The 1974 Excavations at McNaughton Island

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At the northern end of the northernmost island of the McNaughton group is a large lagoon with a narrow opening to the sea (Fig. 52). A narrow channel extends from this lagoon to a second lagoon further inland so that there are in fact two lagoons, inner and outer. A domed conifer covered outcrop of rock forms the eastern edge of the channel connecting the two lagoons. When the tide is in, this outcrop becomes an island, but when the tide is out, this island is a peninsula connected on its eastern side. A shell midden (Fig. 53) covers both the domed outcrop, and the margins of the outer lagoon. The midden is deepest in the area to the east of this island-peninsula where erosion has exposed a midden face nearly four meters in height. This midden is known as the McNaughton Island site (EITb 10). It was first surveyed and tested by J.A. Pomeroy in 1972 (Pomeroy and Spurling 1972).

We arrived at the site on May 21, and commenced excavations the following week. Pomeroy had previously excavated three 2 x 2 meter pits into the deepest part of the midden directly in back of the deepest exposed face. His permanent datum consisted of a metal pole set in concrete. We re-established his grid using the same permanent datum, and employed a mean sea level datum for our contours which we established using the tide tables. The base of the permanent datum, the steel rod, is 9.33 meters above mean sea level.

Excavations were undertaken in two portions of the site: on the central and southern parts of the island-peninsula, where no previous work had been done, and on the main midden immediately to the south and west of Pomeroy's excavations. Nine 2 x 2 meter squares were excavated to sterile in the island; and six such squares in the main midden. Excavation proceeded by 10 cm. levels. Features which were few, were recorded sequentially. Midden samples were obtained from the main stratigraphic units. Photographs and profile drawings were made as required. The field work began on May 21st, and terminated July 9th, 1974.

Stratification

The cultural deposits on the island varied in depth from 50 to 120 cm. This deposit consisted for the most part of lenses of ash, fragmented shell, and narrow bands of black midden soil. Thick lenses of whole shell also occurred. There is no major stratigraphic difference within this deposit which spans both the late prehistoric and historic periods. The top 40 cm. of deposit in the excavations of the southern end of the island-peninsula contained a few historic objects in addition to the prehistoric ones. Underlying the cultural deposit is a thick (20–30 cm.) layer of dark brown old humus which is permeated with small plant roots and has the consistency of wet peat. This deposit was sterile of cultural material except for two large chipped stone pieces.

The stratification of the main midden is much more complex than that of the island. In general, the stratigraphy consists of thick layers of mostly whole shell alternating with thin layers of old humus. Thinner bands of ash and black midden are associated with the layers of whole shell. Fire cracked rock occurs throughout. The stratigraphic picture seems clearly one of periods of occupation punctuated by periods of abandonment. The entire deposit rests on a weathered granite bedrock. It seems clear from our work at the site that Pomeroy's excavations centered in both the deepest and the oldest part of the midden, and that this deepest and oldest part is right at the front eroded edge of the main midden. Pomeroy's excavations reached sterile at a depth of four meters

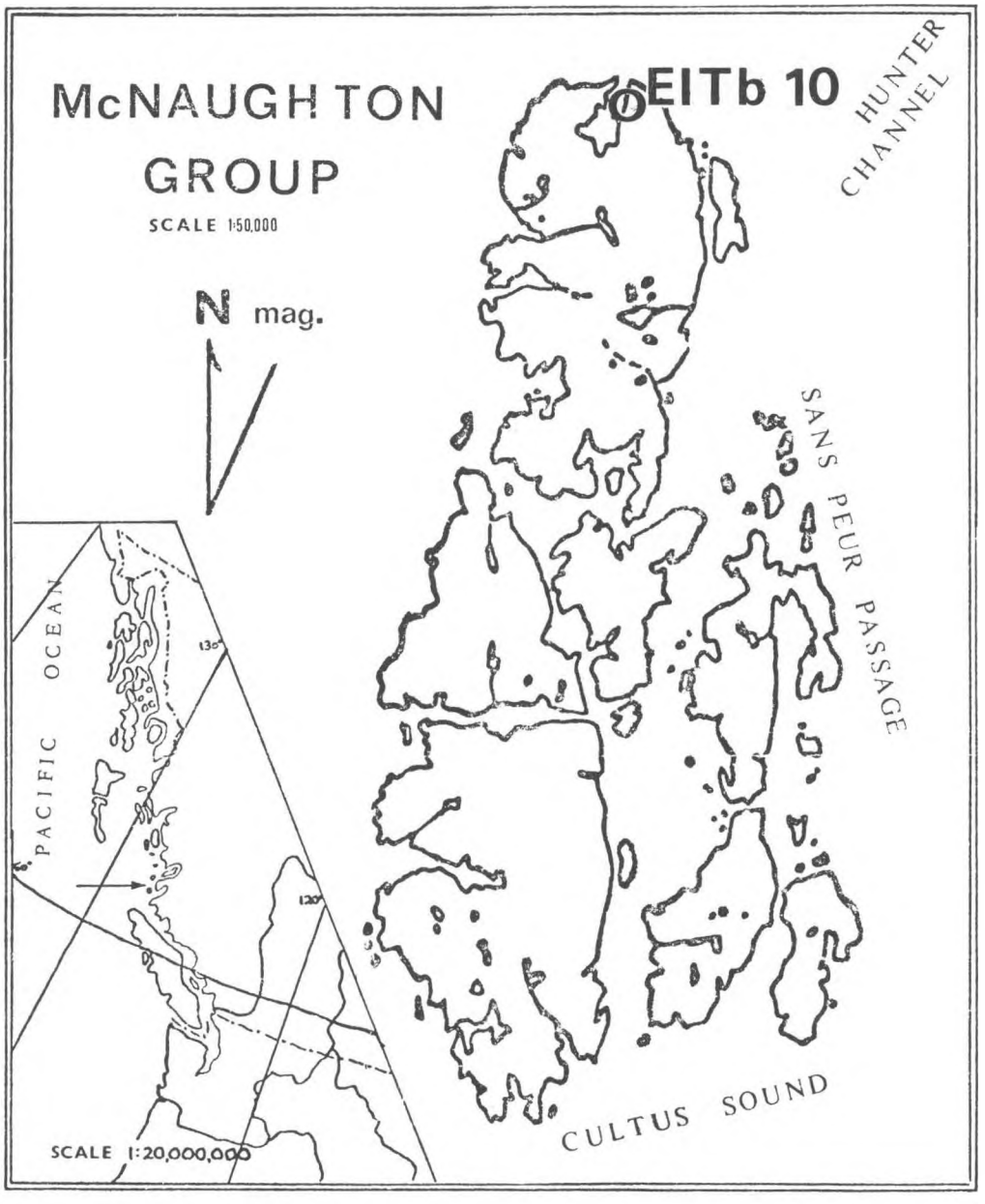

Fig. 52. Location of the McNaughton site, EITb 10.

below the surface. The radiocarbon dates he has received indicate a rapid build up of midden between 600 and 200 B.C.

Most of our excavations in the main midden fall within the same stratigraphic units as these dates; the exceptions are the two most westerly pits which contain a thicker overlying deposit analogous to the entire culture bearing unit on the island. It is clear that the youngest occupation is on the western part of the main midden, as well as on the island.

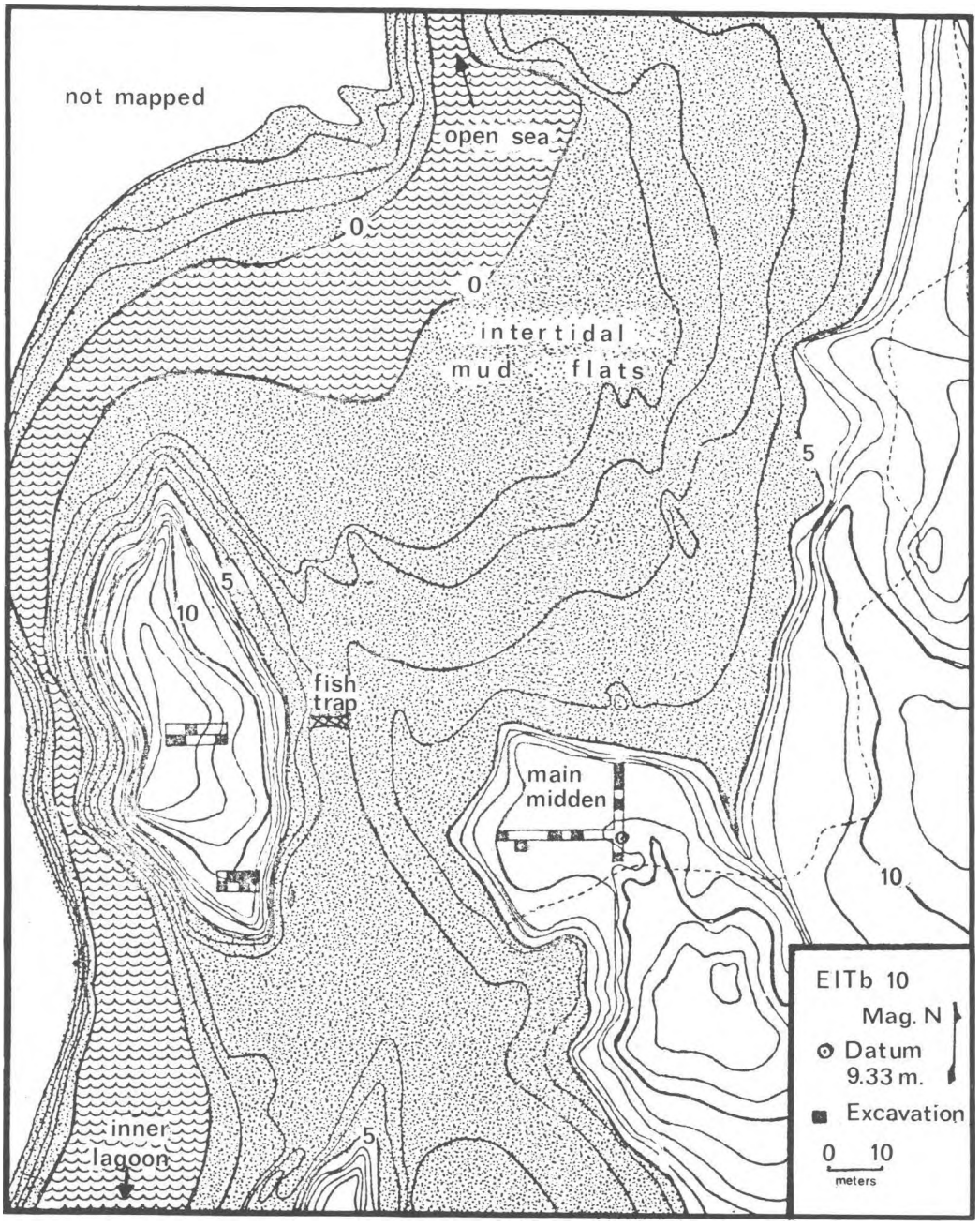

Fig. 53. *Contour map of EITb 10 showing location of excavations. Dashed line marks limit of main midden. Site mapped by S. Hercus and M. Wong.*

Assemblages

There are a series of stratigraphically defined artifact assemblages, and an assemblage found on the beach. These assemblages are listed below:

Assemblage 1

One stone core and one scraper were recovered from the old humus underlying the main cultural deposit on the island. Similar chipped stone items were also recovered from the beach where they had presumably eroded from the site. This assemblage can be considered as part of a component belonging to the Cathedral phase (Carlson 1972). Pomeroy and Spurling (1972) found chipped stone basalt and obsidian only in the lowermost portion of their excavation, and that material likely relates to this phase as well. Part of the beach assemblage also belongs to younger components.

Assemblage 2

This assemblage consist of those artifacts recovered from Stratigraphic Zone II (Fig. 54). No artifacts came from Zone I.

Assemblage 3

The artifacts in this assemblage come from a thick layer of dark brown humus (Zone III) which separates Zone II and Zone IV (Fig. 54). Artifacts from immediately adjoining levels of Zones II and IV are included, if it was impossible to ascertain which zone they actually came from.

Assemblage 4

This assemblage occurs in Zone IV, a thick shell layer (Fig. 54).

Assemblage 5

The artifacts in this assemblage were found in Stratigraphic Zones V and VI which consist of two layers of black humus with a shell and humus layer between. These layers are not separable from each other in all pits (Fig. 54).

Assemblage 6

This assemblage comes from the top humus layer in the pits in the main midden. It is the only assemblage from the main midden in which historic artifacts occur (Fig. 54).

Assemblage 7

This assemblage occurs in all layers below 40 cm. deep in all pits excavated on the southern end of the island.

Assemblage 8

This assemblage occurs in the top 40 cm. of the pits on the southern end of the island, and is separated from Assemblage 7 solely on the basis of the occurrence of trade goods.

Assemblage 9

This assemblage occurs in all pits in all levels from the pits on the center of the island.

Cultural Components

The degrees of similarity among the previously defined assemblages indicate that they can be grouped provisionally into the following cultural components.

Component 1

The core and core scraper from assemblage 1, plus the leaf-shaped points, core scrapers, crude bifaces and some of the obsidian from the beach can be tentatively assigned to the Cathedral phase (Carlson 1972).

Component 2

Assemblage 2 has only unilaterally barbed harpoon heads and lacks composite harpoon heads. It also has the highest frequency of large bone points and other simple (lacking stems and notches) bone points. All of the technically advanced pecked and ground stone implements (mauls, circular stones, hammerstone grinders) are lacking as well. Although there are only 57 artifacts from this assemblage, it appears desirable to identify it as a separate component.

Component 3

Assemblages 3 and 4 are little different in content, and can be grouped into a single component. Pomeroy's C—14 dates suggest that this component dates to about 200 B.C. Composite harpoon heads, green-stone adze blades, and pecked stone mauls make their appearance. The cultural content is in many ways identical to that of the Anutcix phase at Kwatna.

Component 4

Assemblages 5, 7 and 9 are very similar and can be grouped together into a single cultural component. There is a continuity of most artifact types from the preceding component Hammerstone-grinders and circular stones first appear in this component. This component is representative of precontact Heiltsuk culture. In many ways the content of this component is similar to that of the Kwatna phase at Kwatna.

Component 5

European trade goods appear only in assemblages 6 and 8. A few aboriginal artifact types continue from the preceding component, and indicate a general continuity of culture. The scarcity of European trade goods indicates the site was little used during the historic period. Pomeroy did obtain the name Hunlsuk from Fred Reid as the aboriginal name for this site, however.

The materials excavated by Pomeroy in 1972 belong stratigraphically with components 1, 2 and 3. He did not excavate in any part of the site where components 4 or 5 were present except possibly in the top 20 cm. of his excavations. Once the result of the 1972 and 1974 season's excavations are integrated, we will have a better picture of the culture history of the site.

Faunal Remains

Mammals

Samples of the faunal material from Components 2, 3, and 4 were analyzed by Alan Jacques. The sample from Component 2 was taken from 0—2 N, 12—14 W, 270—290 cm. below surface. This is toward the very bottom of the deposits containing Component 2. The sample from Component 3 came from 0—2 N, 8—10 W, 120—140 cm. below the surface. The sample from Component 4 came from 20—22 N, 76—78 W, 70—80 cm. below the surface. The results are shown in Table 2. The importance of this site for sea mammal hunting is rather clearly brought out by the bone frequencies. All identifiable bones from all levels were saved, and additional samples need to be analyzed.

Table 1. Artifact frequencies by type, assemblage, and component.

Components	1	2	3			4		5		mixed	total
Assemblages	1	2	3	4	5	7	9	6	8	beach	
Artifact Types											
CHIPPED STONE											
Cores	1									2	3
Core scrapers	1									2	3
Crude bifaces										2	2
Leaf-shaped points										3	3
Side notched points										1	1
Stemmed points										1	1
Biface fragments										1	1
Retouched flakes										1	1
Non-retouched flakes							1			3	4
Obsidian fragments				1						5	6
Flake chopper				1			1				2
PECKED & GROUNDSTONE											
Sandstone Abraders		2	1	1	3	1				2	10
Pebble Hammerstones		2		2	1	2				5	12
Cylindrical mauls				1	1	1			1	2	6
Flanged mauls								1			1
Hammerstone-grinders						1	3	1		3	8
Circular stones					1	2			1	1	5
Red Ochre						1					1
Graphite								1			1
Triangular slate points								2			2
Ground slate fragments								3			3
Quartz crystals					1	1					2
Greenstone adze/chisel blades			1	2	1	2				6	12
Greenstone adze blade fragments				1	1	7	6			18	33
Anvil stones							1				1
BONE and ANTLER											
Points and Harpoon Heads											
Harpoon valves Type I			2	3	1	6	8				20
Harpoon valves Type II				2	1	2	3			1	9
Harpoon valves Type III			1			1	3				5
Harpoon valves Type IV			1			1	1				3
Unfinished valves				2		1					3
Unilaterally barbed points		3				3	1				7
single line guard		1				1					2
line groove							2				2
Whalebone "foreshafts"		4		1		2	1				8
Large bone points		9	4		5	3	5		1		27
Birdbone fish hook barbs		1		1		2	1				5
Stemmed points						1	1				2
Side notched points							1				1
Harpoon arming points					1	1					2
Misc. points, barbs, fragments		17	4	6		7				3	37

Table 1 Continued

Components	1	2	3			4		5		mixed	total
Assemblages	1	2	3	4	5	7	9	6	8	beach	
BONE and ANTLER Continued											
Ornaments and worked animal teeth											
Ground beaver and porcupine incisors				4		3	2				9
Perforated tooth pendant				1		1					2
Grooved tooth pendant			1								1
Ivory hook or labret				1			1				2
Ground tooth			1	1		1	2				5
Bone ring				1							1
Notched bone pendant							1				1
Perforated bone pendant		1				1					2
Edge perforated vertebral disc			3								3
"Fish-like" bone object							1				1
Miscellaneous bone and antler											
Large perforated fish						2					2
Whalebone spindle vertebrae shuttle				1		3	3				7
Unperforated whalebone disc						1					1
Rectanguloid whalebone object						2					2
Curved bone pins						2					2
Worked antler tine							1				1
Antler wedge fragment						1					1
Ulna chisel				1							1
Ulna awls		1					1				2
Shouldered awls		1	2	4		6	3				16
Perforated awl							1				1
Misc. awls and fragments		6	3	8	1	4	3				25
Worked bone fragments		9	5	9		17	7	2			49
SHELL ARTIFACTS											
Olivella shell beads						2			1		3
Mussel shell adze blades						1					1
Mussel shell knife fragments			2								2
EUROPEAN TRADE GOODS											
Copper nose ring									1		1
Copper tinklers								1		1	2
Copper wedge										1	1
Iron fragments									5		5
Lead shot								1			1
Glass fragment								1			1
Copper fragments									2		2
TOTAL	2	57	31	55	18	96	65	13	12	64	413

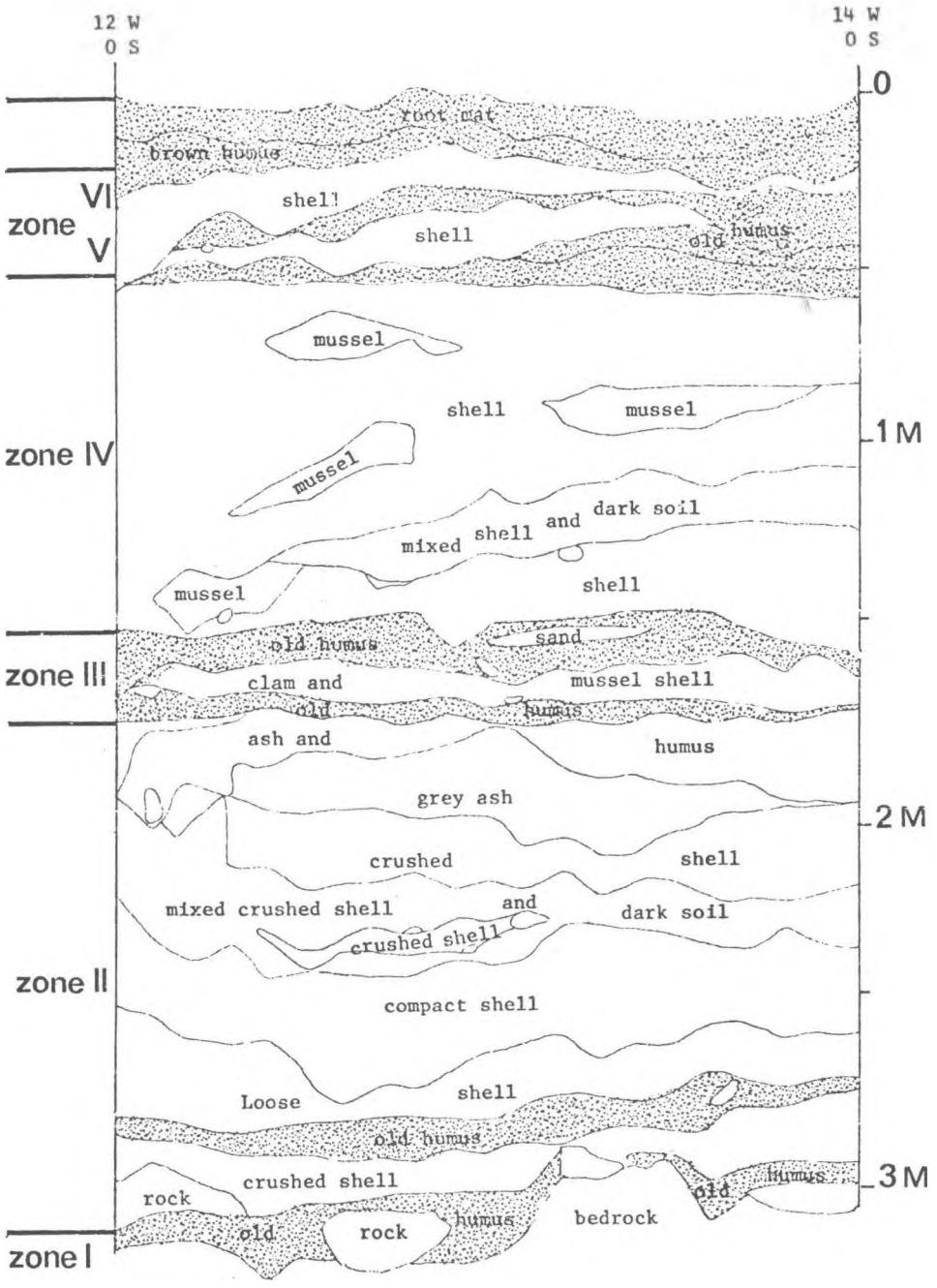

Fig. 54. *Stratigraphic profile of main midden.*

Table 2. Mammal bone samples from EITb 10.

Animal	Component 2		Component 3		Component 4	
	Number of bones	Minimum no. of Individuals	Number of bones	Minimum no. of Individuals	Number of bones	Minimum no. of Individuals
Canis Domestic dog?	2	1	2	2	1	1
Enhydra lutris Sea otter			3	2	3	3
Lutra canadensis River otter					1	1
MUSTELIDAE (family) mink?					1	1
Callorhinus ursinus northern fur-seal	1	1	10	7	2	2
Eumetopia jubata northern sea-lion			2	1	2	1
Zalophus californianus california sea-lion					2	1
OTARIIDAE (family) california sea-lion?			3	3	2	2
Phoca vitulina harbour or hair seal			3	3	4	2
Odocoileus hemionus blacktail deer	2	1	2	1	2	1
Oreamnos americanus Mountain goat			1	1		
Cetacea Corderl large whales	1	1	1	1		
DELAPHINIDAE (family) porpoises, dolphins			2	1	2	1
Totals	6	4	29	22	22	16

Fish

Samples of fish bones from the same squares and levels as the mammal bone were analyzed by Robert McLennan. The results are shown in Table 3. The samples from Components 2 and 3 are too small to generalize about, other than to note simply, presence of the various fish. The sample from component 4 clearly indicates the importance of salmon.

Table 3. Identified fish bones.

Fish	Number of bones			
	Component 2	Component 3	Component 4	Total
Red snapper	2	5	15	22
Pacific cod	1	3	11	15
Ling cod	3	13	33	49
Salmon	1	27	994	1022
Unidentified	33	421	137	591
Totals	40	469	1190	1699

Molluscs

Shellfish were an important resource for the inhabitants of the site, and much of the build-up in the main midden was the result of depositing large quantities of shell. The shores of the outer lagoon consist of intertidal sand flats which house a number of species of clams. Mussels, whelks, chitons, barnacles and limpets occur on the rocks near the entrance to the lagoon. Abalone and purple hinged rock scallops can be taken in the channel separating the inner and outer lagoons. A total of 47 species of molluscs excluding barnacles and chitons were observed in the lagoon and the immediately surrounding area.

Representative samples of each type of shell present were taken from each 10 cm. level during the course of excavation in order to obtain a presence-absence list level by level. In addition observations were made of exposed strata in profile, and samples were taken from shell bearing strata associated with Components 2, 3, and 4. Sandra Lucs and Shirley Casals analyzed these samples quantitatively by weight and their analyses are shown in Table 4 as percentages of the samples from which they came. The quantitative results reinforce the field observations: butterclam were the most frequent shellfish during all periods of occupation; barnacles were more frequent than one might expect, and that there is no evidence of significant variation in the patterns of shellfish exploitation during the periods of occupation of the site. Of these conclusions, the most interesting is why the high frequency of barnacle? Even taking into account the ratio of greater weight of the shell to the edible portions, cultural preference seems the logical answer.

Table 4. Shellfish frequency in the midden.

Shell	Percent of total shell		
	Component 2	Component 3	Component 4
Butterclam *Saxidomus giganteus*	55	39	49
Barnacle *Balanus sp.*	17	26	28
Horse clam *Schizothaerus nuttalli*	5	19	17
Native Little neck *Protothaca staminea*		6	
Blue mussel *Mytilus edulis*	1	3	
California Mussel *Mytilus californianus*	9	2	2
Wrinkled purple *Thais lamellosa*	1	2	
Cockle *Clinocardium nuttalli*	1	1	2
Other	10	2	2

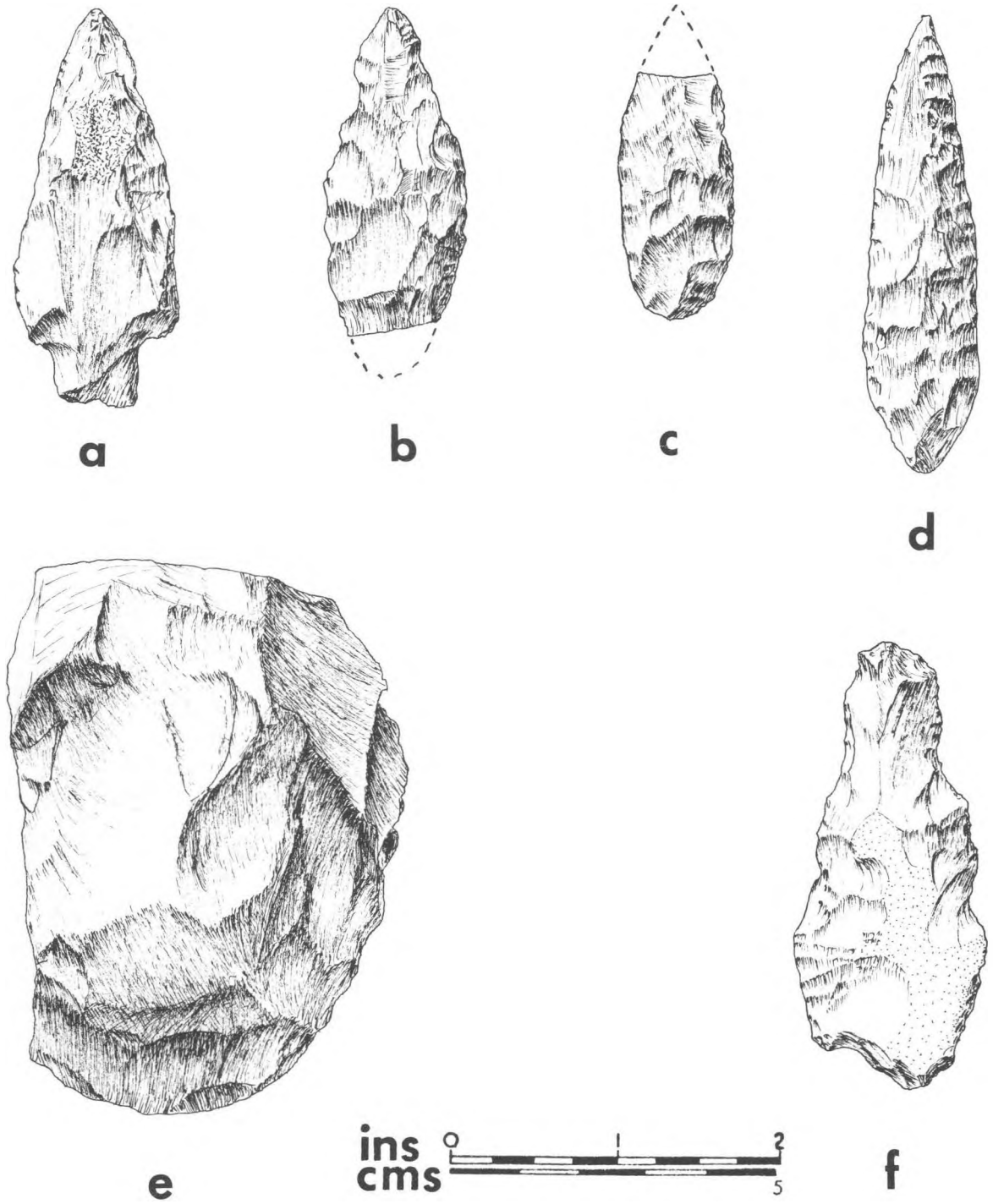

Fig. 55. *Chipped stone artifacts from Component 1 found on the beach. a, stemmed point. b, c, d, leaf shaped points. e, core scraper. f, crude biface.*

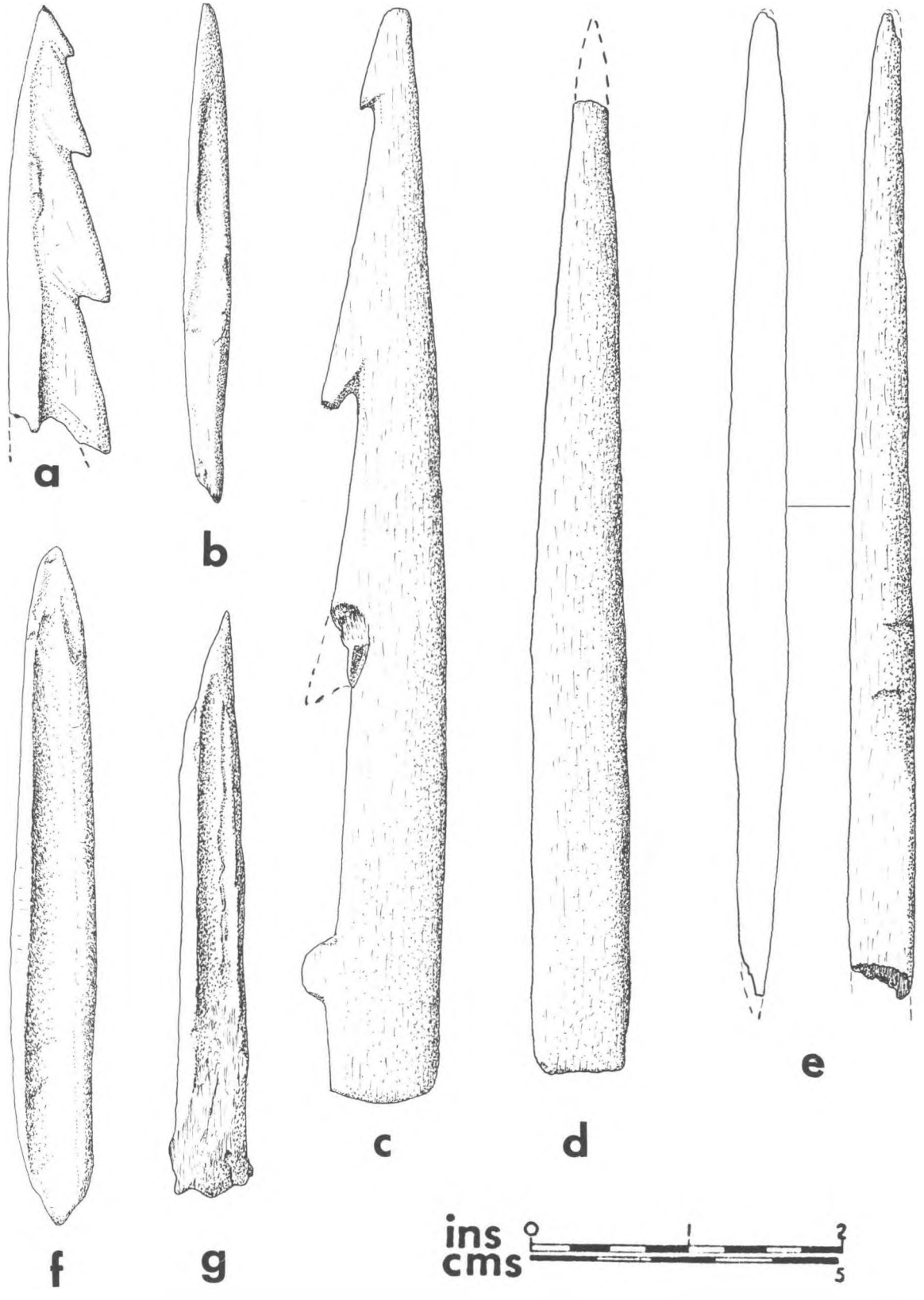

Fig. 56. *Bone artifacts from Component 2. a, fragmentary harpoon head. b, point. c, harpoon head with single line guard. d, e, possible foreshafts. f, point. g, awl.*

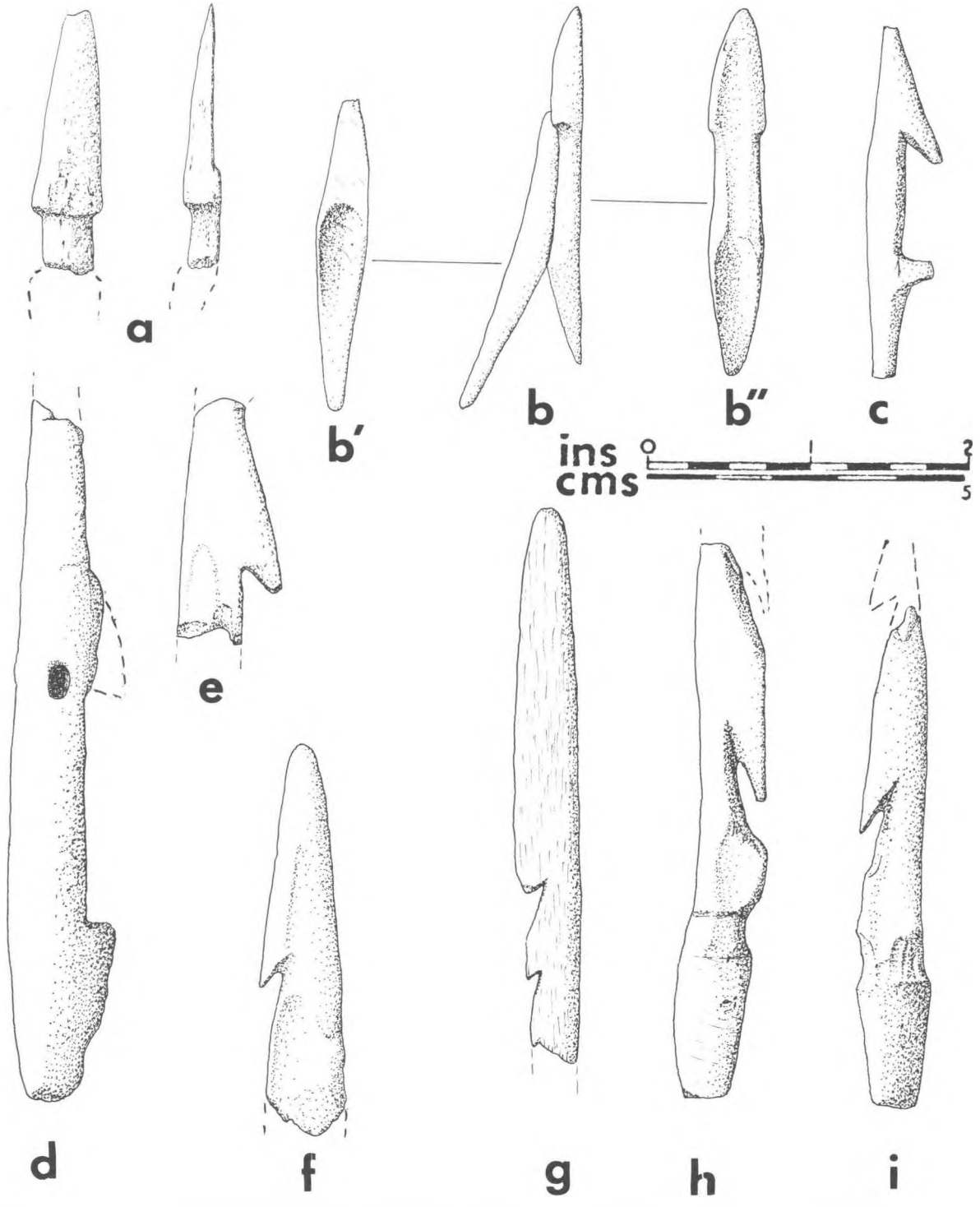

Fig. 57. *Artifacts from Component 4. a, fragmentary Type IV harpoon valve. b'. Type II harpoon valve found with b", Type I valve to form b, a complete harpoon head. c, small bone harpoon head with single line guard, possibly for a harpoon arrow. d, bone harpoon head with line shoulder. e, f, fragmentary harpoon heads. g, fragmentary barbed whalebone foreshaft. h, i, bone harpoon heads with line grooves.*

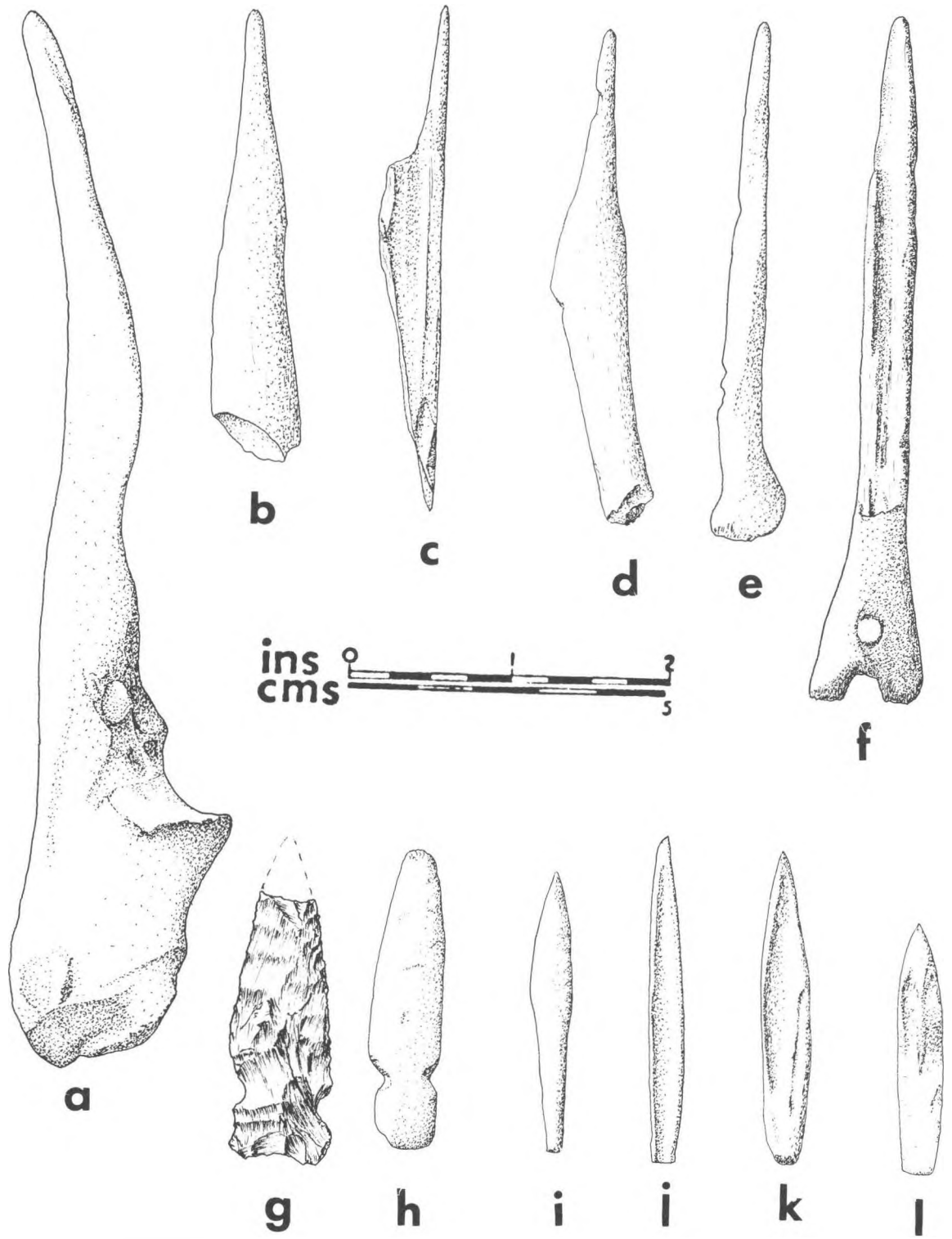

Fig. 58. *Awls and points from Component 4. a, ulna awl. b, bone awl. c, d, shouldered awls. e, awl or pin. f, perforated awl. g, chipped stone, side-notched point found on the beach. h, side-notched bone point. i, stemmed bone point. j, bird bone splinter barb. k, small bone point. l, bone arming tip for composite harpoon head.*

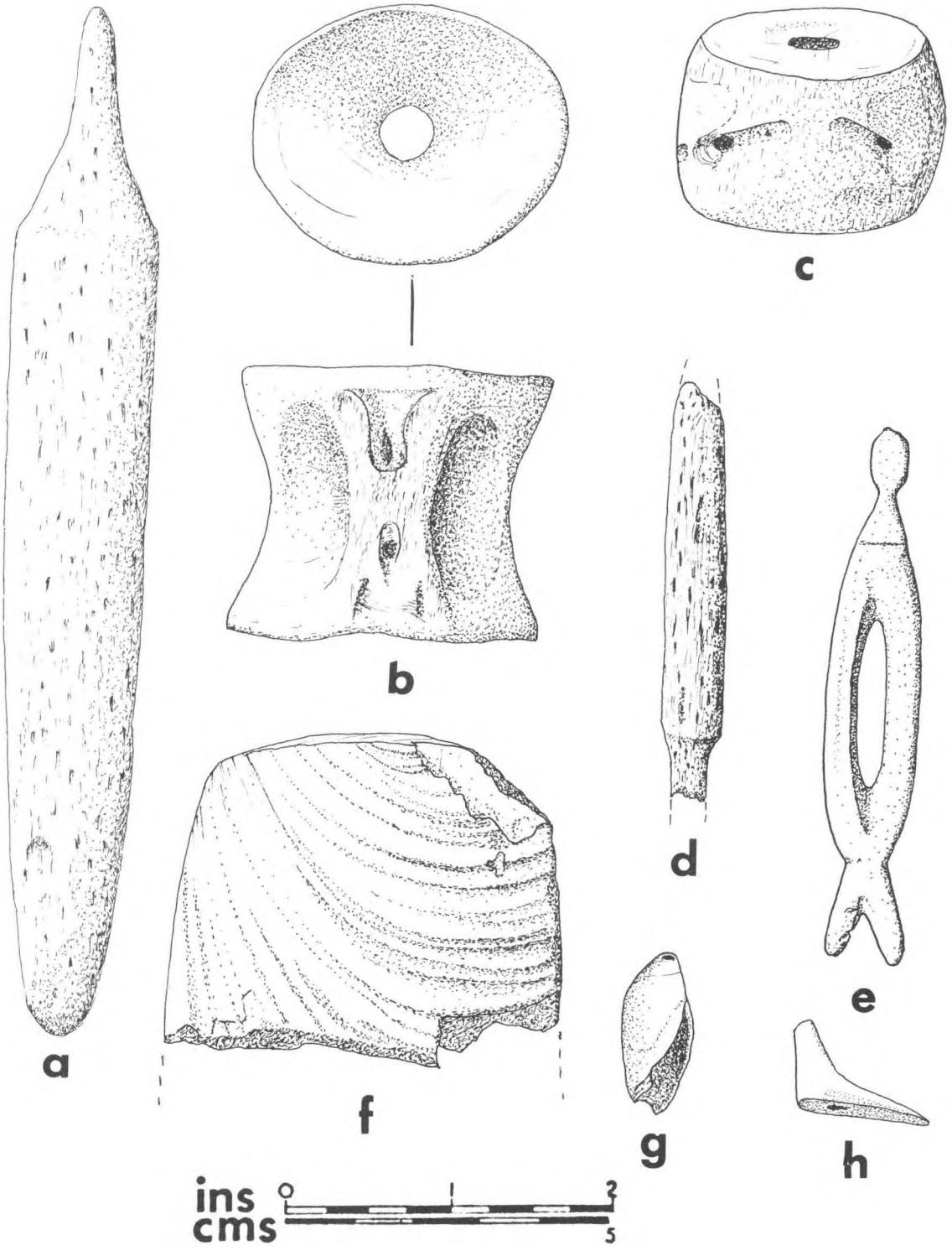

Fig. 59. *Miscellaneous artifacts from Component 4.a, whalebone spindle/shuttle. b, c, fish vertebra "spindle whorls". d, bone foreshaft. e, "fish-like" bone object. f, poll end of mussel shell adze blade. g, olivella shell bead. h, ivory hook or labret.*

Artifacts

A total of 366 artifacts were recovered this season: many of these are merely fragments. Table 1 gives a provisional listing by type, assemblage, and component. Detailed type descriptions must await a final report. The types of valves for socketed harpoons are as follows:

Type I A long self-pointed valve with a concavity in the lower ventral face; this type of valve joins to Type II to form a complete head.

Type II A short valve with a concavity in the lower ventral face and a flat upper ventral face for scarfing against the inner face of a Type I valve to form a complete head. (A flat bone point could be held between two such valves to form a complete head, but the only *in situ* pairs we uncovered consisted of a Type I joined to a Type II).

Type III A valve with a pointed tip, curved profile, and no basal depression. This may be a bone point rather than a harpoon valve.

Type IV A valve with an indentation in the ventral face of the tip end for insertion of an end blade. (The examples of this type are fragmentary).

All mauls found are fragmentary. Many artifact types are illustrated in the accompanying drawings.

Conclusions

The McNaughton Island midden belongs almost entirely within the Late Period of central coast prehistory. The culture content of the midden is very similar to that of sites of the same period at Kwatna. The generalized similarity in culture existing throughout this region during the last 3,000 years preceding European contact may be identified as prehistoric Heiltsuk culture. Within the pattern of this culture, the site seems to have been an important base for clam digging, fur sealing, and salmon fishing over a long period of time.

ACKNOWLEDGEMENT

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