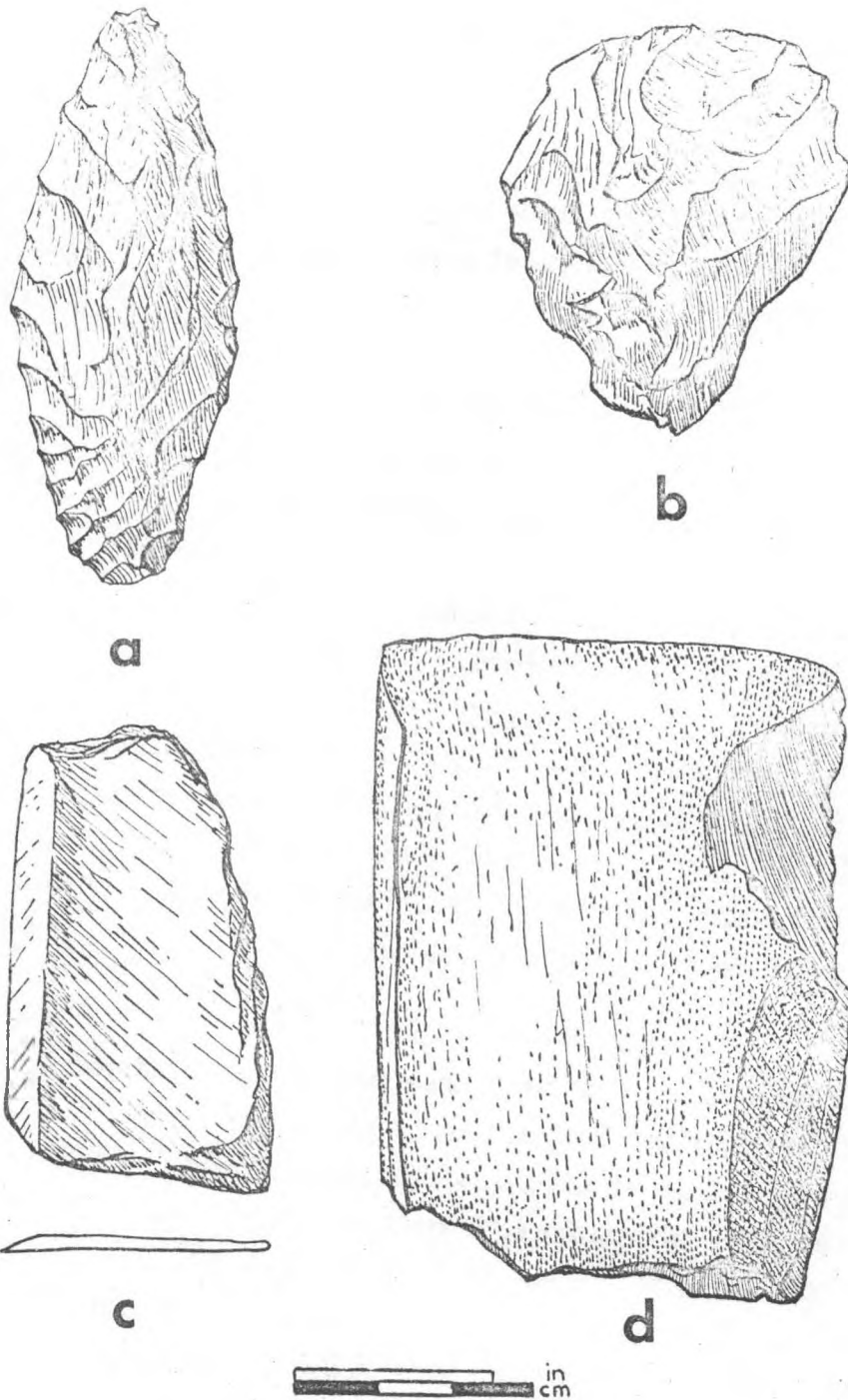


FIG. 46. Stone artifacts from the Noons Creek site. a, chipped basalt projectile point. b, chipped basalt core. c, ground slate knife. d, ground nephrite adze blade

It appears that perhaps a great deal of time was being spent in woodworking activities; perhaps the splitting of large cedar logs into planks. The Moons Creek area is so badly destroyed that any further archaeological work is unlikely to produce definitive results.

THE BELCARRA PARK SITE DhRr 6

The Belcarra Park site is located on the eastern shore of Indian Arm at longitude 122° 55' 25" west and latitude 49° 18' 48" north (see Fig. 43). The long axis of the site runs north/south along the beach, parallel to Indian Arm. At one time the site extended 200 meters (approximately 600 feet) along the shore and 40 meters (approximately 120 feet) back from the high tide mark. The location of the site, on a sheltered inlet, close to rivers offering major salmon runs, close to areas with abundant shellfish, and close to areas offering berries, indicate that Belcarra may have been an important prehistoric village in the Burrard Inlet - Indian Arm locality.

Stratigraphy

Six major stratigraphic units were observed at the Belcarra site. The last five zones are cultural units while the first designates the major geological unit on which the cultural deposits rest. The zones are numbered from I to VI from the lowermost to the top, or from the earliest to the youngest. The strata of zone I consists of a brown beach gravel, sand and clay. The earliest artifacts excavated were lying directly on top of the brown gravel layer, indicating the initial human occupation at this site.

Zone II appeared consistently in every pit excavated. Shellfish remains are virtually non-existent in this stratum, which is composed of greasy, compact black humus and large amounts of fire-cracked rock and charcoal. This zone contains

the earliest complex of artifacts from the Belcarra site. The artifacts from this stratum are almost all of stone. The few odd bone artifacts found were charred and hence preserved.

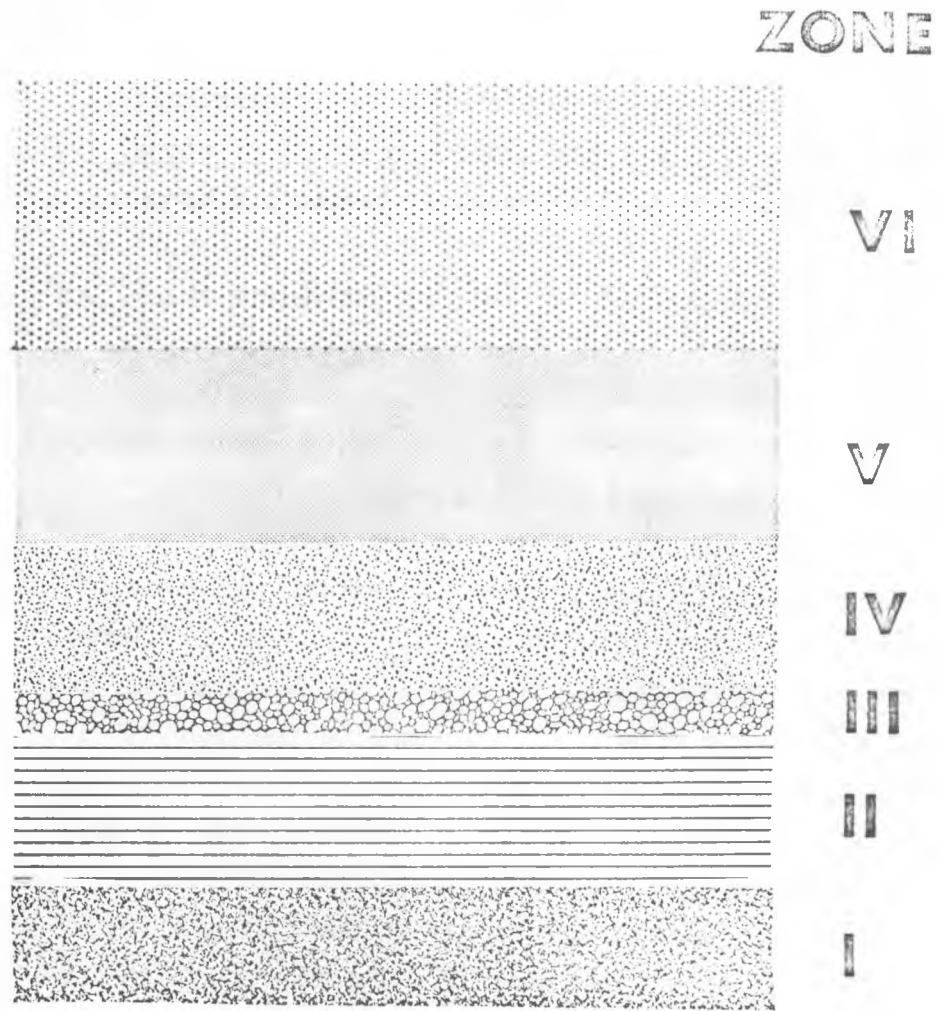
Zone III consisted of a thin (20 centimeters thick) but well defined layer of butter clam and basket cockle. The shells were either in large pieces or whole. Artifact yield in this stratum was extremely low. It would appear that this stratum represents a shell dump area at the site.

Zone IV extends from 120 to 150 centimeters and is composed primarily of black humus with extensive lenses of blue mussel and butter clam throughout. The yield of bone artifacts was extremely high in zone IV and V. This may be due to neutralising effects of calcium from the heavy shell deposits on the acidic humic soil.

While the above sequence was observed in seven of the ten pits excavated; in three other, adjoining pits, a different stratigraphic sequence was observed in the latter half of zone VI, zone V and zone IV. The area in which the excavations cut through measure approximately 10 meters by 3 meters. Further excavations will probably show that this area is considerably larger. Numerous strata and lenses of multi-coloured ash, fire-cracked rocks and irregular hearths throughout, as well as an abundance of charcoal, were found throughout this area.

Zone V extended from approximately 70 to 120 centimeters. The main constituents of this strata were finely crushed blue mussel and butter clam shell. Extensive deposits of fire-cracked rock and charcoal were observed throughout this strata.

Zone VI extends from the surface to approximately 70 centimeters. It is composed primarily of black humus deposits. Sparse amounts of both blue mussel, Mytilus edulis, and butter clam, Saxidomus giganteus, were scattered throughout the



LEGEND

- ZONE VI BLACK HUMUS, SPARSE CLAM AND BLUE MUSSEL SHELL
- ZONE V CRUSHED BLUE MUSSEL AND CLAM SHELL
- ZONE IV BLACK HUMUS, MODERATE CLAM AND BLUE MUSSEL SHELL
- ZONE III WHOLE PIECES OF CLAM AND COCKLE SHELL
- ZONE II BLACK HUMUS, FIRE CRACKED ROCK
- ZONE I BROWN, STERILE BEACH GRAVEL - SAND, CLAY

FIG. 47. Idealised strata from the Belcarra site

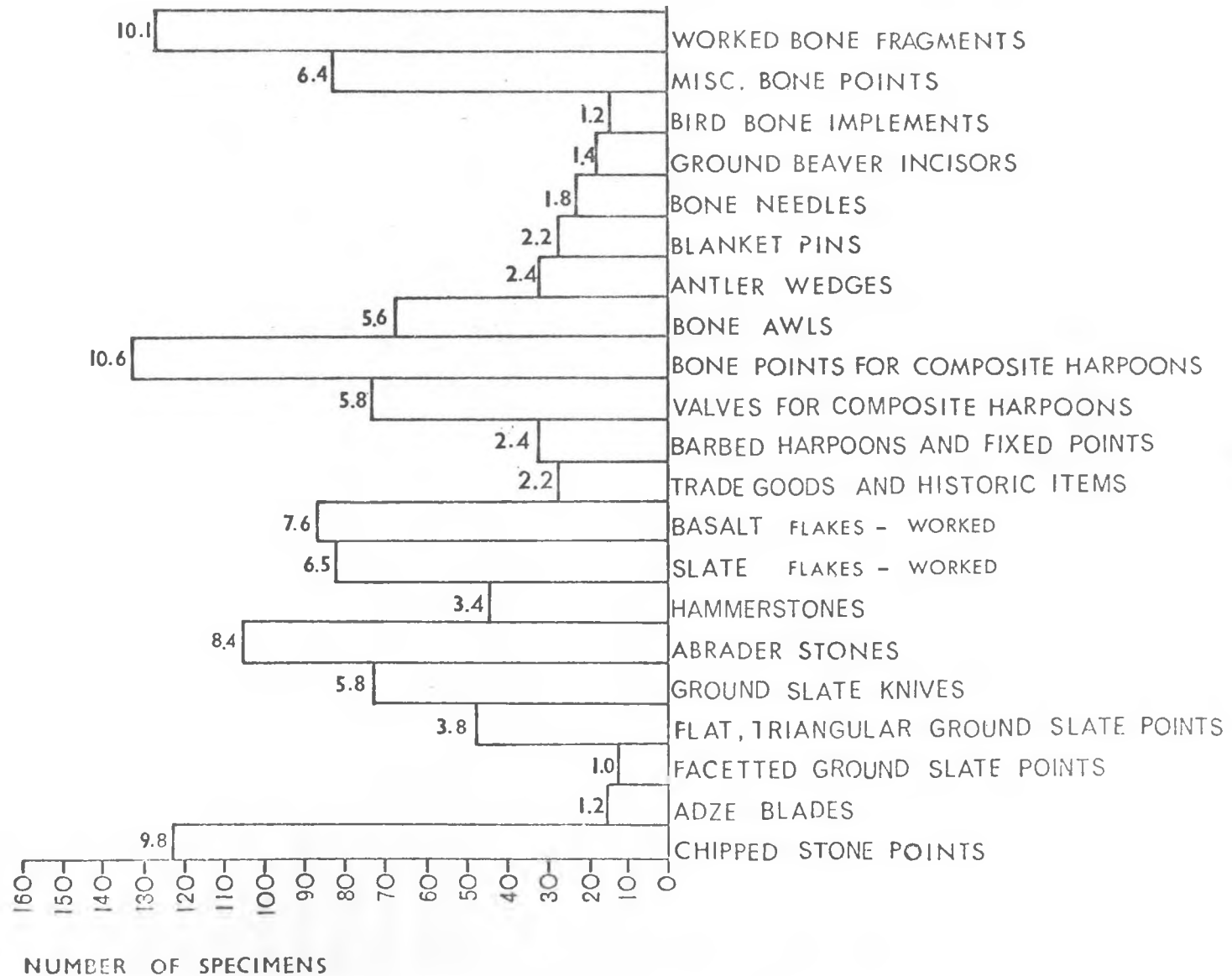


FIG. 48. Relative frequency of artifact types from the Belcarra site

deposit. The top 30 centimeters of zone VI was quite often disturbed, as the remains of historic fence posts intruded into the prehistoric deposits. All of the historic artifacts, primarily square-head nails, one glass button, and one clay pipe stem, plus a number of old coins were confined to the top 30 centimeters of the deposit.

The above analysis of the physical stratigraphy is by necessity, preliminary. Various subdivisions within the major stratigraphic units may prove to be important upon future study. Matrix samples of 32 ounces were collected from each stratum within each pit. The samples were excavated from pit walls after profiling had been completed. The location of each sample removed was then recorded on the corresponding profile chart. Final stratigraphic interpretation will largely depend on a detailed analysis of the matrix samples.

Burials

Only one burial was encountered during excavations. It was located in the deepest cultural deposits (zone II) between 180 and 200 centimeters. The skeleton was on its side and appeared to be in a flexed position, but this was difficult to ascertain as the burial was badly fragmented, scattered, and poorly preserved. The cranium was missing and only a fragment of the right half of the mandible remained. The pelvis had deteriorated completely - making determination of sex virtually impossible. There was no associations or grave goods with the burial.

Artifacts

Nearly 1300 artifacts of stone, bone, antler and shell have been recovered and catalogued from the two months of excavation (Fig. 48). The artifacts reflect an economy in which sea mammal hunting, salmon fishing, and the collection

of shellfish played a major role. Land mammal hunting appears to have played an increasingly important role in the later occupation at the site. Implements such as hammerstones, hand mauls, antler wedges, adze blades and adze hafts, also reflect strong woodworking traditions. The majority of implements are utilitarian in function and decorated objects are quite rare.

Chipped Stone Tools

Chipped stone projectile points, primarily of local basalt, but also a few green quartzite and one chalcedony specimen; were distributed throughout all cultural zones at the Belcarra site. In the lower cultural zones, chipped stone points average 8 centimeters in length, are generally leaf-shaped or stemmed (Fig. 49a, e).

In later sequences chipped stone points become more numerous, smaller (average length 3.5 centimeters), and generally exhibited more sophistication in flaking technique. The chipped stone points in the latter sequences are often stemmed or side notched (Fig. 49b, c, d). Chipped stone projectile points account for 9.8 percent of all artifacts recovered.

Pecked and Ground Stone Artifacts

Hammerstones were recovered from all levels at the Belcarra site. They are usually oval to elliptical in shape, generally with flakes removed from one or both ends, through use. As well, many specimens exhibited battered and abraded edges. Hammerstones comprise 3.4 percent of all artifacts recovered.

One hand maul was excavated at the Belcarra site, from zone IV at a depth of 140 centimeters. The maul was incomplete with the base missing (Fig. 51b). The specimen is reminiscent

of the nipple topped mauls which are present in Marpole, Whalen II and Stselax phases at Fraser Delta sites.

Ground stone implements occur at Belcarra in the form of ground slate points, knives, abrader stones and adze blades. Ground slate tools account for 20.2 percent of the assemblage.

A ground slate industry is well represented in all levels at the Belcarra site. Ground slate tools first appear in the earliest cultural zone (zone II), in the form of large (13.8 centimeters in length) and small (8.5 centimeters in length) faceted points (Fig. 50d). Twelve whole and fragmented ground slate points were excavated, all from zone II.

Flat, triangular ground slate points (Fig. 50f), used as cutting blades for slotted, composite toggling harpoons; appear in all stratigraphic zones except zone II. They are most numerous in zones V and VI. Some of the smaller specimens (Fig. 50c) may have been hafted for use as projectile points for land mammal hunting.

Ground slate knives (5.8 percent of assemblage) occur in all levels at Belcarra. Thick types occur in the earlier levels. This type usually has only one edge bifacially ground for use as a cutting tool. The more common type of ground slate knife occurring at Belcarra is thinner (3 to 5 millimeters), smaller, and often ground on all surfaces as well as one or more edges. This type occurs throughout zones II, IV, V and IV.

Small (average length 4 centimeters), ground nephrite and jadite adze blades (Fig. a, b) first appear in the earliest cultural deposit (zone II). This may reflect woodworking as a very ancient tradition at the Belcarra site. Over one third of all adze blades recovered, occur in this earliest zone. Adze blades remain small throughout the sequence at

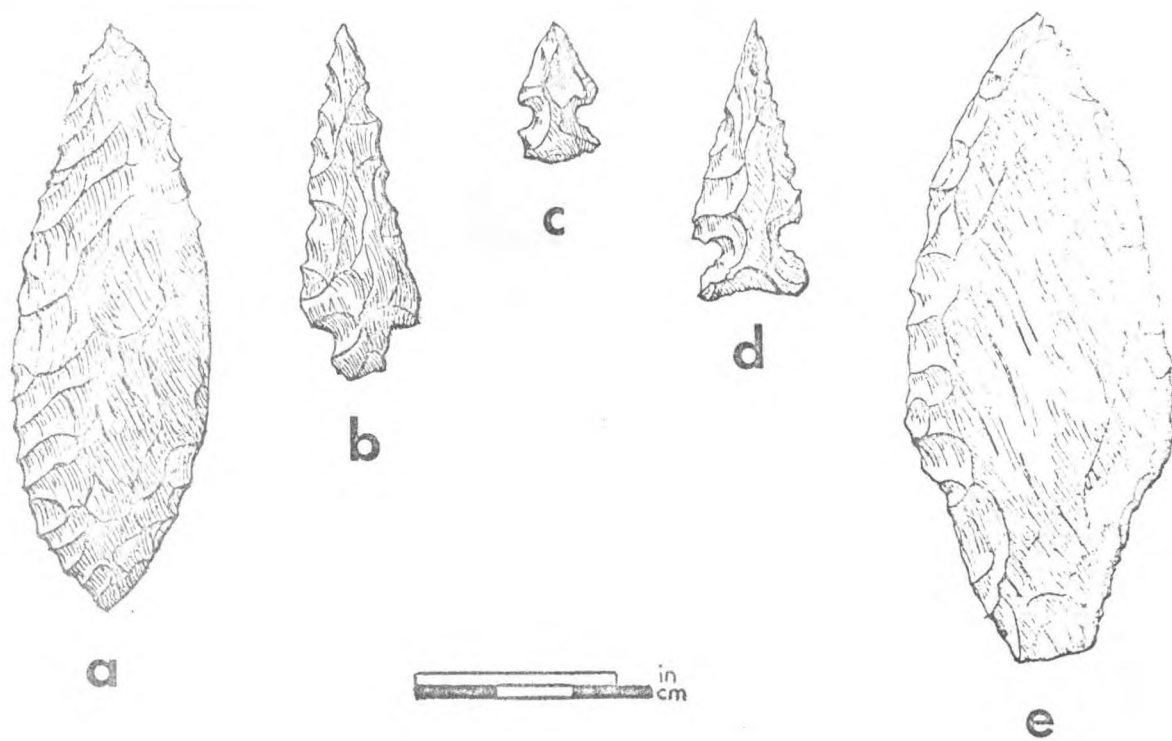


FIG. 49. Chipped stone artifacts from the Belcarra site.
a-e, chipped basalt points. b, stemmed basalt projectile
point. c, d, small side notched basalt projectile points

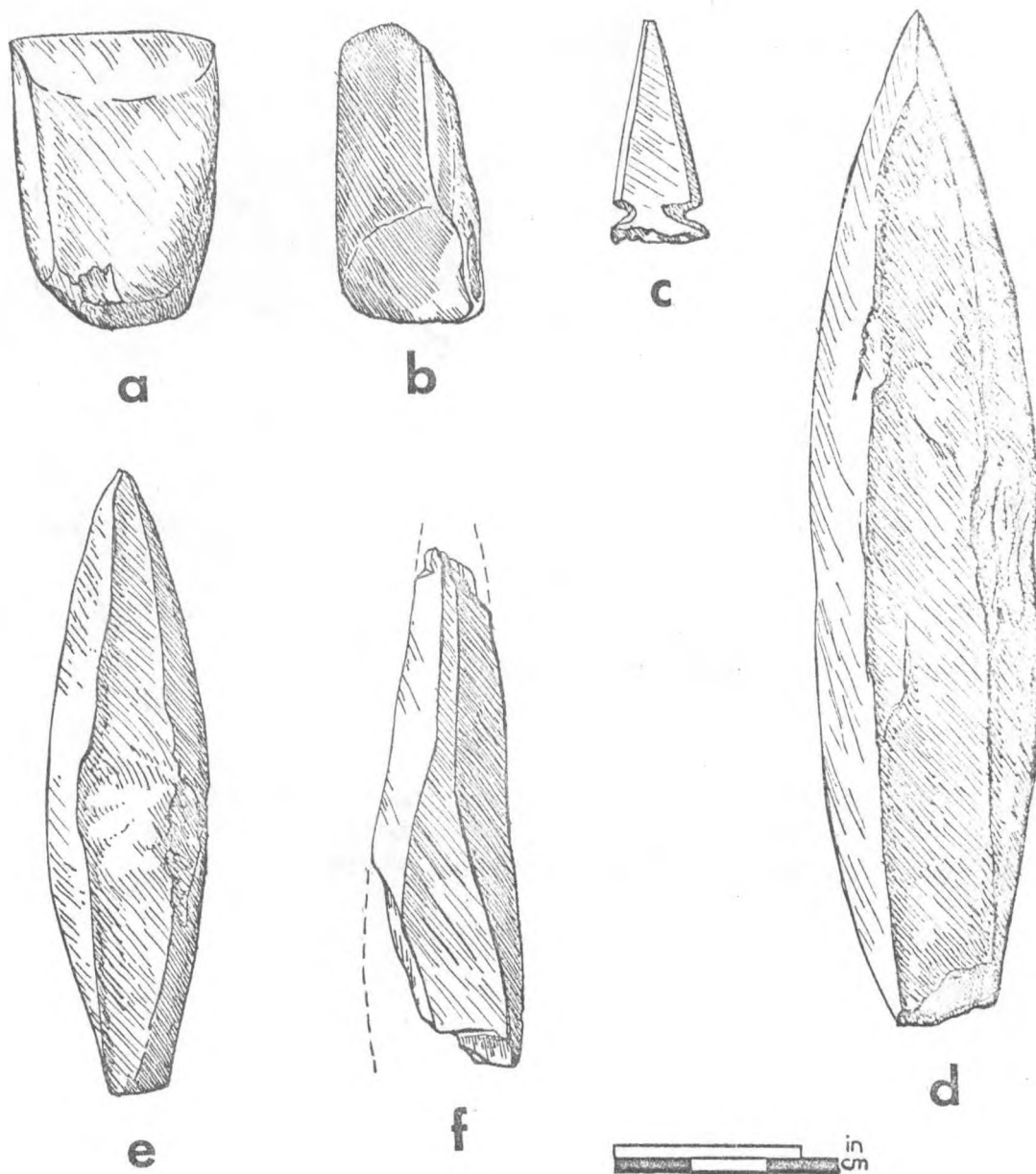


FIG. 50. Ground stone artifacts from the Belcarra site.
a, b, ground nephrite adze blades. c, ground slate
 projectile point. d, e, f, ground slate points

Belcarra. The large nephrite adze blades present in Marpole, Whalen II and Stselax phases on the Fraser Delta, so far have not been recovered at the Belcarra site. At the Belcarra site, adze blades appear to have been utilised in conjunction with socketed, antler adze hafts (Fig. 51a). Three such implements were excavated at Belcarra.

Abrader stones occur frequently throughout all levels at the Belcarra site, except for the top 20 centimeters of zone VI. Abrader stones represent 8.4 percent of all artifacts excavated. They show great variety, ranging from large, coarse, rectangular types to small, smooth types. Many exhibited deep grooves on one or more faces, probably due to the grinding and sharpening of bone and antler points.

Bone and Antler Artifacts

A number of bone awls (5.6 percent of assemblage) were recovered from all cultural deposits, except zone II. Most of the awls are made from the long bones of land mammals (usually deer), which have been longitudinally split then ground to a point. Nine ulna awls were recovered as well as a complete cannon bone awl (Fig. 52e).

Harpoons excavated at Belcarra include both unilaterally barbed harpoons and composit toggling harpoons. One unilaterally barbed harpoon of antler was recovered (Fig. 52i). While the medial section is missing, it has two barbs with a lateral line guard and conical tang. These types of harpoons occur in abundance during the Marpole phase on the Fraser Delta. Two other fragments of unilaterally barbed harpoons of bone were excavated. These both had a line notch rather than a line guard (Fig. 52j). No bilaterally barbed harpoons were found.

Eleven fixed barbed points of bone or antler were excavated. All were unilaterally barbed and may have

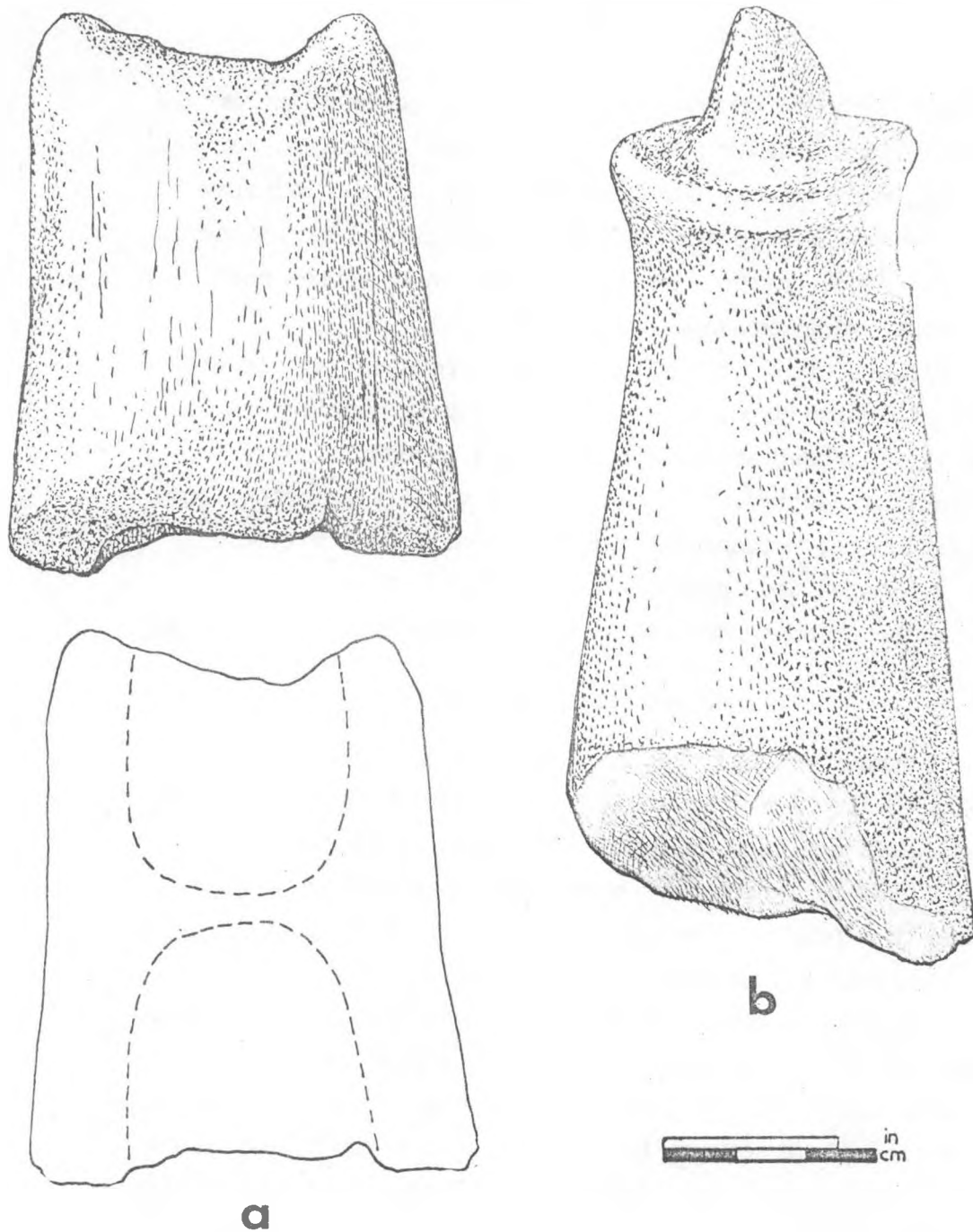


FIG. 51. Artifacts from the Belcarra site. a, wapiti antler adze haft. b, pecked and ground nipple topped hand maul

functioned as leister barbs or even projectile points (Fig. 52a).

The composite toggling harpoon is the major type of harpoon found at Belcarra. The one piece toggle head without cutting blade and the one piece toggle head slotted for cutting blade have not yet been recovered from the Belcarra site. The two types of composite harpoons that were recovered are:

1. The composite toggling harpoon slotted for a triangular ground slate cutting blade (Fig. 52b)
2. Composite toggling harpoon channeled for a bone point (Fig. 52d)

The 73 toggling valves recovered show a remarkable range in size from 7.2 to 3.2 centimeters in length. A few specimens of the slotted type exhibit well defined lashing grooves.

The composite harpoon channeled to take a ground bone point appears more often than does the slotting composite harpoon. Bone points for composite harpoons alone make up over ten percent of all artifacts. Moreover, toggling valves for bone points greatly outnumber the slotted toggling valves. Preliminary distribution studies show both types of composite harpoons overlapping through time, during the latter sequences at the Belcarra site. The slotted composite toggling harpoons appear more abundantly in the late prehistoric times at Belcarra. It is quite feasible that the slotted type functioned solely as a sea mammal harpoon while the smaller, channeled type functioned solely as a salmon harpoon.

Wedges of wapiti antler are distributed throughout most levels and comprise 2.4 percent of the artifact yield. None were excavated from the deepest 40 centimeters (zone II). This may be entirely due to lack of preservation. The wedges

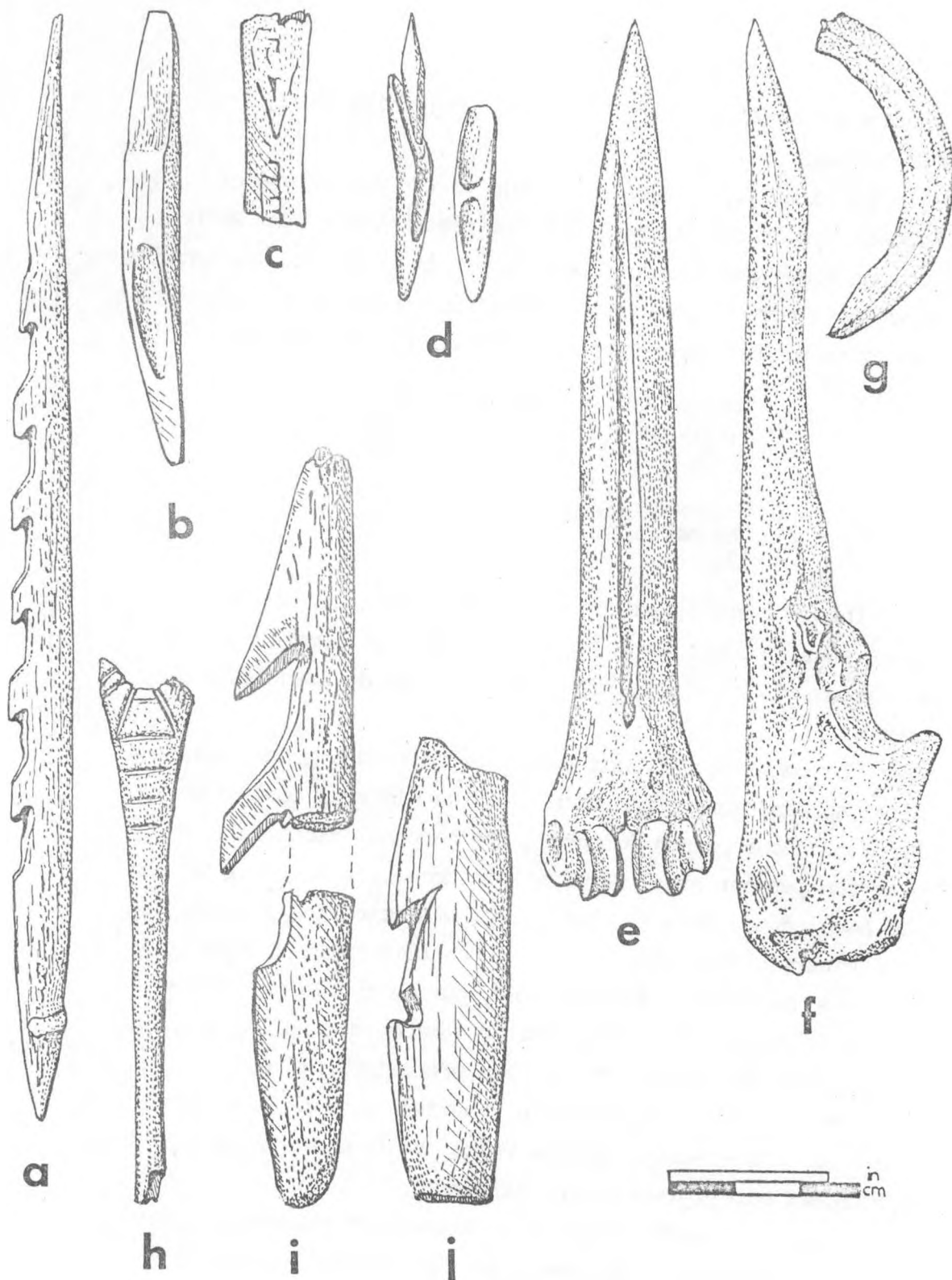


FIG. 52. Bone and antler artifacts from the Belcarra site. a, unilaterally barbed, fixed point (antler). b, slotted toggling harpoon valve (antler). c, decorated land mammal rib-brow band?. d, channeled composite toggling harpoon with bone point. e, ground cannon bone awl (deer). f, ground ulna awl (deer). g, ground beaver incisor. h, ground and polished blanket pin. i, detachable, unilaterally barbed harpoon (antler). j, butt end of unilaterally barbed harpoon with line notch (bone)

have been longitudinally split and then unifacially bevelled. They range in length from 5 to 14 centimeters. A number of bone and antler blanket pins were located during excavations. Two have whale fluke motifs (Fig. 52h). Both were from zone VI. All of the other pins were without decoration. No meaningful distribution through time has been worked out as yet, though the pins do appear more abundantly in the upper stratas.

While no complete needles with eyes were recovered, a number of finely ground, and in some cases, polished, bone tips were excavated. These may be fragments of bone needles. These were located only in zones IV and V.

As in other Lower Mainland sites, Belcarra yielded a great variety of miscellaneous bone points. Many are ground bone tips, bipoints, or medial sections of bone points. Thus far no attempt has been made to classify them according to types. However, upon detailed analysis, it may be that many will be classified as awls, needles, blanket pins, fish hook barbs or bone points for composite harpoons.

Fifteen bird bone artifacts were recovered. These include possible drinking tubes, whistles and beads. These implements did not appear in zones II or VI, but were distributed evenly throughout zone IV and V.

Artifacts of Other Materials

Beaver incisors were located in all cultural levels except zones II and VI. Most had been longitudinally split and reground (Fig. 52g). Their function is presumed to be that of an incising tool, possibly hafted. Two pendants, one a bear claw and the other a tooth, were recovered.

Historic items and trade goods represent 2.2 percent of all artifacts found. They were all excavated in the top 30 centimeters of zone VI. Historic items include square

and round headed nails, and old coins. Trade goods present include the stem of a clay pipe, one glass button and one shell button.

Summary

So far, excavations at the Belcarra site have established a cultural sequence which may have begun about 2000 years ago. The well known Northwest Coast economic pattern based on fishing, shell fish collecting and wood-working was well established in the early levels at the Belcarra site. Excavations have shown that this pattern has continued through time, although increased emphasis upon land mammal hunting is noted in the later stages. Also in the later stages, increased specialisation in fishing technology is noted.

One of the major problems in the Fraser Delta cultural sequences has been "the time gap between the Marpole phase and the more recent Stselax phase" (Calvert 1970:54). The later stages of the Belcarra sequence are noted for an abundance of and variety of small, side notched and corner notched chipped stone projectile points. Also present in the later stage are two distinct styles of composite toggling harpoons. I would suggest that the final analysis of these complexes, and other traits present, may shed light on this gap in the Fraser Delta sequence.

Acknowledgements

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